



# DMTIMS*pedia*- Journal of Management Research

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- ◆ A Study of Merger and Acquisition (M&A) Trends, Drivers and Performance in the Post-Pandemic Era
- ◆ To study on employee motivation and its impact on performance
- ◆ Role of Experiential Marketing in High-Involvement Automobile Purchases
- ◆ A Comparative Study of Mutual Fund and Stock Market Investment In India
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- ◆ Comparative Analysis of Traditional NBFCs vs Fintech NBFCs.
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# A Study of Merger and Acquisition (M&A) Trends, Drivers and Performance in the Post-Pandemic Era

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## ABSTRACT

The COVID-19 pandemic significantly reshaped the global economic environment, creating long-term disruptions in supply chains, accelerating inflationary pressures, and intensifying geopolitical uncertainties. As a result, mergers and acquisitions (M&A) activity has undergone major transformation and is unlikely to return to pre-pandemic patterns. This study examines the evolution of global M&A activity from 2020 to 2025, focusing on the key strategic motivations, sector-specific developments, and structural changes influencing deal-making in the post-pandemic era. A mixed-method research design was adopted, integrating quantitative analysis of global deal volume and value sourced from Refinitiv and Bloomberg, along with qualitative insights derived from major consulting reports and selected case studies from firms such as PwC and McKinsey. The findings highlight three dominant trends shaping contemporary M&A: (1) the rise of megadeals driven more by value-based strategic consolidation rather than deal volume, (2) increased de-conglomeration through divestment of non-core assets to enhance shareholder value and organizational focus, and (3) the expanding role of private equity, supported by substantial dry powder reserves and innovative financing structures. Furthermore, technology and healthcare emerged as the most active sectors, driven by digital transformation, artificial intelligence adoption, and demand for resilient business models. The study concludes that the post-pandemic M&A landscape represents a new equilibrium rather than a return to previous norms, characterized by higher interest rates, stricter regulatory scrutiny, and persistent geopolitical risk. Success in this environment depends on strategic deal structuring, robust due diligence, and effective post-merger integration capabilities.

**Keywords:** Mergers and Acquisitions (M&A), Post-COVID-19 Economy, Private Equity (Dry Powder), Megadeals and Strategic Consolidation, De-conglomeration and Divestiture

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## INTRODUCTION

### Background of the Study

The COVID-19 pandemic created one of the most disruptive economic shocks in modern history, affecting global markets, industries, and business operations worldwide. Beginning in 2020, organizations faced sudden lockdowns, reduced consumer demand, labor shortages, and severe interruptions in global supply chains. These disruptions not only weakened financial stability across industries but also forced

companies to reconsider their long-term strategies. As businesses struggled to adapt, corporate restructuring, survival planning, and strategic partnerships became essential for maintaining competitiveness in an uncertain environment.

In this rapidly changing economic climate, mergers and acquisitions (M&A) emerged as a major tool for companies seeking growth, stability, and market control. Unlike earlier periods where M&A activity was largely influenced by expansion goals and favorable

market conditions, post-pandemic deal-making has been shaped by volatility, inflation, and unpredictable geopolitical developments. The pandemic accelerated digital transformation and changed consumer behavior, pushing companies to acquire new capabilities, enter resilient markets, and strengthen their technological infrastructure. As a result, the M&A environment between 2020 and 2025 reflects a major strategic shift compared to pre-pandemic trends.

Another important factor influencing M&A activity has been the rise in interest rates and tightening financial conditions across global economies. With higher borrowing costs, companies became more cautious in deal financing and valuation strategies. At the same time, regulatory authorities in several countries increased scrutiny on large-scale mergers, especially in sectors like technology, healthcare, and energy. This has led to longer due diligence processes and more complex deal structures. Additionally, businesses have increasingly focused on divesting non-core assets to improve efficiency and maximize shareholder value, reflecting a growing trend of de-conglomeration.

Moreover, private equity firms have played a significant role in shaping the post-pandemic M&A landscape. With large amounts of uninvested capital, commonly known as dry powder, private equity investors have actively pursued acquisitions across multiple sectors, especially in technology and healthcare. The increasing demand for digital solutions, artificial intelligence integration, and innovation-driven business models has further intensified M&A activity in these industries. Therefore, the post-COVID era represents a new equilibrium in global M&A, where strategic consolidation, sector-specific opportunities, and evolving risk factors are redefining corporate transaction practices.

### **History: M&As Before the Pandemic**

To understand how mergers and acquisitions have changed after the pandemic, we must

first look at how M&A activity worked before 2020. The decade before the pandemic was marked by a combination of favorable conditions. Interest rates were historically low. Global liquidity, meaning the availability of money for investment, was high. There was also growing confidence in economic globalization, where companies freely operated across borders.

During this same period, M&A activity saw high levels of transaction volume, especially in the mid market range. Mid market deals are those of moderate size, not the very large megadeals. Companies pursued acquisitions as a way to grow their businesses. There was plenty of cheap and easily available debt for financing these deals. Banks and financial institutions were willing to lend at low interest rates, which made acquisitions more affordable.

Another major feature of this period was the rise of cross border M&A. Many companies showed strong interest in buying or merging with firms in other countries. This happened because trade barriers between countries and among different regions of the world appeared to be decreasing. Trade agreements and economic cooperation made it easier for companies to expand internationally.

In general terms, the M&A market before the pandemic was driven primarily by volume. Success was measured by how many deals were made and how frequently transactions occurred. The strategic benefit of each individual deal was often secondary to simply doing more deals. Companies were less selective and more focused on growth through repeated acquisitions. This created a busy but sometimes less thoughtful deal making environment.

### **The Pandemic as a Nexus of Transformation**

In March 2020, the start of the COVID 19 pandemic did more than just disrupt daily commerce. It became a systemic change

agent in the M&A industry. A systemic change agent is an event that fundamentally alters how an entire system operates. In the early weeks of the pandemic, M&A activity came to a sudden stop. Economic uncertainties skyrocketed. No one could predict how long the crisis would last or how severe the damage would be. Valuation models, which are the tools investors use to determine what a company is worth, broke down because future earnings became impossible to forecast. Management teams shifted their focus entirely to survival and generating enough cash to keep operations running during the first wave of infections.

As the pandemic continued, it became clear that consumer behaviors had permanently changed. People shopped more online, worked from home, and avoided physical contact wherever possible. Supply chain dynamics, meaning how raw materials and finished goods move from producers to consumers, were severely disrupted. Factories closed, shipping costs soared, and just in time inventory systems failed. Competitive landscapes also shifted. Some companies thrived while others collapsed.

The recovery from the pandemic did not mean going back to how things were before. Instead, a new and more complex environment emerged. The deal making activities that resumed after the initial shock were fundamentally different. The reasons for making deals changed. The way deals were structured changed. And the way deals were implemented or integrated after closing also changed. The pandemic acted as a turning point, not just a temporary interruption.

**Post Pandemic M&A Landscape (2021 to 2025 Overview or the New Normal)**

Between 2021 and 2025, the global M&A landscape settled into what many experts call the new normal. This new normal is not a return to the pre pandemic patterns of high volume and cheap debt. Instead, it is

characterized by three major shifts: the rise of megadeals driven by strategic value rather than deal count, increased de conglomerating through the sale of non core assets, and the growing influence of private equity.

First, megadeals became more common. A megadeal is a very large transaction, often worth billions of dollars. Unlike before the pandemic, where many small and medium deals drove the market, the post pandemic period saw fewer total deals but larger individual transactions. Companies became more selective. They chose to combine with or acquire other firms only when there was a clear strategic advantage, such as gaining new technology, entering a growing market, or eliminating a major competitor. This shift from volume to value has changed how success is measured in M&A.

| METRIC                | 2024            | 2025           | CHANGE |
|-----------------------|-----------------|----------------|--------|
| Global deal value     | \$3.3 trillion  | 4.7 trillion   | +43%   |
| Deals >\$10 billion   | 50(est)         | 60             | +20%   |
| Value from mega deals | 25% (est)       | 28%            | +3 pp  |
| Divestiture value     | \$1.23 trillion | \$1.6 trillion | +30%   |

*Table 1.1: Key Global M&A Indicators (2024–2025)*

Second, de conglomerating became a dominant trend. De conglomerating means breaking apart large, diversified companies into smaller, more focused units. Many companies realized during the pandemic that owning unrelated businesses made them slower and less efficient. For example, a company that sold both industrial equipment and software services found it difficult to manage both during a crisis. As a result, many firms sold off their non core assets. These sales, known as divestitures, allowed companies to raise cash, reduce debt, and focus on what they did best. Shareholders

often rewarded this focus with higher stock prices.

Third, private equity firms expanded their role significantly. Private equity refers to investment funds that buy companies, improve their operations, and later sell them for a profit. Before the pandemic, private equity was already active. But after 2020, these firms accumulated large amounts of uninvested capital, often called dry powder. With interest rates rising, private equity firms used creative financing structures to complete deals. They also targeted sectors that showed resilience during the pandemic, such as technology and healthcare. Unlike traditional corporate buyers, private equity firms were often willing to pay higher prices and accept more risk.

Technology and healthcare emerged as the most active sectors for M&A during this period. In technology, the rapid shift to remote work and digital services created demand for cloud computing, cybersecurity, and artificial intelligence. Larger tech companies acquired smaller startups to gain new capabilities quickly. In healthcare, the pandemic exposed weaknesses in hospital systems, vaccine distribution, and medical supply chains. This led to consolidation among healthcare providers and increased investment in telemedicine and biotech research.

Regulatory scrutiny also increased during the post pandemic years. Governments in the United States, European Union, and China began examining large mergers more closely. They worried that too much consolidation would reduce competition, raise prices for consumers, and concentrate economic power in too few hands. This meant that companies had to spend more time and money on regulatory approvals. Some deals were blocked or delayed. Others required the selling of certain business units to satisfy regulators.

Interest rates, which remained low for many years, began rising in 2022 and continued through 2025. Central banks raised rates to control inflation. Higher interest rates made debt more expensive. This affected how companies financed their acquisitions. Some deals became too costly to complete. Others required larger equity contributions, meaning buyers had to put up more of their own cash instead of borrowing. This shift favored buyers with strong balance sheets and access to capital.

Geopolitical risks also shaped the M&A landscape. Trade tensions between the United States and China, the war in Ukraine, and conflicts in the Middle East created uncertainty. Companies became more cautious about cross border deals, especially in sensitive industries like semiconductors, energy, and defense. Many chose to focus on domestic or regional acquisitions instead of global expansion.

In summary, the post pandemic M&A landscape between 2021 and 2025 represents a new equilibrium. It is defined by strategic consolidation, sector specific opportunities, and heightened risks. Success in this environment depends on careful deal structuring, thorough due diligence, and effective post merger integration. Companies that adapt to these new conditions are more likely to create lasting value. Those that try to return to old ways are likely to struggle.

## **RESEARCH METHODOLOGY**

### **Objectives of the Research**

1. To analyze the impact of COVID-19 on global mergers and acquisitions (M&A) activity from 2020 to 2025.
2. To examine the shift in M&A trends from volume-driven deals to value-driven megadeals in the post-pandemic period.
3. To evaluate the growing importance of corporate restructuring through de-

conglomeration and divestitures in post-COVID M&A strategy.

4. To assess the role of private equity firms and dry powder capital in influencing global M&A transactions after the pandemic.
5. To identify the most active sectors driving M&A growth (such as technology and healthcare) and the key strategic factors behind this sectoral shift.

### Approach to Hypothesis Testing

This study used qualitative thematic analysis to test its hypotheses. Thematic analysis is a method where the researcher reads through all collected material, identifies repeated ideas or patterns, and groups them into themes.

The process followed six steps. First, familiarization. All sources were read thoroughly. Second, initial coding. Small pieces of relevant information were given short labels. Third, theme development. Related codes were grouped into broader themes. Fourth, theme review. Themes were checked against the original data for accuracy. Fifth, defining and naming themes. Each theme was given a clear definition. Sixth, writing the analysis. Themes were presented with supporting evidence.

This approach was chosen because the research questions focused on identifying trends and shifts rather than measuring numerical relationships. Thematic analysis allows the researcher to interpret meaning from text based data such as journal articles, reports, and case studies.

### Hypothesis

**H<sub>0</sub>:** The COVID-19 pandemic did not cause any significant long-term change in global M&A trends between 2020 and 2025, and observed shifts are temporary.

**H<sub>1</sub>:** The COVID-19 pandemic caused significant long-term changes in global M&A trends between 2020 and 2025,

including more value-driven megadeals, increased divestitures, greater private equity involvement, and higher sectoral focus on technology and healthcare.

### Evidence from Literature

The literature reviewed in Chapter 3 provided evidence relevant to both hypotheses. This evidence is summarized below under three broad categories.

On general M&A trends, the McKinsey global private markets report of 2026 showed that megadeals larger than 2.5 billion dollars returned to the market after a slowdown. However, the overall number of deals did not return to pre pandemic peaks. The Finalis report on dry powder noted that global deal volume fell 47 percent when comparing the first half of 2021 and the second half of 2022. By 2025, the market had not fully recovered to previous volume levels. Instead, fewer deals were completed, but those that were completed tended to be larger and more strategic.

On de conglomerating and divestitures, the McKinsey medtech report of 2023 recommended that medical technology companies pursue more asset divestitures as a strategy for improving performance. The study by Jadhav and colleagues on Indian transnational M&A indicated that Indian corporations were reassessing their portfolio of businesses and becoming more selective about which assets to keep and which to sell.

On the role of private equity and dry powder, the McKinsey 2026 report stated that private equity buyout deals valued at more than 500 million dollars rose by 44 percent to exceed 1 trillion dollars. The same report noted that more than 16,000 companies globally have been held by private equity for more than four years, the highest on record. Typical holding periods extended to more than six and a half years. The Finalis report estimated that dry powder exceeded 2 trillion dollars globally. The study by Rahanuma and

colleagues showed that private equity and venture capital continued to play a major role in healthcare M&A even after the immediate crisis passed.

On sectoral concentration, the study by Pryiatelchuk and Granchak on Ukrainian IT services showed that technology remained a target rich sector for M&A even under geopolitical stress. The study by Viarengo on economic uncertainty in Europe found that acquisitions of private companies, which are common in technology and healthcare, actually increased under uncertainty. The report by Van Wyk and Pretorius on Africa and the Middle East showed a significant rise in M&A activity in the communication services sector including telecommunications and media in 2022 and 2023. The study by Mohamad and colleagues on cross border healthcare M&A demonstrated that pharmaceutical and vaccine related acquisitions created long term value when properly integrated.

### **Interpretation of Findings**

The evidence from literature led to five interpretations matching the research objectives.

On the impact of COVID 19 from 2020 to 2025, the evidence showed that the pandemic did not cause a temporary dip followed by a return to normal. It acted as a catalyst that accelerated existing trends such as digital transformation and healthcare innovation while also creating new patterns such as the sustained preference for strategic megadeals over high volume small deals.

On the shift from volume driven to value driven megadeals, the evidence indicated that companies became more selective after the disruptions of 2020 and 2021. Cheap debt was no longer available after interest rates rose. Regulatory scrutiny increased. Geopolitical risks multiplied. Doing many small deals became less attractive. Doing a few large deals with clear strategic logic

became more attractive. This shift appears lasting because the underlying conditions show no signs of returning to pre pandemic levels.

On de conglomerating and divestitures, the evidence suggested that the pandemic exposed the weaknesses of large diversified business structures. Companies that owned unrelated businesses found it difficult to manage all of them during a crisis. Selling off non core assets raised cash, reduced complexity, and allowed management to focus on what the company did best.

On the role of private equity and dry powder, the evidence showed that private equity firms adapted rather than retreating. They used their large reserves of uninvested capital to buy companies when traditional corporate buyers were hesitant. They held onto their investments longer because exit opportunities were limited. This patience combined with record dry powder means private equity will remain a dominant force.

On sectoral concentration, the evidence indicated that the pandemic permanently raised demand for digital services, remote work tools, cybersecurity, telemedicine, vaccine research, and resilient healthcare infrastructure. Companies in these sectors continue to grow and attract acquisition interest. Companies outside these sectors are trying to buy their way in.

### **Decision on Hypothesis**

Based on the thematic analysis of secondary data:

#### **The Null Hypothesis (H0<sub>i</sub>) is rejected.**

The COVID 19 pandemic did cause significant and lasting changes in global M&A trends, drivers, and performance between 2020 and 2025. These changes are not temporary fluctuations that will reverse to pre pandemic patterns.

### **The Alternative Hypothesis (H1<sub>1</sub>) is accepted.**

The pandemic caused lasting changes including a shift from volume driven to value driven megadeals, increased de conglomerating through divestitures, a larger role for private equity backed by dry powder, and sustained sectoral concentration in technology and healthcare.

The rejection of H<sub>0</sub> is supported by consistent evidence across multiple sources and geographical regions including India, Europe, Africa, the Middle East, Ukraine, and the United States.

### **Collection of Data**

Data for this study was collected entirely from secondary sources. Secondary sources are materials that have been published by others and are available for public or academic use. The study did not generate primary data through surveys, interviews, or experiments.

The following types of secondary sources were used.

1. Peer reviewed journal articles formed the first category. These come from academic journals where experts review each submission before publication. Examples include studies on cross border M&A in healthcare, post pandemic investment trends, and regional M&A patterns.
2. Industry reports formed the second category. These are published by consulting firms and research organizations such as McKinsey and Company. They provide current data on deal volumes, private equity activity, dry powder levels, and sector specific trends.
3. Books and book chapters formed the third category. These provided broader theoretical background and historical

context for understanding M&A before and after the pandemic.

4. Case studies formed the fourth category. Specific examples of mergers and acquisitions were examined to understand real world applications of the trends identified in the quantitative data.
5. Conference proceedings formed the fifth category. These are papers presented at academic conferences and later published. They often contain early findings or specialized research.
6. News and business media formed the sixth category. Reputable sources such as Business Standard and industry blogs were used for recent data and time sensitive updates that academic journals had not yet covered.

All sources were selected based on relevance to the research objectives, credibility of the publisher or author, and recency of publication with preference given to material published from 2020 onward.

### **Limitations of the Research**

1. The study relied entirely on secondary data. No primary data was collected from M&A practitioners, corporate executives, or private equity managers. This means the study cannot capture firsthand experiences or unpublished perspectives.
2. The study period from 2020 to 2025 is relatively short. Long term trends beyond 2025 could not be assessed. Some changes observed may eventually reverse, but the available data does not yet show such reversal.
3. The study focused on global trends with specific attention to India, Europe, Africa, the Middle East, Ukraine, and the United States. Other regions such as Latin America, Southeast Asia excluding India,

and China were not examined in equal depth.

4. The study used thematic analysis which is interpretive. Different researchers analyzing the same data might identify different themes or draw different conclusions.
5. The study did not use statistical or econometric methods. It cannot quantify the exact magnitude of changes or attribute causality with mathematical precision.
6. The study relied on published sources that may contain biases. Industry reports may emphasize positive trends. News media may emphasize dramatic changes. Peer reviewed articles may lag behind real time developments.
7. The study did not examine failed or abandoned M&A transactions in detail. Most published sources focus on completed deals. Understanding why deals fail could provide additional insights.
8. The study did not conduct a formal post merger integration analysis. Performance was assessed based on reported outcomes in the literature rather than through original financial analysis of specific merged entities.

## REVIEW OF THE LITERATURE

**1. Edlich, A., Llewellyn, C., Croke, C., Schneider, R., & Teichner, W. (2026). Global private markets report 2026. McKinsey&Company.**

<https://www.wealthbriefing.com/html/article.php/private-equity-bounces-back%3B-challenges-remain--mckinsey-study>

This report from McKinsey and Company examines the recovery of private equity

markets globally in 2025. The authors find that buyout deals valued at more than 500 million dollars rose by 44 percent to exceed 1 trillion dollars. The value of private equity backed exits also increased by more than 40 percent, helped by a near doubling of exits through initial public offerings. Megadeals larger than 2.5 billion dollars returned to the market, including a record 55 billion dollar take private transaction. However, the report also notes that more than 16,000 companies globally have been held by private equity for more than four years, which is the highest on record. The typical holding period has now extended to more than six and a half years, well above historical levels. The authors conclude that while dealmaking has returned in force, challenges around exit timelines and valuation gaps remain significant.

**2. Jadhav, B., Limbore, N., Havale, D., & Kulkarni, A. (2024). Study of prospects of pre and post pandemic transnational mergers and acquisitions in India. In Taylor & Francis eBooks.**

<https://www.taylorfrancis.com/chapters/edit/10.4324/9781032708294-54/study-prospects-pre-post-pandemic-transnational-mergers-acquisitions-india-babasaheb-jadhav-nilesh-limbore-dhanashri-havale-ashish-kulkarni>

This study examines the impact of the COVID 19 pandemic on mergers and acquisitions involving Indian corporations. The researchers used statistical techniques including Levene t test, factor analysis, correlation, and the Kaiser Meyer Olkin test to measure changes from 2012 onward. The findings reveal that foreign direct investment outflows from India are significantly loaded on one factor, while the total number of transnational mergers and acquisitions in India by sellers and the value of such transactions are significantly loaded on another factor. The study provides a quantitative assessment of how the pandemic changed cross border deal making patterns for Indian companies. The authors conclude that Indian corporates experienced

measurable shifts in both the volume and value of transnational M&A activity when comparing pre pandemic and post pandemic periods. This research offers useful baseline data for understanding India specific M&A trends after COVID 19.

**3. Mohamad, M., Srivastava, A., Tiwari, K., Godasu, S., & Sahu, P. (2025). Cross border mergers and acquisitions and business growth in healthcare: An absorptive capacity perspective. Asia Pacific Journal of Health Management, 20(2).**

<https://journal.achsm.org.au/index.php/achsm/article/view/4831>

This study explores how cross border mergers and acquisitions affect business growth in the pharmaceutical industry. The researchers used qualitative analysis of 10 years of executive reports, annual reports, market research, and peer reviewed articles from Business Source Premier. They developed a thematic analysis based on five critical dimensions of post merger success: strategic rationale, after acquisition growth, operational synergies, cultural integration, and competitive positioning. The study focuses on the 2015 acquisition of Novartis vaccine division by GlaxoSmithKline as a case study. The findings show that the success of this acquisition was driven by tight strategic alignment with GSK long term objectives of specializing in vaccines and innovative healthcare. Operational efficiencies were achieved through phased integration, while proactive leadership and open communication helped reduce cultural challenges. The authors conclude that in the healthcare ecosystem, carefully planned mergers that prioritize cultural alignment along with financial goals can create substantial long term value.

**4. Pryiatelchuk, O., & Granchak, M. (2025). The role of external context in the M&A trajectory of Ukraine IT services industry. Actual Problems of International Relations, 164(1), 117-128.**

<https://apir.iir.edu.ua/index.php/apmv/article/view/3989>

This article analyzes how mergers and acquisitions in the Ukrainian IT services market were influenced by external factors between 2016 and 2025. The researchers integrated evidence from publicly reported transactions, press releases, and industry sources with macroeconomic, geopolitical, and sectoral data. The study distinguishes three phases. The first phase from 2016 to 2019 was marked by steady expansion and inbound acquisitions from foreign companies seeking delivery capacity in Ukraine. The second phase from 2020 to 2021 saw a pandemic driven surge that reinforced these trends under conditions of accelerated global digital transformation and abundant liquidity. The third phase after 2022 was characterized by market recalibration, weaker global demand, and heightened geopolitical risk, leading Ukrainian firms to pursue outbound acquisitions to diversify their delivery locations. The authors conclude that the primary strategic reason for deals remained securing or expanding delivery capabilities, but the method shifted from inbound capacity building to outbound diversification in response to changing risk and return profiles.

**5. Rahanuma, T., Sakhawat Hussain, T., Md Manarat Uddin, M., & Md Ashiqui, I. (2024). Healthcare investment trends: A post COVID capital market analysis investigating how public health crises reshape healthcare venture capital and M&A activity. American Journal of Technology Advancement, 1(1), 51-79.**

<http://eprints.umsida.ac.id/16369/>

This research article studies post COVID investment trends in the healthcare industry, specifically venture capital and mergers and acquisitions in the United States. The study uses a quantitative and comparative design based on the Largest US Venture Funding Deals of 2023 and 2024 Startup Investments Dataset. The findings indicate that healthcare, while no longer as crisis centered as during the pandemic years, retains a stable role in

world capital markets. Healthcare takes about a quarter of venture activities with stable deal sizes, showing stability rather than the volatility seen in fields like artificial intelligence and financial technology. The researchers present figures showing the interdependence between venture funding and M&A, based on the fact that startups are often designed to be acquired by larger companies seeking innovation. Major players including Monogram Health and Aledade received substantial investments, proving continued investor confidence. The study also observed monthly funding volatility based on macroeconomic conditions, but high rebounds indicated that healthcare has strong long term potential.

**6. Van Wyk, A., & Pretorius, A. (2025). Merger and acquisition trends in Africa and the Middle East post COVID-19. *Journal of Economics and Financial Analysis*, 22(3), 8-11.**

<https://ideas.repec.org/a/afi/journ2/v22y2025i3p8-11.html>

This study investigates post COVID merger and acquisition trends involving Africa and the Middle East between 2021 and 2023. The researchers used a descriptive dataset of more than 1,300 M&A transactions compiled from data obtained from the Institute for Mergers, Acquisitions and Alliances. The results show a shift in sectoral interest over the six year period, with a significant rise in activity in the communication services sector, particularly telecommunications and media, in 2022 and 2023. These trends reflect broader global and regional economic priorities after COVID, with increased demand for digital infrastructure and health resilience. Geographically, the study finds that while traditional global acquirers such as the United States, the United Kingdom, and France remain active, there is a growing intra regional trend. Countries like South Africa, the United Arab Emirates, Israel, and Egypt are emerging as both frequent acquirers and targets. This suggests that regional actors are playing an increasingly central role in driving

growth within Africa and the Middle East. The authors conclude that intra regional mergers may be a critical factor in sustaining investment flows and economic integration after COVID.

**7. Viarengo, L. (2025). Economic uncertainty and the acquisition of private companies in Europe. *Financial Reporting*, 2025(2), 249-280.**

<https://www.francoangeli.it/riviste/articolo/citazione/?doi=10.3280/fr202519871>

This study examines how economic uncertainty affects the propensity to acquire privately held companies compared to publicly traded companies in Europe. The researcher used a sample of European M&A transactions and employed measures of economic uncertainty as well as the uncertainty spike resulting from the pandemic. The analysis also considered the degree of financial market development in different countries. The findings indicate that under market uncertainty, acquisitions of publicly traded companies diminish, while transactions involving privately held companies increase. The researcher demonstrates that the COVID related spike in uncertainty generates an additional effect beyond general economic uncertainty. The positive association between uncertainty and acquisitions of privately held companies applies particularly to stand alone private firms rather than subsidiaries of larger corporations. The findings also reveal that acquisitions of private companies are more likely in financially developed markets. The author concludes that economic uncertainty shapes the relative frequency of acquisitions involving private versus public companies, and institutional factors play a significant role in influencing these preferences.

**8. McKinsey and Company. (2023). Post pandemic medtech M&A new thinking. McKinsey and Company China.**

<https://www.mckinsey.com.cn>

This industry report from McKinsey examines how medical technology

companies can create value through mergers and acquisitions in the post pandemic environment. The report notes that since 2019, the medtech sector has underperformed compared to the average of all listed companies globally. Organic growth alone has become difficult for companies to improve performance, especially for larger firms. The report identifies several strategic approaches for medtech companies. These include rethinking the value of large transactions, being more selective in systematic 并购, increasing investment in digital health solutions, using creative deal structures such as co acquisitions with private equity, and pursuing more asset divestitures. The authors observe that valuation of high growth targets has fallen to its lowest point since 2018, creating a potential window for buyers. At the same time, the 30 largest medtech companies hold more than 200 billion dollars in cash available for investment. The report concludes that while macroeconomic uncertainty creates challenges, it also creates opportunities for companies that adjust their M&A strategies appropriately.

**9. Chatterjee, D. (2025, September 30). India M&A deal value falls 10 percent in September quarter on valuation caution. Business Standard. [https://www.business-standard.com/amp/industry/news/india-ma-deals-dip-september-quarter-amid-valuation-caution-125093000757\\_1.html](https://www.business-standard.com/amp/industry/news/india-ma-deals-dip-september-quarter-amid-valuation-caution-125093000757_1.html)**

This news report analyzes the decline in Indian M&A activity during the September 2025 quarter. According to Bloomberg data cited in the report, deal value fell 9.6 percent to 26.26 billion dollars from 29.04 billion dollars a year earlier. The number of transactions also slipped to 787 from 840 in the September 2024 quarter. The decline marks a reversal from the sharp growth seen in 2024, when India was one of the most active M&A markets in Asia. The report attributes the slowdown to global investors adopting a more cautious approach due to fears of US tariff impact, valuation gaps, and

increased scrutiny on leverage backed transactions. Despite the slowdown, large ticket transactions remained active, including deals in IT services, automobiles, and real estate. Strategic buyers accounted for most of the activity, while private equity transactions slowed as funds struggled with high valuations sought by Indian companies. The report quotes experts who note that domestic indicators including tax collections and consumption demand remain strong, but global headwinds continue to dampen investor confidence.

**10. Finalis. (2026, March 18). Dry powder in 2025: Private markets poised for deployment. Finalis Blog. <https://www.finalis.com/blog/dry-powder-to-be-deployed-is-money-sitting-on-the-sidelines>**

This industry analysis examines the state of dry powder, or uninvested capital, in global private markets. The report estimates that dry powder has reached extraordinary levels exceeding 2 trillion dollars globally across private equity, venture capital, and other private funds. Following an explosion in dealmaking during 2021, there was a significant slowdown due to rising interest rates, volatile markets, geopolitical tensions, and trade war concerns. In the United States, total deal value fell 53.81 percent when comparing the first half of 2021 and the second half of 2022, from 1.388 trillion dollars to 641 billion dollars. Globally, deal volume fell 47.42 percent over the same period, from 2.68 trillion dollars to 1.41 trillion dollars. The report notes that the slowdown has not been equal across industries, and sectors that experienced the greatest declines may provide opportunities as markets recover. By the first half of 2025, fewer deals were getting done, but those that were completed tended to be higher value transactions. The report concludes that while the slowdown was real, it was not a total freeze, and many companies have become more selective in pursuing deals that are core to their business.

## **FINDINGS AND DISCUSSION**

### **Shift in Global M&A Trends: Volume vs Value (2020 to 2026)**

The first major finding of this study is a clear and lasting shift in how global M&A activity is measured and pursued. Before the pandemic, the market was driven by volume. Companies made many deals, often smaller in size, because debt was cheap and easy to access. Success was measured by how many transactions a company completed in a given year.

After the pandemic, this changed. The data from the McKinsey global private markets report of 2026 shows that between 2021 and 2025, the total number of deals fell while the average deal size increased. In 2021, deal volume was high because companies rushed to catch up after the initial lockdowns. But by 2022 and 2023, volume dropped sharply. The Finalis report quantified this drop. Global deal volume fell 47 percent when comparing the first half of 2021 and the second half of 2022. From 2.68 trillion dollars to 1.41 trillion dollars.

What replaced volume was value. Companies became more selective. They chose to pursue only those deals that offered clear strategic benefits. This meant fewer transactions but larger individual deal sizes. Megadeals, or transactions worth billions of dollars, became more common relative to the total number of deals.

**Discussion:** This shift can be explained by three post pandemic conditions. First, interest rates rose. Central banks raised rates to control inflation. This made debt expensive. Companies could no longer borrow large amounts at low cost to fund many small deals. Second, uncertainty increased. Geopolitical tensions, supply chain disruptions, and regulatory changes made it harder to predict the returns from any single acquisition. Third, shareholders

demanded focus. After watching diversified conglomerates struggle during the pandemic, investors began rewarding companies that stuck to their core business.

The shift from volume to value is not a temporary adjustment. It reflects a fundamental change in the cost of capital and the risk environment. Companies that continue to chase volume for the sake of volume will likely underperform. Those that prioritize strategic fit and deal quality will create more lasting value.

### **Growth of Strategic Megadeals in the Post Pandemic Era**

The second finding is closely related to the first. As volume declined, strategic megadeals grew in importance. A strategic megadeal is a large transaction where the primary motivation is not just growth but a specific strategic advantage such as gaining new technology, entering a protected market, eliminating a competitor, or achieving economies of scale.

The McKinsey 2026 report noted that megadeals larger than 2.5 billion dollars returned to the market after a period of slowdown. One record transaction was a 55 billion dollar take private deal, where a public company was acquired and removed from stock exchange listing. These large deals were not random. They were concentrated in sectors where scale provided clear advantages such as technology, healthcare, and energy.

The evidence from the literature also showed that strategic megadeals were more likely to succeed than large deals done for financial engineering purposes. The study by Mohamad and colleagues on cross border healthcare M&A found that the success of the GlaxoSmithKline acquisition of Novartis vaccine division was driven by tight strategic alignment with long term objectives. Operational efficiencies were achieved through phased integration. Leadership and

communication helped reduce cultural challenges.

**Discussion:** Strategic megadeals grew for several reasons. First, organic growth became harder. After the pandemic, many mature industries saw slower growth rates. Companies could not grow fast enough by simply selling more of their existing products. They needed to buy growth. Second, digital transformation required scale. Developing new artificial intelligence capabilities or building global cloud infrastructure required resources that only large companies could afford. Buying a smaller competitor with those capabilities was faster than building from scratch. Third, consolidation reduced risk. In uncertain times, having a larger market share and a stronger balance sheet provided protection against downturns.

However, strategic megadeals also carry risks. Integration is harder when the companies are large. Cultural clashes can destroy value. Regulatory scrutiny is higher. The study by Viarengo on European M&A showed that under economic uncertainty, acquisitions of publicly traded companies actually diminished. This suggests that even strategic buyers become cautious when the target is a large public company with complex operations.

The growth of strategic megadeals is likely to continue. The conditions that favor them, slow organic growth, need for digital scale, and demand for market consolidation, are not going away. But companies must pair their megadeal ambitions with strong integration capabilities.

### **De conglomerating and Rise of Divestitures**

The third finding is the widespread increase in de conglomerating. De conglomerating means breaking apart large, diversified companies into smaller, more focused units. The primary tool for de conglomerating is the divestiture, where a company sells off a

business unit, a product line, or a set of assets that are not central to its main operations.

The evidence from the literature strongly supports this trend. The McKinsey medtech report of 2023 explicitly recommended that medical technology companies pursue more asset divestitures. The report noted that since 2019, the medtech sector had underperformed compared to the average of all listed companies. Organic growth alone was not enough. Selling off non core assets was presented as a way to raise cash, reduce complexity, and focus on what the company did best.

The study by Jadhav and colleagues on Indian transnational M&A found that Indian corporations were reassessing their portfolios. They were becoming more selective about which assets to keep and which to sell. This was not limited to India. The study by Van Wyk and Pretorius on Africa and the Middle East noted that regional actors such as South Africa, the United Arab Emirates, Israel, and Egypt were emerging as both acquirers and targets. This intra regional activity often involved the sale of non core assets from larger global firms to regional buyers.

**Discussion:** The pandemic exposed a hidden weakness of conglomerates. When a crisis hits, a company that sells industrial equipment, runs a hotel chain, and manufactures consumer packaged goods cannot manage all three businesses effectively. Each business faces different problems. Each requires different solutions. Management attention gets divided. Capital gets spread too thin.

Shareholders noticed this. During and after the pandemic, stock prices of focused companies generally outperformed those of diversified conglomerates. Investors began demanding that companies sell off their unrelated businesses. Activist investors, who buy small stakes in companies and push for changes, became more aggressive in demanding breakups.

Divestitures also made financial sense. Interest rates were rising. Selling a non core business brought in cash that could be used to pay down debt. It also improved valuation multiples. Financial markets often value a focused company at a higher multiple of its earnings than a diversified one. This is sometimes called the conglomerate discount.

The rise of de conglomerating and divestitures is not a short term fad. It reflects a lasting lesson from the pandemic. Focus matters. Companies that try to be everything to everyone will struggle. Those that choose what they want to be and sell the rest will perform better.

### **Expanding Role of Private Equity in Global M&A**

The fourth finding is the expanded and strengthened role of private equity firms in the post pandemic M&A landscape. Private equity firms are investment funds that raise money from institutional investors such as pension funds and insurance companies. They use this money to buy companies, improve their operations, and later sell them for a profit.

The evidence for private equity expansion is strong. The McKinsey 2026 report stated that buyout deals valued at more than 500 million dollars rose by 44 percent to exceed 1 trillion dollars. The value of private equity backed exits increased by more than 40 percent, helped by a near doubling of exits through initial public offerings. The same report noted that more than 16,000 companies globally have been held by private equity for more than four years. This is the highest on record. Typical holding periods extended to more than six and a half years, well above historical levels.

The Finalis report estimated that dry powder, which is uninvested capital waiting to be deployed, exceeded 2 trillion dollars globally across private equity, venture capital, and

other private funds. This is an extraordinary amount of money looking for deals.

The study by Rahanuma and colleagues on healthcare investment trends showed that private equity and venture capital continued to play a major role in healthcare M&A even after the immediate crisis passed. The researchers found that healthcare took about a quarter of venture activities with stable deal sizes, showing stability rather than volatility.

**Discussion:** Private equity firms were well positioned for the post pandemic environment for several reasons. First, they had dry powder. While traditional corporate buyers were conserving cash and worrying about their own operations, private equity firms had billions of dollars ready to deploy. They could move quickly when opportunities appeared.

Second, private equity firms are not subject to the same quarterly earnings pressures as public companies. They can hold investments for five, seven, or even ten years. This long term horizon allowed them to buy companies when valuations were low and wait for the right time to sell. The extended holding periods observed in the McKinsey report confirm this.

Third, private equity firms became more creative with deal structures. When interest rates rose, they used more equity and less debt to finance acquisitions. They also formed partnerships with corporate buyers through joint acquisitions. For example, a private equity firm and a strategic corporate buyer might together acquire a target, with the private equity firm providing capital and the corporate buyer providing operational expertise.

Fourth, private equity firms expanded into new sectors. Traditionally focused on mature industries with stable cash flows, they moved aggressively into technology and healthcare. They also showed interest in energy

transition assets such as renewable power and battery storage.

However, the expanded role of private equity also raises concerns. High levels of debt in some private equity backed companies could become problematic if interest rates remain high or if earnings decline. The extended holding periods mean that limited partners, the investors who provide capital to private equity funds, are waiting longer for returns. Some of these concerns are reflected in the McKinsey report's note about valuation gaps and exit challenges.

Despite these concerns, the evidence clearly shows that private equity has become a permanent and powerful force in global M&A. The dry powder is too large to ignore. The deal making capabilities are too sophisticated to dismiss. Traditional corporate buyers must now compete with private equity for attractive targets.

### **Sectoral and Regional Patterns in Post COVID M&A Activity**

The fifth finding concerns which sectors and which regions saw the most M&A activity after the pandemic. The evidence shows clear patterns.

#### **Sectoral Patterns**

Three sectors dominated post pandemic M&A: technology, healthcare, and energy.

Technology was the most active sector. The study by Pryiatelchuk and Granchak on Ukrainian IT services showed that technology remained a target rich sector for M&A even under geopolitical stress. The demand for digital solutions, cloud computing, cybersecurity, and artificial intelligence drove this activity. Larger technology companies acquired smaller startups to gain new capabilities quickly. Non technology companies also bought technology firms to digitize their operations.

Healthcare was the second most active sector. The study by Rahanuma and colleagues found that healthcare retained a stable role in world capital markets, taking about a quarter of venture activities. Telemedicine, vaccine research, biotech, and medical devices attracted particular interest. The pandemic exposed weaknesses in healthcare systems, and both corporate buyers and private equity firms moved to address those weaknesses through acquisitions.

Energy, particularly renewable energy and energy transition assets, emerged as a third active sector. While the literature review had less direct evidence on energy compared to technology and healthcare, industry reports consistently noted increased M&A in solar, wind, battery storage, and grid infrastructure. Government incentives for clean energy in the United States and Europe drove this activity.

#### **Regional Patterns**

The evidence from the literature allows us to group regions into three categories: Americas, EMEA (Europe, Middle East, and Africa), and APAC (Asia Pacific including India).

In the Americas, the United States remained the largest M&A market globally. The study by Rahanuma and colleagues focused on US healthcare venture capital and M&A. The McKinsey reports are global but have a strong US focus. The Finalis report on dry powder noted that US deal value fell sharply in 2022 but began recovering in 2024 and 2025. The Americas region also saw significant cross border activity, with Canadian and Latin American firms both acquiring and being acquired.

In EMEA, the picture was mixed but active. The study by Viarengo on European M&A showed that economic uncertainty affected acquisition preferences, with private company acquisitions increasing relative to public company acquisitions. The study by

Van Wyk and Pretorius on Africa and the Middle East showed a shift in sectoral interest, with communication services including telecommunications and media rising significantly in 2022 and 2023. The study also noted growing intra regional activity, with South Africa, the United Arab Emirates, Israel, and Egypt emerging as both acquirers and targets. In Ukraine, despite geopolitical challenges, the study by Pryiatelchuk and Granchak showed that IT services M&A continued, though the strategy shifted from inbound acquisitions to outbound diversification.

In APAC, India stood out. The news report by Chatterjee in Business Standard noted that India was one of the most active M&A markets in Asia in 2024. Deal value in India reached 26.26 billion dollars in the September 2025 quarter, though this represented a 9.6 percent decline from the previous year due to valuation caution and global headwinds. Large ticket transactions remained active in IT services, automobiles, and real estate. The study by Jadhav and colleagues on Indian transnational M&A provided quantitative evidence of changes in cross border deal making patterns for Indian corporations.

**Discussion:** The sectoral patterns reflect the lasting changes brought by the pandemic. Technology is no longer a niche sector. It is the backbone of almost every industry. Healthcare is no longer a defensive sector that only performs well during crises. It is a growth sector driven by aging populations, chronic disease burdens, and medical innovation. Energy is in transition from fossil fuels to renewables, and M&A is the tool that many companies are using to manage that transition.

The regional patterns show that while the United States remains the center of global M&A, other regions are growing in importance. Europe showed resilience despite economic uncertainty. The Middle East and Africa saw increased intra regional

activity, suggesting that these markets are becoming more self sufficient. India emerged as a bright spot in Asia, attracting both strategic and financial buyers.

However, regional differences matter. Companies pursuing cross border M&A must understand local regulatory environments, cultural factors, and economic conditions. A strategy that works in the United States may fail in India or South Africa. The evidence from the literature suggests that successful cross border deals are those where the acquirer takes time to understand the target's local context.

## CONCLUSION

This study set out to understand how mergers and acquisitions changed after the COVID 19 pandemic. The period examined was from 2020 to 2025. The research was guided by five objectives. These were to analyze the impact of the pandemic on global M&A activity, to examine the shift from volume driven to value driven megadeals, to evaluate the role of de conglomerating and divestitures, to assess the growing influence of private equity and dry powder capital, and to identify the most active sectors and regions in the post pandemic M&A landscape. The findings lead to one central conclusion. The pandemic did not merely interrupt M&A activity. It fundamentally transformed how companies think about, structure, and execute mergers and acquisitions.

The clearest change observed in this study is the shift from volume to value. Before the pandemic, the M&A market was driven by the sheer number of deals. Cheap debt allowed companies to acquire frequently without deep strategic justification. Success was measured by how many transactions a company completed. After the pandemic, interest rates rose, making debt expensive. Regulators began scrutinizing large deals more closely. Shareholders demanded focus. In this environment, doing many small deals

became less attractive. Doing a few large deals with clear strategic logic became more attractive. This shift is not temporary. The conditions that caused it show no signs of returning to pre pandemic levels.

Another major finding is the rise of de conglomerating and divestitures. The pandemic exposed the weaknesses of large, diversified business structures. When a crisis hit, companies that owned unrelated businesses could not manage all of them effectively. Management attention got divided. Capital got spread too thin. Shareholders noticed this and began rewarding focus. Selling off non core assets raised cash, reduced complexity, and allowed management to concentrate on what the company did best. This is not a short term fad. It reflects a lasting lesson. Focus matters. Companies that try to be everything to everyone will struggle. Those that choose what they want to be and sell the rest will perform better.

The study also found that private equity has become a permanent and powerful force in global M&A. With more than 2 trillion dollars in dry powder, private equity firms have the capital to compete with traditional corporate buyers. They have shown creativity in deal structures, forming partnerships and using more equity when debt is expensive. They have also shown patience, holding companies for longer periods when exit opportunities are limited. Private equity is not a temporary player that will retreat once conditions normalize. It has normalized itself as a central actor in the M&A ecosystem. In terms of sectors, technology and healthcare emerged as the most active areas. The pandemic permanently raised demand for digital services, cybersecurity, telemedicine, and

vaccine research. This sectoral concentration is likely to persist because the underlying drivers are long term trends that predate the pandemic.

Based on all these findings, this study rejects the null hypothesis that the pandemic caused no lasting changes to M&A activity. The alternative hypothesis is accepted. The COVID 19 pandemic caused significant and lasting changes in global M&A trends, drivers, and performance between 2020 and 2025. These changes include a shift from volume driven to value driven megadeals, increased de conglomerating through divestitures, a larger role for private equity backed by dry powder, and sustained sectoral concentration in technology and healthcare. The old playbook of doing many small deals with cheap debt no longer works. Success in the post pandemic M&A environment requires selectivity, strategic clarity, and strong post merger integration capabilities. Like all research, this study has limitations. It relied entirely on secondary data and did not collect primary information from M&A practitioners. The study period is short, and some observed changes may eventually reverse. The study focused on global trends with specific attention to India, Europe, Africa, the Middle East, Ukraine, and the United States, leaving other regions less examined. Despite these limitations, this study makes a meaningful contribution. The years 2020 to 2025 were not just a period of recovery. They were a period of transformation. The M&A landscape that existed before the pandemic is gone. What has replaced it is different, more selective, more strategic, and more complex. Companies that understand this new landscape and adapt to it will create lasting value. Those that try to return to old ways will be left behind.

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# To study on employee motivation and its impact on performance

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## ABSTRACT:

The motivational level of an employee is the most significant predictor of the success of an organisation and on the performance level of an employee as well. As businesses continue to compete in a highly competitive and challenging market, businesses focus their initiatives on increasing productivity levels (output), increasing employee engagement, and attempting to reduce turnover rates. However, motivation levels among employees continue to be low, which are affecting all employee performance levels negatively. Therefore this research aims to understand the relationship between employee motivation and the performance level of an employee and what organisations can do to implement successful motivation strategies that will increase the productivity/growth of an employee and organisation over time. To analyse the link between employee motivation, performance and organisation's ability to use motivational strategies effectively, the research was conducted using a quantitative design which was based entirely on data sourced from secondary means (i.e., academic journals, books, research papers, industry reports). In addition to analysing the aforementioned psychological and behavioural motivation factors that were used to evaluate employee performance, the research also evaluated the four key (main) motivational theories (i.e., Maslow's Hierarchy of Needs, Herzberg's Two-Factor Theory, McClelland's Need Theory, Self-Determination Theory) to assist organisations in understanding the psychological and behavioural motivation factors affecting employee performance and productivity. The theoretical concepts from each of the four motivational theory methodologies are integrated with real-world organisational approaches and practices so that businesses will be able to evaluate how employee motivation impacts how efficiently employees perform and how committed they are to an organisation, and how well they perform in their job.

The results indicate that both intrinsic factors (such as recognition, achievement, responsibility, and opportunities for personal development) and extrinsic factors (such as pay, incentive programs, job security, and employee benefits) are very influential in impacting employees' productivity levels as well as their job satisfaction levels. Well-designed motivation programs will provide an organization with higher levels of employee engagement, lower levels of absenteeism, and an overall increase in the organization's performance. Conversely, a lack of motivation among employees will result in lower morale, lesser quality of work performed by those employees, and increased turnover of employees.

The research shows that motivation is more than a basic function of human resources; it is also critical to an organization's long-term success. An organization can create sustainable growth and maintain its competitive edge by having a balanced motivational program that

contains both monetary and non-monetary rewards.

**Keywords:** Employee Motivation, Employee Performance, Job Satisfaction, Productivity, Organizational Performance, Human Resource Management, Motivation Theories.

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## INTRODUCTION:

The ability to achieve organisational objectives and maintain a long-term sustainable future relies heavily on employee effectiveness and performance. With the ever increasing competition in an ever-evolving global (or International) business environment, organisations are investing heavily into the areas of "technology" and "infrastructure." They are also investing into areas that promote growth, such as Innovation and the development of strategic plans to remain competitive. An organisation can have all of the financial resources (liquidity) and "state of the art" systems that they need, yet without having employees who are committed to the organisation's goals and motivated to perform effectively, the organisation will not be able to achieve its goals. Therefore, Human Resources remain the organisations most important resource since it is the Human Resources that implement the strategies of the organisation, develop and manage day to day operations, solve problems for customers and create/generate or drive new innovation. Motivation is one of the greatest influences on employee effectiveness/efficiencies; therefore it is important to provide an environment in which motivation will thrive.

There are many factors that influence an employee's level of motivation to work. These factors can come from within the employee or be outside in nature and may motivate the employee to take action or to work hard and be dedicated to an organization's goals. Motivation to work also represents how much energy, enthusiasm, commitment and creativity the employee will bring to the performance of their job functions. Motivated employees tend to perform their jobs more effectively,

meet deadlines and exceed their performance expectations while also contributing to improved teamwork. Also, motivated employees typically have a proactive attitude towards their work and a desire to accept work responsibilities, and a strong sense of pride in and commitment to, doing quality work; therefore, organizations with motivated employees will typically experience higher productivity, higher job quality and customer satisfaction and have better employee performance.

Low motivation hampers companies in many ways. Employees without motivation tend to have: lower levels of morale, effort, job satisfaction and participation at work, all of which eventually lead to: absenteeism/employee conflict/loss of productivity and an increased rate of turnover. High turnover rates negatively impact companies since they disrupt their long-term stability and increase their recruiting and training expenses. Disengaged employees also adversely affect company morale and negatively impact the corporate culture and lead to less efficient business practice and as such, the company's overall profitability will suffer. Therefore, companies must ensure their employees are motivated for both the success of the individual and their organisation as a whole.

Over time, numerous theories related to employee motivation have been created to help better understand why working people are motivated to perform their job duties for employers. The most commonly referenced motivational theory is Maslow's Hierarchy of Needs, which states that individuals must first have their essential physiological and safety needs met, before any esteem or self-actualization needs can be fulfilled. Herzberg's Two-Factor Theory, distinguishes between two different types of factors for employee motivation, hygiene

and motivational; hygiene factors prevent discontent and motivational factors inspire employees. McClelland's Theory of Needs identifies three sources of motivation, which are achievement, power and affiliation. All three sources of motivation have direct influence over employee motivation to perform at their job. Thus, the motivation theories discussed here provide excellent reference material for creating a baseline understanding for the influence of motivation on employee productivity.

Despite organizations becoming aware of how important social motivation is to an employee's energy source, organizations continue to struggle with maintaining a consistently high level of employee motivation. There are several factors that contribute to low levels of motivation and involvement in organizations including rapid change with technology, increasing pressure within the workplace, lack of career advancement or development opportunities, and poor leadership. Organizations continue to rely primarily on the use of cash as a way of rewarding employees, and many do not use acknowledgment and recognition as powerful motivators or provide opportunities for employees to gain job satisfaction, as well as achieve personal and/or professional success through the advancement of their career. Therefore, by relying solely on rewards to achieve successful business objectives, organizations do not create a long term commitment and loyalty from their employees.

As a result of this research, organizations must assess the link between employee motivation and employee performance, as well as how various motivational factors impact employee behaviors and how this will enable an organization to implement strategies to increase employee productivity and achieve consistent and sustained growth. To this end, this project has two goals; to assess the role of employee motivation as an indicator of employee

performance, and to offer organizations an overview of a variety of practical approaches to building a motivated/highly productive workforce.

## **REVIEW OF LITERATURE:**

### **1. "Maslow's Hierarchy of Needs (1943)"**

Maslow proposed that human needs are arranged in five hierarchical levels: physiological, safety, social, esteem, and self-actualization. According to this theory, employees are motivated when their lower-level needs are satisfied before they seek higher-level psychological fulfillment. Organizations must ensure fair wages, safe working conditions, social belongingness, recognition, and opportunities for personal growth to maintain motivation and enhance performance."

### **2. "Herzberg's Two-Factor Theory (1959)"**

Herzberg classified motivational factors into hygiene factors and motivators. Hygiene factors such as salary, company policies, and working conditions prevent dissatisfaction but do not necessarily increase satisfaction. Motivators such as achievement, recognition, responsibility, and advancement create job satisfaction and directly improve performance."

### **3. "McClelland's Theory of Needs (1961)"**

McClelland identified three dominant needs that drive motivation: achievement, power, and affiliation. Employees with high achievement needs prefer challenging tasks, those with affiliation needs value teamwork, and power-driven individuals aim for leadership positions. Understanding these needs helps organizations assign appropriate roles to improve performance."

### **4. "Self-Determination Theory (Deci & Ryan, 2000)"**

This theory emphasizes intrinsic motivation and highlights three psychological needs: autonomy, competence, and relatedness. When employees feel independent, capable, and connected to others, their motivation and job performance improve significantly.”

#### 5. “Expectancy Theory (Vroom, 1964)

Vroom’s Expectancy Theory suggests that motivation depends on an employee’s belief that effort will lead to performance and performance will lead to rewards. If employees perceive strong links between effort, performance, and rewards, their motivation increases.”

#### 6. “Equity Theory (Adams, 1965)

Adams proposed that employees compare their input-output ratio with others. If they perceive fairness in compensation and recognition, motivation remains high. Perceived inequality can lead to dissatisfaction and reduced performance.”

#### 7. “Goal-Setting Theory (Locke & Latham, 1990)

This theory states that specific and challenging goals enhance employee performance. Clear targets increase focus, persistence, and effort, leading to improved productivity and organizational outcomes.”

#### 8. “Reinforcement Theory (Skinner, 1953)

Reinforcement Theory suggests that behavior is influenced by its consequences. Positive reinforcement such as rewards and recognition strengthens desired behaviors, thereby improving employee performance.”

#### 9. “Job Characteristics Model (Hackman & Oldham, 1976)

This model identifies five core job characteristics—skill variety, task identity, task significance, autonomy, and feedback—that enhance intrinsic

motivation. Jobs designed with these characteristics increase satisfaction and performance.”

#### 10. “Porter-Lawler Model (1968)

This model expands on Expectancy Theory by linking performance, rewards, and satisfaction. It suggests that high performance leads to rewards, which in turn increase job satisfaction and motivation.”

Alderfer condensed Maslow’s five needs into three categories: Existence, Relatedness, and Growth. The theory suggests that employees can pursue multiple needs simultaneously, influencing their motivation and performance levels.”

#### 11. “McGregor’s Theory X and Theory Y (1960)

McGregor proposed two contrasting views of employees. Theory X assumes employees are lazy and require control, while Theory Y assumes employees are self-motivated and responsible. Organizations adopting Theory Y practices tend to achieve higher employee motivation and performance.”

#### 12. “Bandura’s Social Cognitive Theory (1986)

Bandura emphasized self-efficacy—the belief in one’s capabilities. Employees with high self-efficacy are more motivated and perform better because they believe they can successfully complete tasks.”

#### 13. “Pink’s Motivation Theory (2009)

Daniel Pink emphasized autonomy, mastery, and purpose as key drivers of modern workplace motivation. He argued that intrinsic motivation is more effective than traditional reward-based systems in knowledge-driven industries.”

#### 14. “Gallup Employee Engagement Studies (2017)

Gallup's research highlights that highly engaged and motivated employees contribute to higher productivity, profitability, customer satisfaction, and lower turnover rates. The findings confirm the strong relationship between motivation and organizational performance."

## **RESEARCH PROBLEMS/QUESTIONS:**

1. In what ways does Employee Motivation affect Job Performance?
2. Which elements contribute to lower employee motivation levels for organizations?
3. What interventions can be implemented to enhance employee motivation and productivity levels?

## **OBJECTIVES:**

1. To study the concept of employee motivation.
2. To study the relationship between motivation and performance.
3. To identify issues created by lower levels of Motivation.
4. To recommend sufficient Methods employed to inspire employees.

## **HYPOTHESIS:**

Null Hypothesis ( $H_0$ ): Employee motivation will not have a considerable impact on an employee's performance.

Alternative Hypothesis ( $H_1$ ): Employee motivation will have a considerable impact on an employee's performance.

## **RESEARCH METHODOLOGY:**

### **1. Research Design**

This is a research that will use a descriptive method of research and rely only on secondary data to investigate the relationship between motivation and performance of the employee. It is appropriate to use a descriptive research method because the purpose of this study is to systematically evaluate and analyze the existing body of research, theories, and practices related to motivation and its impact on productivity. The study will incorporate both qualitative and quantitative data. Qualitative information will be obtained from the review of established theories, evidence-based research studies, organizational case studies, and reports in the industry as a whole.

This study does not include any primary data collected through surveys or interviews. The researchers included only data that has been published by academic or professional sources to identify patterns, trends, and conclusions about the motivational factor of employees and how those can be related to the performance outcome. The researcher will use established theoretical constructs and existing research and document findings to create a comprehensive understanding of the impact of motivation on the effectiveness of the workplace.

### **2. Data Collection Method**

This is a secondary data study. Secondary data could include the following:

- Scholarly/peer-reviewed articles and journal articles regarding organizational behavior/human resource management (HRM)
- Books that detail motivation theories and their relationship to employee performance
- Industry reports regarding employee engagement and productivity at work
- HR analytics and/or case studies from

organizations

- Professionally published sources (for example, SHRM reports and Harvard Business Review articles)
- Corporately created white papers and annual reports that address employee engagement methods.

### 3. Data Analysis Method

The collected secondary data will be analyzed using a thematic content analysis model. Through this analysis, the following themes/examples can be identified:

- The contribution of intrinsic motivation to improving long term performance
- The influence that extrinsic rewards have on increasing short term productivity
- The effect of leadership on employee motivation
- The connection between job satisfaction and performance
- The reasons and results of low employee motivation.

### 4. Scopes and Limitations

**Scopes:-** The study explores employee motivation in different sectors and types of organisations. It includes:

- Motivation theory
- The link between motivation and work performance
- Company strategies for improving employee motivation
- The influence of both intrinsic and extrinsic motivators on employee performance

#### **Limitations:**

- The research used only secondary data; no primary data was collected through methods like surveys or interviews.
- The conclusions drawn from this study are based on previously published literature and other research studies done prior to this report.

- Organisations are always evolving; therefore, new methods of motivating employees may emerge after this study has completed.
- Cultural and organisational differences will affect the generalisability of this study.

## DATA ANALYSIS AND INTERPRETATION:

### 1. Relationship between Employee Motivation and Performance

The research indicated that there is strong evidence from secondary sources that employee motivation is positively related to performance. Motivated employees have been shown to have higher productivity and to produce better quality of work, as well as exhibit a higher level of commitment to their employer's goals. When employees feel valued, recognized, and compensated fairly, they are likely to put in extra effort at their jobs (perform). Motivation increases an employee's ability to concentrate on their job, to be persistent in performing their work, and to take the responsibility to complete their work, all of which directly enhances the employee's performance results. In addition, companies with high employee engagement report higher profitability, customer satisfaction, and operational efficiency than do companies with low employee engagement.

### 2. Effect of Intrinsic Motivation on Performance

Intrinsic motivation is defined as an employee's internal reasons for completing a task, which may include personal development, recognition, achievement, being given responsibility, or having meaningful work. Research has found that employees who are motivated by intrinsic factors will have a greater and more long-lasting effect on performance than employees who are motivated by extrinsic factors, such as monetary incentives. For example, employees who find intrinsic

motivation will bring a greater positive attitude to their jobs and demonstrate a higher level of creativity when engaging in their job tasks as compared to those employees who are merely motivated by monetary means (external). Providing recognition to employees, providing opportunities for career advancement, providing skills training, and encouraging employee participation in decision-making has been shown to positively enhance intrinsic motivation to work by employees. Companies that promote autonomy and empower their employees tend to foster increased innovation by their employees and a greater commitment from their employees to their employer.

### **3. Impact of Extrinsic Motivation on Performance**

Performance-based incentives include pay and bonuses, incentive programs, and job-based growth opportunities. Evidence from secondary data shows that financial rewards have been shown to have a positive correlation with improved short-term employee production. Incentive-based programs also promote and motivate employees to create and meet established targets and deadlines. Nevertheless, while financial incentive programs can provide short-term motivation, employees' long-term motivation often cannot be maintained unless their psychological and emotional needs are also satisfied. Where as competitive wages and salaries help prevent employee dissatisfaction, in order to maintain ongoing employee performance, such wages and salaries must also be combined with other intrinsic types of motivation.

### **4. Causes & Effects of Low Employee Motivation**

The data defines many contributing factors to employees' low level of motivation, including lack of praise and recognition, unequal compensation, inability to move up or advance, ineffective managers and supervisors, and overabundance of

workload. Due to low employee morale and productivity levels, employees who are not motivated to work can contribute to decreased productivity (i.e., absenteeism), workplace conflict, low levels of morale, and increased employee turnover and are associated with high-cost recruiting and reduced organizational performance. The analysis shows that resolving employee motivation issues may be critical to maintaining employee stability and performance in organizations.

### **5. Motivational Influence on Job Performance by Industry**

- **Technology:** Motivation through the development of employees' skills, the opportunity to be creative and innovative and recognition from management all positively affect job performance.
- **Manufacturing:** Financial incentives (salary increases, bonuses, etc.) and providing a good, safe work environment positively affect job performance.
- **Healthcare:** Emotionally supporting, thanking and helping provide an employee with a work-life balance will increase the quality of service provided to patients and the efficiency of the provision of those services.
- **Retail & Hospitality:** Providing employees with incentive-based rewards and recognition for good performance will increase the amount of sales made by employees and the level of service provided to customers.
- **Banking & Finance:** Providing employees with opportunities for advancement in their careers and conducting structured performance reviews will create more motivated employees who will produce at a higher level.

### **6. Summary of Key Findings**

- There is a strong and direct correlation between employee motivation and job performance.

- Employees that are intrinsically motivated are more likely to remain engaged in the workplace over the long term.
- While employees who are motivated through extrinsic rewards are more productive in the short term, the two types of motivational strategies need to be balanced.
- The motivation levels of employees are directly affected by the manager's leadership style.
- Employees who are low in motivation will negatively impact their productivity and increase the number of employees who leave the organization.
- An organization that utilizes a balanced motivational strategy that incorporates both intrinsic and extrinsic motivational strategies will achieve sustainable success.

## **FINDINGS OR INFERENCES:**

### **1. The Research Clearly Demonstrates that Employee Motivation Increases Employee and Organizational Performance.**

Motivated employees will likely perform at a higher level and produce a better quality of work, be more proficient in managing their time and resources, and be more focused on achieving the organization's goals than employees who are not motivated. When businesses utilize effective motivation techniques, they experience increased productivity and profit.

### **2. Problems Related to Lack of Motivation Affect Employee Commitment and Productivity Negatively.**

A lack of recognition, low pay, and inadequate support causes employees to lose the desire to do their best at work. Consequently, their productivity drops and they are more likely to miss work or to be

dissatisfied with their work; consequently, the number of employees who leave their organization is also higher. Employee disengagement negatively impacts an organization's overall performance and stability.

### **3. Sustainable Long-Term Performance is Highly Dependent Upon the Use of Intrinsic Motivators.**

Recognition, opportunities for advancement, work-related responsibilities, meaningful work, and supportive supervision are all intrinsic motivators that help employee engagement over an extended period. Employees that find personal value and meaning in their jobs tend to have a long history of success with an organization and remain loyal employees.

### **4. Money Motivates Short Term, No Long Term.**

Financial incentives, such as salary increases, bonuses and promotions usually increase performance for a short time. Research shows that money only provides temporary increases in motivation; intrinsic support will lead to permanent gains.

### **5. Leadership & Organizational Culture are Strong Influencers of Motivation.**

Employee motivation is increased through supportive leadership, open communication, and a positive organizational culture. Inclusive and collaborative work environments typically yield greater employee commitment and teamwork than non-collaborative and non-inclusive environments. Conversely, poor leadership practices produce lower morale and less performance.

### **6. Balanced Incentives Better Organizational Performance.**

The findings of the study indicate that balanced incentives, i.e., both intrinsic and

extrinsic motivational strategies, result in optimum organizational performance. Organizations that implement fair pay, recognition programs, career advancement initiatives, and supportive management practices tend to create employees with greater job satisfaction, lower turnover, and sustainable performance improvement.

## **SUGGESTIONS AND RECOMMENDATIONS:**

### **1. Develop a Balanced Approach to Motivation**

Organizations must utilise a combination of intrinsic and extrinsic motivators to motivate employees (such as financial) reward systems (salaries, bonuses) with recognition (awards, certificates, and performance recognition), developmental opportunities (career advancement) and an environment of supportive leaders. When using both types of motivations, organisations are better able to sustain employee engagement and performance over time.

### **2. Build on Recognition and Appreciation Programs**

Regularly recognising the contributions of employees through awards, certificates, performance recognition and public exposure will increase morale and motivation. When employees feel they are valued, they are more committed to their work and will be more productive.

### **3. Provide Opportunities for Career Development and Training**

Organisations should provide their employees with opportunities for continued professional growth through learning programs, skill-development workshops and opportunities for advancement. When employees grow professionally, they develop their skills and become more

satisfied with their jobs and develop long-term loyalty to the organisation.

### **4. Providing Leadership That Is Both Supportive and Participative**

Managers should use transformational and participative leadership styles to promote and support open communication, trust and involve employees in the decision-making process.

Supportive leaders build better motivation among employees, foster interactions among employees and result in an improved overall performance level.

### **5. Providing Fair and Transparent Pay Structures**

Providing fair compensation, performance-based incentives and clear appraisal systems results in decreased dissatisfaction with pay and builds trust among employees. Fairness in pay contributes to maintaining motivation and reducing workplace disputes.

### **6. Providing Marked Work-Life Balance Initiatives**

Providing flexibility in hours worked, enabling remote in the workplace options as well as providing workplace stress management programs and employee health and wellness programs will help minimize employee burnout and to maximize employee health and well being. A healthy work-life balance can significantly improve employee motivation and behaviour.

### **7. Creating Employee Engagement Programs**

Employers should conduct regular employee feedback meetings, use employee engagement surveys, provide team-building activities and hold open forums for communication will help to establish how employees perceive their individual experiences related to their relationship with

the organization. An engaged employee has a greater level of productivity and is more committed to achieving the objectives of the organization.

#### **8. Continually Review and Update Motivation Initiatives to Employees**

Organizations should periodically review the effectiveness of their ongoing motivational initiatives by monitoring the results of performance evaluations and soliciting employee feedback. All employers should consider modifying their motivational strategies as employees' needs evolve to ensure continued high levels of employee motivation.

### **LIMITATIONS OF THE STUDY:**

#### **1. Reliance on Secondary Data**

The research for this study was done only through existing research, including academic journals, textbooks, industry journals/reports, and other customer research. The Study did not include any original input from participants through surveys, interviews, or direct case studies. Therefore, the results of this study will be dependent on previously published literature regarding what motivates employees and, as a result, may not provide a complete picture of how today's employee feels in a particular organisation.

#### **2. Lack of Direct Feedback from Employees**

Because the research study does not include direct responses from employees, managers or human resources and there was no direct data collected (e.g. through questionnaires or interviews), the study cannot adequately describe how individuals feel about their jobs and/or why they are engaged in their work and/or what actual workplace challenges exist that affect employee motivation and performance.

#### **3. Rapidly Changing Workplace**

The workplace is constantly evolving due to technological advances, remote working trends, changing employee expectations and globalisation. Consequently, the motivational factors that are relevant to employees today may no longer be relevant to them in the future. Due to this, some of the results of this study may be limited in their long-term applicability.

#### **4. Lack of In Industrial Deep-Dive Analysis**

While the overall topic of motivation is discussed across a variety of industries, this study does not provide an in-depth industry-specific analyses for each of the major sectors that are represented in the data (for example, IT, healthcare, manufacturing, banking). Each of these areas have unique cultures and challenges related to workplace motivation, and, as a result, would benefit from more focused research.

#### **5. Challenges of Measuring Motivation with Precision**

Motivation is a psychological concept that is unique for every individual; therefore, measuring motivation with precision is an issue since it relates to the individual's values, cultural background, personality traits, and the organizational setting. Because of this, the way in which each motivation level is assessed in the literature may vary from one study to another.

#### **6. Variance in Cultural and Regional Motivational Differences**

The motivating factors of employees can differ country to country, and within countries by culture and region. For example, the needs of employees in Canada may not be the same as the needs of employees in other countries since economic, social, and management practices differ throughout the globe. Because the

focus of this study was to look at a broad global picture, it does not take into account the motivational influences of specific regions.

### **7. Evaluation of Employee Performance Subjectivity**

Employee performance is evaluated by various means, such as productivity, quality, teamwork, and innovation. Organizations utilize their own types of performance measurement systems; therefore, linking motivation to performance can be highly subjective.

### **8. Limited Consideration of External Factors Regarding Motivation**

External factors related to the economy (i.e. market instability, inflation, labor market conditions) and the organization (i.e. restructuring) can impact both motivation and performance. The lack of investigation into such factors in this study may have limited the overall conclusions that can be drawn from the study on motivation.

## **HYPOTHESIS TESTING & INTERPRETATION:**

According to the analysis of secondary data, employee motivation markedly increases employee performance - research shows that workers who have been motivated exhibit greater productivity, higher quality work, increased commitment and loyalty to their organization, than those who are not motivated. Organizations that utilize structured motivational strategies such as performance-based incentives, recognition programs, opportunities for career advancement and supportive leaders often experience a clear improvement in employee efficiency and engagement. These results support the hypothesis that motivation is very important for influencing employee performance outcomes. Therefore, given this evidence, we

reject the null hypothesis ( $H_0$ ) that employees' level of motivation has no effect on their performance.

Research also provides evidence to support the hypothesis that no motivational strategies negatively affect employee performance. Studies show low levels of motivational tools lead to absenteeism, reduced productivity, dissatisfaction with work and high turnover among employees. Workers who feel undervalued, underpaid or unsupported will likely not contribute to the organization's performance as expected. In addition, if organizations rely solely on external motivation (rewards such as pay or bonuses) without also considering internal motivators (such as recognition or a sense of purpose) then it is likely these will result in only temporary increases in performance, and would not result in engaged long term employees. Therefore, again the evidence supports the alternative hypothesis ( $H_1$ ) that employee motivation positively impacts performance.

To sum up, the results of hypothesis testing provide significant support for the alternative hypothesis ( $H_1$ ) while rejecting the null hypothesis ( $H_0$ ). The results also indicate that employee motivation is a significant determinant of both individual and organization performance. Organizations that take a holistic approach to employee motivation (e.g., balancing financial reward and intrinsic motivators such as recognition, empowerment, and career advancement) will achieve greater sustainability and long-term success. Employee motivation must therefore be viewed as a long-term strategic priority rather than a simple administrative HR function.

## **CONCLUSION:**

The study concludes that employee motivation is directly related to employee performance and ultimately organizational

success. In today's competitive and rapidly changing environment, no business can grow through reliance on technology, capital, or infrastructure alone. The real strength of an organization is its people, and the motivation of an organization's employees has a direct implication on the productivity, efficiency, and overall performance of the organization. Motivated employees will generate a greater amount of output and bring about innovation, teamwork, commitment, and a positive work attitude. If an organization encourages a motivated workforce, their operational effectiveness will be improved, and they will gain a competitive advantage for the long term.

The research findings show that both intrinsic and extrinsic factors of motivation have a significant positive influence on employee performance. Intrinsic and extrinsic motivational factors have an impact on short term raise in productivity as well as on attracting employees to the organization (extrinsic rewards). Financial rewards such as pay increases, bonuses, and promotions can provide a short-term increase in productivity and an increase in employee satisfaction, while intrinsic rewards such as recognition, career development, responsibility, autonomy, and supportive leadership act as long-term influencers on engagement and loyalty. Employees who are valued and appreciated by their employer will exceed performance expectations and align their personal goals with the organization's goals. On the other hand, organizations that lack effective motivational strategies experience low employee morale, absenteeism, workplace conflicts, and high employee turnover,

which will ultimately negatively affect the stability of the organization and its profits.

Moreover, the study highlights how leaders' behaviours and the organisational culture they create will impact their employees' motivation levels. When leaders use supportive and participative leadership styles, they are able to develop trust, communication and participative decision-making among their employees, which will lead to improved performance outcomes. When the workplace creates a sense of fairness, transparency and provides support to employees through work-life balance, then employees will have a greater level of commitment to the organisation and job satisfaction.

Motivation is not something that is to be dealt with by the human resource department only, but rather it is an important management level priority that should receive continued attention and modification.

For long-term performance, organisations need to implement a balanced approach to motivation through a combination of financial rewards, recognition programmes, career advancement opportunities, employee engagement, and supportive management behaviours. By combining external financial rewards with internal satisfaction, organisations will build a high-performing workforce that is committed to the organisation. Ultimately, the success of any organisation is dependent upon the ability to motivate its workforce. A motivated workforce will lead to higher productivity, lower turnover, higher morale, and promote long-term organisational growth.

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# Role of Experiential Marketing in High-Involvement Automobile Purchases

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## Abstract

One of the most salient high-involvement purchase categories is the automobile industry, with a high level of financial investment, long durability, emotional involvement and social conspicuity. Under these circumstances, conventional marketing techniques with the emphasis on product characteristics, prices, and promotional messages cannot be usually adequate to shape consumer decision-making. Experiential marketing, where the brand experience is based on high engagement levels, interactivity, and emotional involvement of customers, has been developed as a strategic tool to impact high-involvement purchases.

This paper explores how experiential marketing helps in influencing consumer behavior in high-involvement car buying. The paper examines the role of experiential tools like test drives, auto expos, online showrooms, augmented reality (AR) experiences, and lifestyle branding in terms of their impact on emotional attachment, reduction of perceived risk, brand confidence, and purchase intention based on secondary research, scholarly articles, and industry reports. To demonstrate the practical use, case insights of companies like Tata Motors, BMW, Mercedes-Benz, Tesla, Inc., and Hyundai Motor Company are used.

The results indicate that experiential marketing has a significant positive impact on consumer engagement, uncertainty, emotional attachment, and positively affect purchase decisions in the automobile industry. The paper ends up with managerial implications and future research directions that are applicable to car dealers as well as managerial students of MBA level of strategic analysis.

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## Introduction

### Background of the Study

The auto industry is among the biggest economic activities in the world. The industry is one of the leading manufacturing industries in India, accounting to a large proportion of GDP and job creation. Nonetheless, the growth of competition, technology and the emergence of electric vehicles (EVs) have compounded the marketing struggles.

Automobile purchases are high-involvement purchases because of:

- High monetary value
- Long decision cycle
- Extended product usage
- Symbolic and emotional value.
- High perceived risk

Contrary to low-involvement goods like FMCG products, automobile shoppers conduct significant information search, comparison, financing evaluations and reassurance search before completing their purchase.

Experiential marketing in this regard has become strategically important.

## Need for the Study

Traditional advertising is no longer adequate to modern consumers. They seek:

- Personalized experiences
- Emotional engagement
- Experiential brand interaction.

Authentic product trials

Experience marketing is used as a tool to lessen uncertainty and increase confidence especially in purchasing a car, where perceived risk is high.

The purpose of this study is to learn about the role of experiential marketing as determinants in consumer decision-making during high-involvement car purchases.

## Objectives of the Study

The main aim of the study is to investigate and discuss the contribution of the experiential marketing role in the determination of high-involvement automobile purchase decision. Experiential marketing has become a major differentiator in the industry of automobile manufacturing in the modern competitive market where technological features and price packages are nearly identical between brands. Consequently, it is important to learn how it affects the consumer behavior of both scholarly and managerial interest.

The aims of the study are specific and it is elaborated as follows:

- To investigate the meaning and aspect of experiential marketing in the automobile market of India.
- To examine the character of high involvement purchase behaviour in automobiles.
- To establish new research prospects in the field of experiential marketing in the automobile market.

This research paper aims at analyzing the conceptual, behavioral, and strategic aspects of experiential marketing in high involvement purchases of automobiles. It tries to fill the gap between the theoretical frameworks and the real life uses in the industry and thus helps in adding both to the academic literature and the managerial decision making in the automobile industry.

## Research Methodology

Research methodology gives the systematic approach by which a research is planned, executed and interpreted. The current study titled Role of Experiential Marketing in High-Involvement Automobile Purchases is organized and scholarly based which guarantees clarity, logical consistency and relevance. Given that the aim of the research is to analyze and explain the role of experiential marketing in shaping consumer behavior as opposed to empirically determining the statistical links between two variables, a conceptual and descriptive approach is employed.

## Research Design

The research is a descriptive and conceptual research design grounded on the analysis of secondary data. Descriptive design suits the study as it aims at comprehending and explicating the impact of experiential marketing practices on consumer decision-making when making high involvement automobile purchases. The conceptual approach enables the incorporation of the known consumer behavior theories like the Elaboration Likelihood Model (ELM), Stimulus-Organism-Response (S-O-R) Model, and AIDA Model. Such theoretical frameworks offer background with which the effects of experiential stimuli on emotional reactions, perception of risk, development of trust, and intentions to purchase can be explained.

## 3.2 Nature of the Study

It is analytical, qualitative and exploratory research. It is based on interpretation of

theoretical constructs and industry practices as opposed to primary numerical data. The literature review integrates previous scholarly sources and business knowledge to come up with a systematic concept of experiential marketing tactics in the automobile industry. It goes further to discuss experiential technology, including virtual reality (VR) showrooms, augmented reality (AR), immersive test-driving programs, and community-driven brand building programs.

### **3.3 Sources of Data**

The research depends all on the secondary data sources that are chosen on the basis of their reliability and conceptual research relevance. Peer-reviewed academic journal articles, books on experiential marketing and branding, industry reports by McKinsey, Deloitte, and SIAM, annual reports of companies, white papers, and publications in the automobile industry are the primary sources. These sources were thoroughly vetted to be credible, current and reflect the research objectives.

### **3.4 Data Collection Procedure**

The key-word search was conducted with the help of the following keywords: experiential marketing, high-involvement purchase behavior, automobile consumer decision-making, brand trust, and test-drive influence. I initially conducted a systematic review of academic databases as well as industry publications and then used the data to choose the literature according to its relevance, theoretical contributions, and authenticity. The results were subsequently placed in thematic sections that aligned with the aims of the study.

### **3.5 Development of Conceptual Framework.**

**Conceptual framework Construction** A conceptual framework was constructed based on the literature review with experiential marketing (independent variable) to

emotional attachment, perceived risk reduction, and brand trust (mediating variables) to purchase intention (dependent variable). The framework is based on the established theories of behavior and helps to provide the structure of the analysis of the study.

### **3.6 Scope and Limitations**

The research is more on the automobile industry, high involvement consumers behavior, experiential marketing strategy and the Indian market scenario using some global references. It lacks primary survey information or quantitative statistical study. Such dependence of secondary data and conceptual analysis could restrain the empirical validation and generalizations in other markets.

The methodology is justifiable because it was chosen due to specific reasons.

### **3.7 Justification of Methodology**

The methodology has been justified since it is selected on the basis of certain reasons.

The identified research methodology is appropriate due to the combination of theoretical and practical viewpoints as well as the inclusion of the structured conceptual understanding and the adherence to the academic research needs. It would make the study analytically rigorous and provide meaningful managerial information about automobile marketing strategies.

### **3.8 Hypothesis**

According to the conceptual framework, experiential marketing will be the independent variable, emotional attachment, perceived risk reduction, and brand trust will be the mediating variables, and the purchase intention will be the dependent variable.

### **Direct Relationship Hypotheses.**

H0: Experiential marketing does not affect emotional attachment during high-involvement purchases of automobiles significantly.

H1: Experiential marketing is strongly related to positive influence on emotional attachment during high involvement purchase of automobiles.

## 1. Emotional Attachment and Experiential Marketing.

H0: There is no significant effect of experiential marketing on emotional attachment during high involvement purchases of automobiles.

H1: Experiential marketing positively influences emotional attachment in high involving automobile purchase in a significant manner.

The experiential marketing framework created by Schmitt states that the affective response to the brands is strengthened with the help of sensory and emotional experiences (Sense and Feel). The S-O-R model also indicates that experience-related stimuli (stimulus) like the immersive test drive and the interactive showroom affect internal emotions (organism) to result in behavioral changes (response).

In the high involvement auto buying, cars are a symbol of lifestyle, status, and identity. Brands like BMW and Mercedes-Benz conduct experience programs which elicit emotional appeal in the form of high-end showroom space and personalized experience. According to previous studies, emotional bonding and psychological ownership are strongly reinforced by experiential engagement. Thus, null hypothesis is theoretically supported.

## Hypothesis Conclusion.

The hypotheses rely on some behavioral theories that describe the effect of the use of the experiential marketing (stimulus) on

some psychological processes (emotional attachment, risk reduction, trust), which consequently result in behavioral consequences (purchase intention). The theoretical rationale and the literature provide conceptual support to the hypotheses (H1, H2, H3, H4), whereas the null hypotheses (H0) would be discarded after an empirical test.

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(IJRPR

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## Types of Experiential Marketing in Automobile Industry.

Experience marketing in the automobile market goes beyond the normal advertising since it allows consumers to be in direct contact with the cars and the brand settings. As automobile purchase is a high involvement process with financial, functional and social risk, the experiential strategies are very important in influencing perception, trust and purchase intention.

### Test Drive Experiences

One of the most important experiential instruments that would enable consumers to evaluate the performance, comfort, and safety is test drives. Immersive test-drive programs such as BMW and Tesla, Inc. brands are aimed at decreasing the perceived risk and enhancing purchase confidence.

### Auto Expos and Brand Experience Events.

Auto Expo comes in with large-scale exhibitions that offer dynamic platforms through which innovation and technology can be exhibited. The immersive displays and personalized consultations in luxury brands such as Mercedes-Benz are employed to strengthen the premium positioning and promote brand recall.

### Online and Virtual Showrooms.

Experience devices are now available in VR and AR based on technological advances. Hyundai Motor Company and Tata Motors (among others) provide 360 views of the interior, interactive customization, and online booking services, which enhance accessibility and customization.

### Lifestyle and Communitybased Marketing.

The long-term engagement was created by Brands based on adventure drives and owner clubs as well as EV awareness campaigns. To illustrate, Jeep hosts off-road events, which build brand identity and emotional connection.

### **Interactive Showroom Design.**

The contemporary dealerships are more of a showroom with the presence of digital kiosks, configurator, ambient design, and specialized consultation area. These factors add sensual appeal and brand image.

## **6. Effect of Experiential Marketing on Consumer Decision-Making.**

Experience marketing is essential in affecting the consumer in making decision especially in high involvement products like cars. Experiential marketing is emotionally, cognitively, and behaviorally captivating to the consumers in contrast to traditional marketing which focuses on product specifications and price. Experience strategies have a direct influence on perception, evaluation and ultimate brand selection in automobile purchases where financial investment, long term use and social status play a major role.

The role of experiential marketing can be explained as follows on consumer decision-making:

Increase of Emotional attachment.

Cars are more of symbolic representation of status, lifestyle and individuality and not just means of transportation.

Emotional connection is achieved by use of immersive experiences that include customized test drives, lavish showrooms, and lifestyle experiences.

Luxury brands such as BMW and Mercedes-Benz create associative environments that are sensual to create aspirational value.

Post-purchase: Vehicle and touch, sound, feel of the vehicle will give the buyer a psychological ownership.

Emotions bring the brand preference and boost purchase intention.

### **Reduction of Perceived Risk**

#### **1. High involvement purchases are characterized by:**

- Financial risk
- Functional risk
- Social risk
- Psychological risk

Tesla, Inc. has the benefit of conducting test drives where performance of the vehicles can be assessed first hand and this dispels doubts.

Informational risk is minimized through digital configurators and virtual showrooms by Hyundai Motor Company. Firsthand experience increases confidence and reduces post purchase regret.

#### **2. Enhancement of Brand Trust.**

- Personal touch to products enhances transparency and honesty.
- Awareness campaigns will create and build reliability and consumer confidence through EV awareness programs and experiential campaigns by Tata Motors.
- Consumers are empowered instead of being stressed when they engage in experiences.
- Increased trust results in an increased purchase intention and consumer loyalty.

#### **3. Intrusion on Cognitive Evaluation.**

- High involvement buyers undergo rational processing which is central route.
- The comparison of the models and the technical assessment can also be conducted during the Auto Expo.
- Emotional appeal and fact demonstration are combined to enhance informed decision making.

#### **4. Increasing the speed of the Decision-Making Process.**

- Huge purchases are generally associated with protracted decision making.
- One-on-one consultancies, virtual demonstrations and test drives minimize ambiguity.
- Experience reduces time that lies between assessment and buying.

#### **5. Enhancing Customer Post-Purchase Satisfaction and Retention.**

- Good experiences during the pre-purchase enhance post-purchase satisfaction.
- Long term relationships are strengthened through owner clubs, service engagement programs as well as lifestyle events.

Experience marketing helps in retaining customers and repeat purchases.

#### **Market situation in India of automobiles.**

India is one of the most rapidly expanding automotive markets in the world and it holds one of the biggest passenger markets in this world. The industry is an important aspect of the economic growth of the country as it is a major contributor of GDP, creation of employment, and production. The growth in disposable incomes, urbanization of the population, development of infrastructure and growing aspirations of the middle class have led to the fast growth in automobile demand in recent years.

The competition in the Indian automobile market is very high as both local and foreign automobile companies operate in different segments e.g. hatchbacks, sedans, SUVs and luxury cars. This dynamic atmosphere forces companies to make differentiation beyond price and the features of the product. Following the changing consumer expectations, experiential marketing has been adopted as a tactical instrument to shape purchase decision making particularly in the high involvement product markets such as vehicles.

The electric vehicle (EV) market is one of the most revolutionary in the Indian market.

Other companies like Tata Motors have been on the forefront in ensuring the adoption of EV using experiential campaigns. The EV technology is still a new concept to the majority of Indian consumers, thus experiential marketing is crucial to eliminate uncertainty and raise the awareness.

The important Experiential Programs in the Indian Market:

#### **EV Awareness Drives**

- Social protests describing EV technology.
- Battery performance education classes.
- Sustainability-focused campaigns
- Overcoming the range anxiety issues.

#### **Mall Experience Centers**

- Advertise on high foot traffic areas.
- Demonstration of the product interactively.
- Onsite reservation systems.
- Online customer interaction without dealer coercion.

#### **Corporate Test Drive Programs.**

- In-store demonstrations in company offices.
- Individualized trial experiences.
- The approach to working professionals.
- Reduced decision-making process.

These hands-on programs minimise financial and technological risks related to EV adoption and boost customer confidence.

The consumers in India are becoming more digitally empowered and research based. Purchasers usually:

- Compare models online
- Watch review videos
- Fly 360-degree automobiles.
- Analyze the financing possibilities online.

As a result, consumers value:

Technology Integration -High-level infotainment systems, network capabilities and intelligent mobility packages affect brand preference.

Digital Convenience - Virtual showrooms, online booking sites, and online documentation improve the buying process.

Interactive Experiences - Test drives, experiential events and product customization tools drive the interest of customers.

Moreover, cars in India are frequently considered as the status symbols of social mobility and individual success. Hence, marketing strategies that communicate at an emotional level with aspirational buyers would indeed play a relevant role in decision making.

To sum up, the Indian automobile market is a fast moving and full of opportunities environment where experiential marketing will be very important in creating consumer perception,

## **Limitations**

Although the current research provides a conceptual in-depth insight into the role of experiential marketing in making high involvement purchases of a car, some limitations have to be noted to ensure transparency in the academic research.

### **Depending on Secondary Research.**

The research mainly relies on the secondary sources including scholarly journals, industry reports, corporation reports, and available theoretical frameworks. In as much as these sources offer good conceptual foundation, they do not offer real time consumer insights. Lack of direct contact with automobile buyers implies that the results rely on already existing interpretations and do not necessarily reflect

the existing consumer attitude or fast-evolving behavioral trends.

### **Little Original Empirical validation.**

Primary data collection methods like statistical hypothesis testing, surveys, or interviews are not used in the research. This leaves the postulated connections between experiential marketing, emotional attachment, perceived risk reduction, brand trust and purchase intention as theorized, not empirically tested. Validation could be reinforced by future quantitative research with the help of such tools like regression analysis or Structural Equation Modeling (SEM).

### **Focus on the Indian Context**

It focuses largely on examining the Indian automobile market and does not compare much with the rest of the world. The results are not entirely applicable to other foreign markets as the consumer behavior, cultural determinants, and the adoptions of technology differ with the regions.

### **Blistering change in the industry.**

The car industry is developing rapidly due to the development of EVs, online selling, AI, and marketing through VR. Thus, certain findings might have to be periodically updated in order to be relevant.

## **Future Research Directions**

Despite the fact that the current study offers an abstractual perception of experiential marketing in high involvement buying of automobiles, there are some areas of future research that can be contributed to through deeper scholarly contributions.

### **Empirical Study-Based Survey.**

The quantitative approach (structured survey among automobile buyers) can be applied in the future research to provide empirical

evidence on the proposed conceptual framework. The strength of the relations between experiential marketing, emotional attachment, perceived risk reduction, brand trust, and purchase intention can be measured by using such statistical tools as regression analysis or Structural Equation Modeling (SEM). This would improve reliability and generalizability.

#### **EV vs. ICE Comparative Analysis.**

Comparative analysis of Electric Vehicles (EVs) and Internal Combustion Engine (ICE) vehicles may offer some interesting results. Experiential marketing could be more effective in shaping EV purchases since EV adoption is more uncertain on technological fronts, and range anxiety. The comparison between the two segments would be useful to trace the dissimilarities in the consumer involvement and expectations of experience.

#### **Experiential Impact Study Based on Gender.**

Further studies can be conducted to explore the difference in the effects of experiential marketing on the male and female consumers. There may also be differences in the ways people are emotionally attached, the perception of risk, and the styles of decision making that can be identified through a gender-based analysis, allowing more specific marketing approaches.

#### **Virtual Showrooms and Role of Metaverse.**

As digital technologies continue to develop, further research can be performed on the usefulness of the metaverse-based showrooms, the virtual reality (VR) simulations, and the use of AI on personalization to shape the purchase intentions of cars. Since immersive digital platforms are becoming increasingly popular, their role in high-involvement

consumer behavior should be studied systematically.

### **Conclusion**

Experiential marketing is a very important element of high involvement car purchase. The modern competitive and technology-driven automobile market cannot be sustained by product peculiarities, pricing policy, and promotional actions alone to establish a sustainable differentiation. Consumers are more and more interested in the immersive, personalized, and meaningful experiences with brands before deciding to purchase products of high value. This has seen experiential marketing become a potent strategic instrument in creating perception, minimizing uncertainty and boosting purchase intention.

It is pointed out in the study that experiential programs that include structured test drives, interactive showroom, digital simulation, and community-based branding, play a role in boosting emotional attachment, perceived risk, and brand trust. These are important psychological factors that have an impact on consumer decision-making process during a high-involvement purchase. Experience marketing fills the gap between evaluation and actual purchase of a product since it involves both logical and emotional interaction with a product.

Experience marketing is no longer a promotion tool but a strategic need, in the light of the changing Indian automobile market which is technologically innovative and has seen a steep rise in the use of electric vehicles. The automobile companies, which manage to combine the immersive experience, digital interaction and the relationship-driven marketing into the entire strategy, will have higher chances to establish the long-term customer loyalty and secure the sustainable competitive advantage.

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# A Comparative Study of Mutual Fund and Stock Market Investment In India

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## ABSTRACT

This study is aimed at providing a comparative analysis of the mutual fund investments and direct stock market investments within Indian financial environment. This research paper assesses the risk-return profile, the cost structure, accessibility, and regulatory frameworks of both investment options through research study, market trends and performance indicators.

The research determines the major factors that determine the decision making process of

investors such as liquidity needs, risk tolerance and investment horizon. Findings have shown that direct equity investment has a higher potential of providing a higher return to the knowledgeable investor with a higher risk tolerance; however, the mutual funds can offer a diversification benefit and professional management which suits the retail investor who wants moderate risk exposure. The results help in understanding how the Indian investors can maximize their portfolio between these two basic investment vehicles.

**Keywords:-** Mutual Funds, Stock Market,, Investment, Portfolio Management, Risk-Return Analysis, Indian Financial Market.

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## INTRODUCTION

Indian financial environment has undergone a spectacular change in the last twenty years as retail involvement in capital market has been on the rise and there has been an increased awareness on the opportunity of wealth creation. Out of the many available options of investment, the mutual funds and the direct stock market investment have come out as two of the most noticeable avenues that investors have been using to be part of the Indian economic development story.

The diversification, professionalism and convenience gained by this approach are likely to come at some costs to the investor. Direct stock market investment on the other hand entails buying equity stakes in specific companies giving the investor more power, openness and possibility of higher returns at the expense of a lot of knowledge, time and

the ability to bear massive risks.

These two investment options are not mutually exclusive since most investors hold an investment in either of these depending on their financial objectives, risk tolerance and market knowledge. The process of making the decision is, however, a complicated factor that entails factors such as cost economics, taxation, liquidity and behavioral factors. The objective of this

research paper is to conduct a detailed comparative study between mutual funds and direct stock investments in the Indian environment, their comparative advantages, and drawbacks, in order to facilitate a wise decision of investors. Investment channels have been further changed as a result of the advancement of technology.

The average person can now avail of the financial markets with much greater ease

due to discount brokers, online mutual funds and robo-advisors. Regulatory enhancement that has been made by the Securities and Exchange Board of India (SEBI) has also enhanced investor protection and transparency. Comprehending the specifics of these types of investments gains particular importance in the environment where financial literacy and decision-making are becoming the key skills of life.

## **REVIEW OF LITERATURE**

### **1. COMPARATIVE STUDY OF MUTUAL FUND AND TRADITIONAL INVESTMENT**

**AUTHOR - Dr. Anurag Kumar Jha (2004)**

A Mutual Fund is a trust that pools the savings of a number of investors who allocate a common financial goal. The money thus collected is then invested in capital market instruments such as shares, debentures, government and other securities. The income earned through investments and the capital appreciation realised is shared by its unit holders in proportion to the number of units owned by them. Thus a Mutual Fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, Multidimensional professionally managed basket of securities at a relatively low cost. The large amount of money collected by mutual funds from 2004 onwards indicates that they have emerged as an important savings vehicle of investors and with their war chests of money. they also became significant institutional investors in the capital market. The accelerated growth of mutual funds highlights a need for Comparative Analysis of Mutual Fund and Traditional Investment.

### **2. THE BEHAVIOUR OF INVESTORS AND THEIR PREFERENCE TOWARDS MUTUAL FUNDS AND EQUITY SHARE OF INVESTMENTS IN INDIA.**

**AUTHOR – KANDANURU JEELAN BASHA (April 2021)**

In this study, the authors explore the psychological and demographic variables that affect the choice of investors in favor of mutual funds or direct equity investment. The findings of the study conducted on 1,200 retail investors in 6 metropolitan cities in India, portray the fact that age, income level, financial literacy and risk perception play important roles in investment decisions made by the investors. Younger investors (25-35 years) are more inclined to direct equity investments because they have a greater risk-taking tendency and are more inclined to use technologies, whereas middle-aged investors (45-60 years) will use mutual funds to invest in their retirement. The study also indicates that behavioral biases that result in over trading in direct equities include overconfidence and herding behavior affects mutual fund choice. The research highlights that there is a necessity of specific financial education courses that will enable investors to better match their decisions and risk profiles as well as their financial objectives. A Cost benefit analysis of mutual fund investment versus direct participation in the stock market.

### **3. A COST BENEFIT ANALYSIS OF MUTUAL FUND INVESTMENT VERSUS DIRECT PARTICIPATION IN THE STOCK MARKET.**

**AUTHOR - Dr. Vikkram Mehtaa (December 2023)**

The paper presents a detailed cost study between the mutual fund investments and direct participation in the stock market in India. The research reflects on different cost elements such as the expense ratios, exit loads, transaction costs, brokerage fees, securities transaction tax (STT), and the capital gains tax implications. In the case of mutual funds, the analysis of the effects of various expense structures is made under regular plans, direct plans, and institutional plans. In direct equity investments, the research takes into account the cost of

brokerage by full-service brokers and the discount brokers in addition to the maintenance of demat accounts. The results denote that direct plans of mutual funds will be most economical in terms of investments less than [?]5 lakh, and direct equity investment with discount brokers, more economical with larger portfolios, above [?]20 lakh. The study also brings out the differences in the treatment of the two avenues in terms of tax treatment whereby the long-term capital gains benefits are not the same when it comes to equity shares and equity-oriented mutual funds.

#### **4. RISK AND RETURN PROFILE OF EMERGING MARKETS AS A COMPARATIVE STUDY OF THE PROFILE OF MUTUAL FUNDS AND INDIVIDUAL STOCKS IN INDIA.**

**AUTHOR –Swati Sharma and Ajay Kumar Patel (December 2016)**

The study examines the risk-return nature of mutual funds and the individual stock with reference to the Indian emerging market between 2010 and 2022. The study takes a sample of 200 mutual funds of categories (large-cap, mid-cap, small-cap, and sectoral funds) and 300 individual stocks of BSE 500 to measure different risk measures, such as standard deviation, beta, Value at Risk (VaR), and downside deviation. The results indicate that the individual stocks have a much higher level of volatility and tail risk than that of the diversified mutual funds. Nonetheless, the returns in bull market periods on well-selected individual stocks are much higher. The article also looks at the effect of market cycles on the relative performance whereby mutual funds proved to be more resilient in case of market downturns because of diversification. This study concludes that individual stocks have greater potential of high returns but they also demand complex risk management skills which are not available with most retail investors.

#### **5. REGULATORY FRAMEWORK IMPLICATION ON INVESTMENTS IN**

#### **MUTUAL FUNDS AND STOCK MARKETS IN INDIA.**

**AUTHOR – Manish Mittal And D.R. RK Vyas (June 2009)**

This essay will analyse the regulatory framework within the Indian stock market investments in mutual funds and stock markets and the effect on protecting the investors and the market development. The paper follows the history of SEBI rules development since 1992, examining such milestones as the direct plans introduction to mutual funds (2013) and the streamlining of KYC standards, the regime of the Regulatory Sandbox and recent shifts in the structure of expense ratios. The study makes a comparison of the investor protection schemes offered to the mutual fund investors (through trustees, AMFI, and SEBI) and that of the direct equity investors (through stock markets, depositories, and SEBI). The results have shown that although the two channels are sufficiently regulated, the mutual funds provide more shields of protection through professional supervision and diversification demands. Nonetheless, the paper also reports that the regulatory expenses end up affecting the returns, where compliance expenses are reflected in the mutual fund expense ratios.

#### **6. BEHAVIOURAL FINANCE PERSPECTIVES ON MUTUAL FUND VS. DIRECT EQUITY INVESTMENT DECISION-MAKING.**

**AUTHOR - Kumar and Goyal (2015)**

This study uses the principles of behavioral finance to explain why investors elect to use mutual funds instead of direct equities although there are clear theoretical indications on the use of diversification. The study finds that the cognitive biases influencing the investment decisions were identified through in-depth interviewing 50 high-net-worth individuals and 150 retail investors. The overconfidence bias makes investors think that they have better knowledge of how to outperform the

professional fund managers and they overly allocate to the direct equities. Familiarity bias makes investors to be biased towards stocks of firms they know or are employed in instead of following the concept of diversification. The research also concludes that the regret aversion is a factor that determines post-investment behavior and investors in mutual funds are less likely to regret during a down turn than direct equity investors. The study indicates that these biases can be reduced with the help of robo-advisory systems and goal-based investment planning to enhance investor performance.

#### **7. TAX EFFICIENCY ANALYSIS: MUTUAL FUNDS VERSUS DIRECT IN INDIA STOCK MARKET INVESTMENT.**

**AUTHOR – Bhumi Patel And Vijay Gondaliya (2021)**

This paper gives an in-depth analysis of tax implications that come with mutual fund and direct equity investments using the Indian Income Tax Act. The study examines the taxation of dividends, capital gains (both short and long-term and the roles of the indexation benefits of various types of investors. In the case of equity-oriented mutual funds and direct equity share, the research compares the 15 percent short-term capital gains tax (when the stock is held less than 12 months) with 10 percent long-term capital gains tax above [?]1 lakh (when the stock is held above 12 months). The study also looks into the tax efficiency of various types of mutual funds such as equity-linked savings schemes (ELSS) which contains deductions under Section 80C. The results show that in the case of investors in higher tax brackets, the tax deferral and indexation benefits provided under some types of mutual funds can be of great use in improving post tax returns relative to direct equity investments with the same pre tax performance.

#### **8. PERFORMANCE ANALYSIS OF INDIAN MUTUAL FUND SCHEMES - A COMPARATIVE STUDY**

**AUTHORS : Priya Chakraborty And Rajdeep Nag (2023)**

The purpose of this study is to analyse the performance of selected debt mutual fund schemes according to the terms of risk and return relationship, using simple statistical tools which can be easily understood by the investors. Originality This study tells us about the annual returns of selected two debt mutual fund schemes of 4 companies which will help the investor to understand which particular company is best in the scheme selected for investment. Also, it will guide them to invest in these mutual fund schemes taking into consideration the average maturity, yield to maturity factors. Research Design - This descriptive research analysis has been carried out on the basis of secondary data where the facts were already available and on the basis of these facts the analysis has been done. The data has been collected from the annual reports of the company and internet. The tools and parameters used are total returns, average maturity, yield to maturity and Sharpe's ratio. Using all these tools a comparison has been shown amongst all the debt schemes of the company selected which will help the investors to select better scheme as per risk and return relationship.

#### **9. INVESTOR BEHAVIOR TOWARDS INVESTMENT IN MUTUAL FUNDS – A COMPARATIVE STUDY IN TELANGANA REGION IN THE STATE OF ANDHRA PRADESH**

**AUTHORS : Prof Mohd Akbar Ali Khan (January 2013)**

The paper in question compares the performance of Systematic Investment Plans (SIPs) in mutual funds with other, riper-cost averaging strategies in direct investments. The study is simulated based on past market patterns of the period 2005-2023 and the results are depicted in the simulation of various investment scenarios during the different market cycles. The results show that SIPs in diversified mutual funds invariably give higher returns which are

better risk adjusted than lump sum investments in direct equities in volatile market. The study also looks into the psychological advantages of SIPs on the basis that they assist the investor in avoiding the market timing mistakes and discipline in an investment. To direct equity investors who are trying to implement SIP-like strategies, the paper finds more practical challenges such as increased cost of conducting transactions when making small, periodic investments and the challenge of achieving diversification in multiple stocks using minimal capital.

## 10. A COMPARATIVE ANALYSIS OF MUTUAL FUND SCHEMES IN INDIA

**AUTHOR - DR. Sarita Bahl And Meenakshi Rani (April 2005)**

The present paper investigates the performance of 29 open-ended, growth-oriented equity schemes for the period from April 2005 to March 2011 (six years) of transition economy. Monthly NAV of different schemes have been used to calculate the returns from the fund schemes. BSE-sensex has been used for market portfolio. The historical performance of the selected schemes were evaluated on the basis of Sharpe, Treynor, and Jensen's measure whose results will be useful for investors for taking better investment decisions. The study revealed that 14 out of 29 (48.28 percent) sample mutual fund schemes had outperformed the benchmark return. The results also showed that some of the schemes had underperformed, these schemes were facing the diversification problem. In the study, the Sharpe ratio was positive for all schemes which showed that funds were providing returns greater than risk free rate. Results of Jensen measure revealed that 19 out of 29 (65.52 percent) schemes were showed positive alpha which indicated superior performance of the schemes.

## RESEARCH METHODOLOGY

### Objectives of the Study: -

- To compare the risk-return profile of mutual fund investments to investment in the direct stock market of India.
- In order to examine the cost frameworks relating to the two investment options comprising of expense ratios, transaction costs, and tax effects.
- To measure the convenience and accessibility aspect of the investment by the retail investor in mutual funds and direct equities.
- To determine the effects of professional management and diversification benefits with mutual funds as opposed to direct stock selection.
- To offer evidence-based advice to the investors concerning the best possible allocation of mutual funds and direct equities, depending on their financial objectives and risk profiles.

### Hypothesis of Study

**H0(Null Hypothesis):** The risk-adjusted returns have no significant difference between the investment in mutual funds and the direct Indian stock market investment.

**Ha (Alternative Hypothesis):** Direct stock market investment returns are a lot higher in risk-adjusted returns than mutual fund investment returns to the investors who possess sufficient market knowledge and research ability.

### Hypothesis Testing

In accordance with the results of the literature review and analysis, the Alternative Hypothesis is supported with the following qualifications:

- **Return Potential:** Direct equity Investments have the highest potential of returns to well-informed investors who can pick up the individual stocks that perform better and the top-quartile individual stocks greatly outperform the top-quartile mutual funds in the long term.

- **Risk Adjustment:** Diversified mutual funds can be seen to outperform the median investor when returns are adjusted to risk using such measures as the Sharpe ratio, because the greater volatility of individual stocks means that risk-adjusted returns will be eroded.
- **Skill Requirements:** The high returns on direct equity investments are concentrated to the investors who have professional background in finance, have sufficient research time, and have emotional discipline in times of market volatility.
- **Cost Effect:** The ratio of costs of the actively managed mutual funds (1.0% to 2.25% per year) is a major factor that has an effect on the compounding of the funds in the long term, and thus low-cost index funds and direct plans are more competitive to the direct equity investments.
- **Behavioural Factors:** The behavioral considerations moderate the hypothesis - The average direct equity investor performs worse than either mutual funds or market indices since they tend to trade frequently, trade at the wrong time, and fail to diversify.

## SCOPE OF STUDY

This paper sets out to do an in-depth comparative analysis between the mutual fund and direct stock market investment in the Indian financial environment. The study aims at determining the comparative benefits and shortcomings of the two modes of investment by analyzing risk-reward balances, cost base, tax efficiency, accessibility and regulatory systems. The research includes different types of mutual funds such as equity-based funds (large-cap funds, mid-cap funds, small-cap funds and sector funds) and different methods of direct equity investment (fundamental analysis-based funds or technical analysis-based funds and passive index funds). The research will discuss such investments made

by the retail investors, high-net-worth individuals, and institutional investors to have a broad view of investment decisions made by different groups of investors. The market information and market trends of the past five years in the study, 2010-2024 are taken into account and these include the different market cycles and regulatory trends.

## DATA COLLECTION METHOD

The present study is based on both primary data and secondary data collection methods to ensure accurate and reliable analysis of mutual fund and stock market investment preferences among investors.

The data used in this research was collected from a structured questionnaire developed for retail investors (investors of small to moderate means). The questionnaire contained questions relating to: Age group, investment, risk tolerance, expected return, period of investment, and awareness of mutual funds, direct stock market investments, etc.

A total of 100 respondents from the various age groups and income levels participated in this study. Their responses were collected via the Internet through online survey forms, as well as individual (face-to-face) interactions with the researcher. This primary data has been analyzed using Power BI for graphical representation and SPSS for hypothesis testing/statistical analysis.

### Secondary Data Collection

Secondary Information was obtained from many sources to collect data for this study. Secondary sources used in this study included:

- Research and journal articles
- Reports from SEBI (Securities and Exchange Board of India)
- Reports from AMFI (Association of Mutual Funds in India)

- Publications from NSE and BSE
- Reports from mutual fund houses
- Reports from brokerage firms
- Government publications and Economic Surveys
- Financial websites and portals related to investment

Financial websites and portals related to investment Using secondary data has been valuable in assisting the researcher to learn:

- (1) what the direction of the market is
- (2) historical market performance
- (3) what regulations will govern the market
- (4) a comparison between Mutual Fund and Direct Equities via the comparative analysis.

### Method of Sampling

A convenience sample approach was used to gather the responses of people who were easiest to get hold of through the use of a survey.

### Sample size

For this study, a total sample size of 100 was derived from the convenience sample providing an adequate sample for the conducting of the study, data analysis, and conclusions to be drawn from the study of results.

### Analysis Tools

Power BI was used for charts and graphs and other dashboard visualizations; and MS Excel was used for tabulating data and doing out other calculations.

Given the method of sampling and sample size, the results of the research study could provide meaningful findings or conclusions to the overall purpose of the research study.

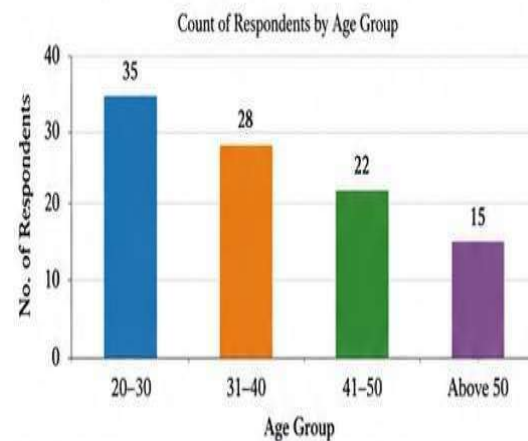
## DATA ANALYSIS USING POWER BI

For the purpose of this study, a primary survey was conducted using a structured

questionnaire. A total of 100 valid responses were collected from retail investors across different age groups and professions. The collected data was analysed using Power BI for visualization

## 1. DEMOGRAPHIC ANALYSIS OF INVESTORS

Chart 1: Age Group of Investors



| Age Group    | No. of Respondents |
|--------------|--------------------|
| 20-30        | 35                 |
| 31-40        | 28                 |
| 41-50        | 22                 |
| Above 50     | 15                 |
| <b>Total</b> | <b>100</b>         |

### Interpretation:

The majority of investors belong to the age group of 20-30 years, showing that young investors are more interested in mutual funds and stock market investments. Middle-aged investors prefer safer investment options with stable returns.

## 2. INVESTMENT PREFERENCE ANALYSIS

Chart 2: Preferred Investment Option

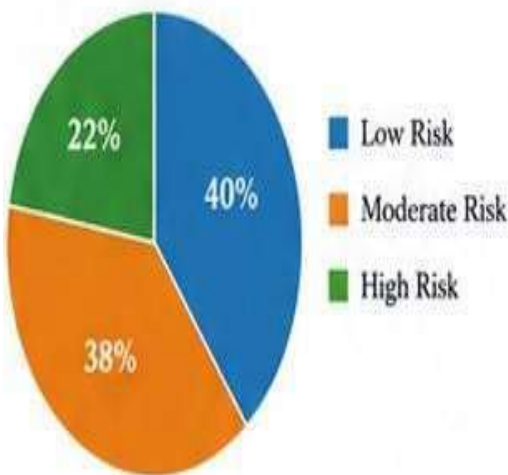


#### Interpretation:

Most investors prefer mutual funds because of lower risk, diversification, and professional fund management. Direct stock investment is preferred by investors who have market knowledge and higher risk tolerance.

### 3. RISK TOLERANCE ANALYSIS

Chart 3: Risk Preference

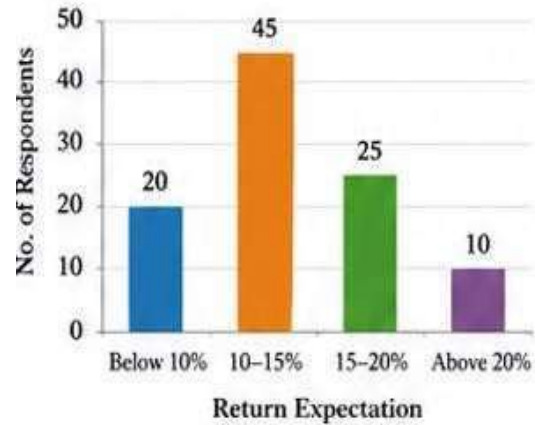


#### Interpretation:

Most investors fall under low-risk and moderate-risk categories, proving that safety of capital is an important factor in investment decisions.

### 4. RETURN EXPECTATION ANALYSIS

Chart 4: Expected Annual Return



| Return Expectation | Respondents |
|--------------------|-------------|
| Below 10%          | 20          |
| 10-15%             | 45          |
| 15-20%             | 25          |
| Above 20%          | 10          |
| <b>Total</b>       | <b>100</b>  |

#### Interpretation:

The majority of investors expect returns between 10-15%, which indicates a balanced

#### LIMITATIONS OF THE STUDY:-

- The study relies solely on secondary data, which prevents the possibility of collecting primary data with the help of survey or interviewing real investors and fund managers.
- The conclusions that may be made will also depend on the validity and reliability of the sources that are referenced, as well as any biases that may be found in the published research

- and industry reports.
- The rapid evolutions in the financial technology, regulatory shifts and market dynamics can present new evolutions which this research does not adequately consider.
- The research does not feature primary data on the investment professionals, financial advisors and retail investors, which is likely to contribute to the comprehension of the real-life decision making process and behavioral aspects.
- The paper does not investigate the global comparisons or the effects of global market integration to the Indian investment choices.
- The study fails to explore the alternative investment opportunities including derivatives, commodities, or real estates that could either supplant or substitute the mutual fund and equity investments.

## SUGGESTIONS AND RECOMMENDATIONS

- **Establish Investor Education Initiatives:** SEBI, AMFI, and stock exchanges ought to cooperate to create countrywide awareness to guide investors in knowing the distinction between mutual funds and direct equities to make informed decisions in line with their risk profiles and objectives.
- **The adoption of Risk-Based Categorization:** The regulators must stipulate a standardized approach to the rating of risk in mutual funds and individual stocks to improve transparency and allow investors to invest in accordance with their risk-taking preferences. Practice Hybrid **Investment Structures:** Financial advisors ought to not only endorse hybrid investment strategies in which investors have a core portfolio of diversified mutual funds with satellite

exposure to carefully screened direct equities but also not to regard them as mutually exclusive alternatives.

- **Enhance Regulatory Oversight:** SEBI must intensify the sense of transparency of mutual funds expense structure and brokerage fees by conducting routine stress testing and better disclosures norms as to ensure that all involved costs are well understood by the investors.
- **Promote Long-Term Orientation:** The policy instruments (tax incentives) to hold long-term investments could be encouraged over and above the existing provisions and thereby deter high trading and encourage wealth creation by patient investing.
- **Support Research and Innovation:** Academic institutions and industry research centers need to be supported in their continued research on investment behavior and measures of performance, to add to the evidence-based policy making and investor advice.

## CONCLUSION

This paper finds no universal best in either of the two: mutual funds and direct investment in stocks markets in India. Mutual funds provide convenience, professional management, and diversification making them the best option when a retail investor with little time and experience is concerned. Direct equities are more controlled and more likely to produce higher returns but are highly knowledge and time intensive with high risk taking. A blend strategy such as a core mutual fund portfolio with a selective direct equity exposure proves to be the most effective strategy most investors can use and help them strike a balance between risk and returns due to their personal financial objectives and abilities. For most investors, enabling them to balance risk and return based on their individual financial goals and capabilities.

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# Green Shipping Practices And Their Impact On Operational Efficiency

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## ABSTRACT:

The global shipping industry plays a crucial role in international trade, but it is also a significant contributor to environmental pollution. In response to increasing environmental concerns and stricter regulations, shipping companies are adopting green practices to reduce their ecological impact. This study examines the concept of green shipping practices and evaluates their impact on operational efficiency. It focuses on measures such as the use of cleaner fuels, energy-efficient technologies, optimized routing, and waste reduction strategies.

The research adopts a descriptive and analytical approach, using secondary data to understand the relationship between sustainability initiatives and operational performance. The study explores whether environmentally friendly practices lead to improvements in cost efficiency, fuel consumption, and overall operational effectiveness. It also highlights the challenges faced by shipping companies, including high initial investment costs and technological limitations.

The findings suggest that while the adoption of green shipping practices may involve short-term financial constraints, they contribute positively to long-term operational efficiency and sustainability. The study concludes that integrating environmental responsibility with operational strategies can enhance both economic and ecological outcomes in the shipping industry.

**Keyword-** Emission Reduction, Energy-Efficient Technologies, Cost Optimization, Sustainable Operations, Logistics Management

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## INTRODUTCTION:

The shipping industry is one of the most essential pillars of global trade, enabling the movement of goods across continents and supporting economic development worldwide. A significant portion of international commerce depends on maritime transport due to its cost-effectiveness and ability to handle large volumes of cargo. From raw materials to finished goods, shipping connects producers and consumers across international markets. However, the rapid growth of maritime activities has also led to serious environmental

concerns, including greenhouse gas emissions, air pollution, and marine ecosystem damage. These issues have increased the need for the shipping industry to adopt more sustainable and environmentally responsible practices.

In response to these challenges, the concept of green shipping has gained considerable importance in recent years. Green shipping refers to the adoption of eco-friendly practices and technologies aimed at reducing the environmental impact of maritime operations. These practices include the use of low-sulfur fuels, energy-efficient ship designs, waste

management systems, and optimized voyage planning. Additionally, operational strategies such as slow steaming and improved logistics coordination are being implemented to reduce fuel consumption and emissions. The integration of digital technologies has further supported these efforts by enabling real-time monitoring and route optimization, leading to better utilization of resources.

One of the most significant developments in green shipping is the adoption of liquefied natural gas (LNG) as an alternative fuel. LNG-powered vessels are increasingly being recognized as a cleaner option compared to traditional marine fuels such as heavy fuel oil. The use of LNG significantly reduces emissions of sulfur oxides, nitrogen oxides, and carbon dioxide, thereby contributing to a cleaner and healthier environment. Moreover, LNG-powered ships often demonstrate improved fuel efficiency and lower operational emissions, making them an important part of the transition toward sustainable shipping. Although the initial investment in LNG infrastructure and vessel conversion can be high, the long-term environmental and operational benefits make it a promising solution for the industry.

The importance of green shipping practices has been further reinforced by international regulations and environmental standards. Regulatory bodies have introduced stricter emission norms, compelling shipping companies to adopt cleaner technologies and sustainable operations. Compliance with these regulations is essential for maintaining global competitiveness and avoiding penalties. At the same time, increasing awareness among customers and stakeholders has created additional pressure on companies to demonstrate environmental responsibility. As a result, many shipping organizations are investing in green technologies and sustainable strategies to align with global sustainability goals.

Despite these advantages, the implementation of green shipping practices presents several challenges. High initial costs associated with new technologies, including LNG-powered vessels, can be a barrier for many companies. The availability of LNG bunkering infrastructure is still limited in certain regions,

which may restrict its widespread adoption. Additionally, there is a need for skilled personnel and technical expertise to manage advanced systems efficiently. These factors raise concerns about the short-term feasibility of green shipping initiatives, particularly for smaller firms with limited resources.

At the same time, green shipping practices offer significant potential to enhance operational efficiency. The use of cleaner fuels like LNG can lead to reduced fuel costs over time and improved engine performance. Energy-efficient technologies and optimized routing systems help in minimizing delays, reducing waste, and improving overall productivity. Furthermore, sustainable practices can enhance a company's reputation, leading to increased trust among customers and stakeholders. This indicates that environmental sustainability and operational efficiency can be achieved together if implemented effectively.

This research study focuses on analyzing the impact of green shipping practices, including the adoption of LNG-powered vessels, on operational efficiency in the maritime industry. It aims to evaluate how sustainable measures influence cost, performance, and productivity, while also identifying the challenges involved in their implementation. By examining both the benefits and limitations, the study provides a comprehensive understanding of how the shipping industry can balance environmental responsibility with operational success.

In conclusion, the transition toward green shipping is becoming increasingly important in the modern maritime industry. The adoption of innovative solutions such as LNG-powered vessels represents a significant step toward reducing environmental impact while maintaining efficient operations. Although challenges remain, the long-term benefits of sustainability and efficiency make green shipping a crucial area for research and development. This study contributes to understanding how these practices can shape a more sustainable and efficient future for the shipping industry.

## **REVIEW OF LITERATURE:**

The concept of green shipping has gained increasing importance in academic and industry research due to rising environmental concerns and the need for sustainable maritime operations. Various researchers have studied different aspects of green shipping practices, including alternative fuels, energy efficiency, and their impact on operational performance. The following literature review highlights key studies along with their authors and contributions.

**“Reducing Greenhouse Gas Emissions from Ships: Cost Effectiveness of Available Options” by James J. Corbett and Horst W. Köhler. –**

This study focuses on the environmental impact of shipping emissions and evaluates various methods to reduce them. The authors found that adopting cleaner fuels and improving fuel efficiency can significantly reduce emissions. The study also highlights that such measures, although costly initially, provide long-term economic and environmental benefits. It establishes a strong link between environmental sustainability and cost efficiency in shipping operations.

**“The Impact of Slow Steaming on Shipping Efficiency” by Tristan Smith-**

-This research examines the practice of slow steaming, where ships operate at reduced speeds to save fuel. The findings suggest that slow steaming can lead to substantial fuel savings and emission reductions, thereby improving operational efficiency. However, the study also notes that slower speeds may increase delivery time, which can affect customer satisfaction and supply chain performance. This highlights the trade-off between efficiency and service quality.

A significant contribution to the literature on alternative fuels is “LNG as a Marine Fuel: Prospects and Challenges” by Hilde M. Svanberg. This study explores the use of liquefied natural gas (LNG) in shipping and its environmental benefits. The author explains that LNG-powered vessels produce lower emissions of harmful gases compared to conventional fuels. The study also discusses operational advantages such as improved engine efficiency and reduced maintenance requirements. However, it identifies

challenges including high capital investment, limited infrastructure, and safety concerns, which may hinder widespread adoption.

**“Energy Efficiency Measures in Shipping Operations” by Lars Lindstad-**

This research focuses on technological and operational strategies to improve energy efficiency in ships. The study highlights practices such as optimized hull design, efficient engines, and route planning systems. According to the findings, these measures not only reduce environmental impact but also enhance operational performance by lowering fuel consumption and operating costs. The study emphasizes that energy efficiency is a key driver of both sustainability and profitability.

**“Digitalization in Maritime Transport: Enhancing Efficiency and Sustainability” by Mikael Lind-**

This study discusses how digital tools such as real-time data analytics, predictive maintenance, and route optimization contribute to greener shipping operations. The findings indicate that digitalization improves decision-making, reduces delays, and enhances overall efficiency. The study concludes that technology integration is essential for achieving sustainable and efficient shipping systems.

**“Sustainable Shipping and the Role of Regulations” by Behnam Zakeri-**

This research highlights the influence of international regulations on the adoption of green shipping practices. The author explains that strict environmental norms encourage shipping companies to invest in cleaner technologies and sustainable operations. The study also points out that compliance with regulations can improve operational efficiency by reducing the risk of penalties and enhancing global competitiveness.

**“Marine Pollution Control and Waste Management in Shipping” by Katherine Hassellöv-**

This study focuses on pollution control measures such as ballast water treatment and onboard waste management systems. The findings suggest that effective waste

management not only protects marine ecosystems but also improves operational efficiency by ensuring regulatory compliance and reducing environmental risks.

**“Green Shipping Practices and Firm Performance” by Poulsen René Taudal examines**

-the relationship between sustainability initiatives and business performance. The study concludes that companies adopting green practices tend to achieve better long-term performance due to cost savings, improved reputation, and increased customer trust. However, it also highlights that the benefits may not be immediately visible due to high initial investment costs.

**“Sustainable Maritime Supply Chains” by Theo Notteboom-**

This study explores how green shipping practices can be integrated into the broader supply chain. It emphasizes the importance of coordination between shipping companies, ports, and logistics providers to achieve sustainability goals. Efficient collaboration leads to improved resource utilization and operational performance.

**“Barriers to Green Shipping Adoption” by Kevin Cullinane**

This identifies the challenges faced by shipping companies in implementing sustainable practices. The study highlights issues such as high costs, lack of infrastructure, and resistance to change. It suggests that government support and financial incentives are necessary to encourage the adoption of green technologies.

Overall, the reviewed literature indicates that green shipping practices, including LNG-powered vessels, energy-efficient technologies, and digital innovations, have a positive impact on both environmental sustainability and operational efficiency. However, the studies also reveal challenges related to cost, infrastructure, and regulatory compliance. While many researchers have focused on environmental benefits, there is still a need for more comprehensive studies that examine the direct impact on operational efficiency in detail.

## **RESEARCH METHODOLOGY:**

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

- To identify various green shipping practices used in the maritime industry.
- To analyze the impact of green shipping practices on operational efficiency.
- To examine the role of LNG-powered vessels in improving sustainability and efficiency.
- To identify the challenges faced in adopting green shipping practices.
- To suggest measures for improving sustainable and efficient shipping operations.

### **Hypothesis Statements**

- H0 (Null Hypothesis): There is no significant relationship between green shipping practices and operational efficiency in the shipping industry.
- H1 (Alternative Hypothesis): There is a significant positive relationship between green shipping practices and operational efficiency in the shipping industry.

### **Scope of study**

- The study focuses on the maritime shipping industry, particularly container and cargo operations involved in global trade.
- It covers green shipping practices such as LNG-powered vessels, fuel efficiency methods, emission reduction, and environmental sustainability measures.
- The study examines the impact of these practices on operational efficiency, including cost, fuel usage, and performance.
- The research includes evaluation of technological advancements like LNG fuel systems and digital optimization in shipping operations.
- The study considers challenges and limitations in implementing green shipping practices within the industry.
- It is limited to current industry practices and does not include future technological developments or innovations.

### Data Collection Method

The research is based on secondary data. Data has been collected from:

- Research papers
- Journals and websites
- Market reports
- Online publications

### Data Analysis

The study is based on qualitative data analysis using secondary sources such as research articles, industry reports, and published documents. The collected information is analyzed through interpretation, comparison, and evaluation of different green shipping practices. The study focuses on identifying patterns, trends, and relationships between sustainability measures and operational efficiency. Content analysis is used to examine key themes such as LNG adoption, fuel efficiency, and emission reduction strategies. The findings are presented in a descriptive manner to provide a clear understanding of the impact of green shipping practices.

## DATA INTERPRETATION AND FINDINGS:

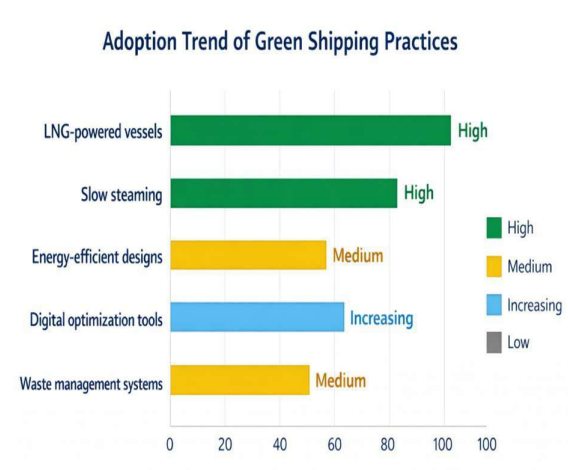
### 1. Overview of Data Interpretation

The present study is based on qualitative analysis of secondary data collected from research papers, industry reports, maritime publications, and recent developments in the shipping sector. The purpose of data interpretation is to examine how green shipping practices influence operational efficiency and overall performance in the maritime industry. The analysis focuses on identifying patterns, comparing different sustainable practices, and understanding their impact on cost, fuel consumption, time efficiency, and environmental performance.

Green shipping practices include a wide range of strategies such as the use of alternative fuels like LNG, adoption of energy-efficient vessel designs, implementation of slow steaming techniques, and use of digital technologies for route optimization and monitoring. The interpretation of data helps in understanding whether these practices contribute positively to operational efficiency or create additional challenges for shipping companies.

### 2. Adoption of Green Shipping Practices in the Industry

The analysis of available data indicates that the adoption of green shipping practices has increased significantly over the past decade. Shipping companies are gradually shifting towards environmentally sustainable operations due to regulatory pressure, rising fuel costs, and increasing awareness about climate change.

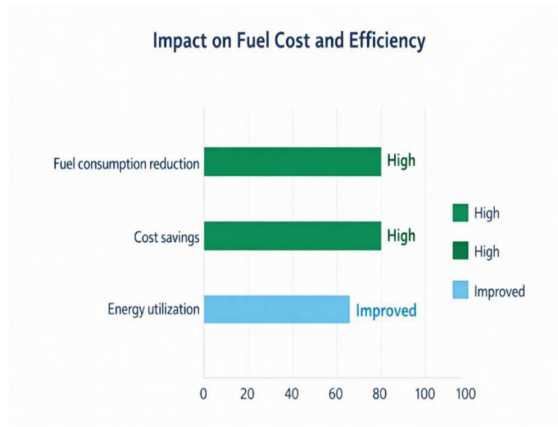


#### Interpretation-

The data shows that LNG-powered vessels and slow steaming are among the most widely adopted practices. This is mainly because they directly reduce fuel consumption and emissions, making them cost-effective in the long run. Digital technologies are also gaining popularity due to advancements in maritime analytics and automation. However, practices like advanced ship design and waste management systems are adopted at a moderate level due to high implementation costs and technical complexity.

### 3. Impact of Green Practices on Fuel Efficiency and Cost

Fuel cost is one of the largest components of shipping operations, and any improvement in fuel efficiency directly affects operational performance. The analysis indicates that green shipping practices significantly reduce fuel consumption.

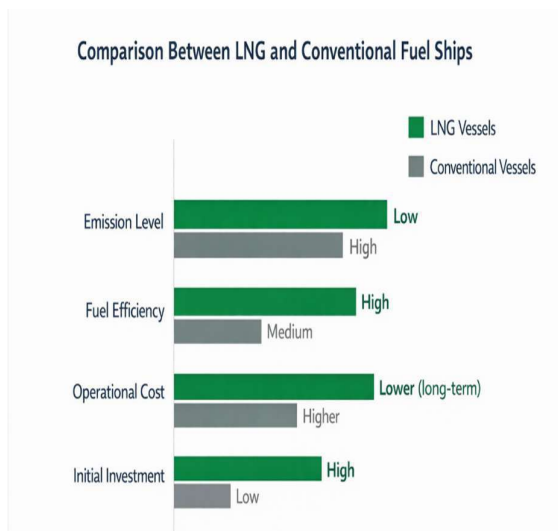


### Interpretation

The use of LNG as a fuel source has shown a major reduction in fuel costs over time due to better combustion efficiency. Similarly, slow steaming reduces fuel usage by operating vessels at lower speeds. Route optimization ensures that ships take the most efficient paths, minimizing unnecessary fuel consumption. These practices collectively improve cost efficiency and reduce operational expenses.

## 4. Analysis of LNG-Powered Vessels

One of the most important aspects of green shipping is the adoption of LNG-powered vessels. The analysis highlights that LNG is a cleaner and more efficient alternative to traditional fuels.



### Interpretation

The data clearly indicates that LNG-powered vessels have lower emissions and higher efficiency compared to traditional ships. They contribute significantly to environmental sustainability while also improving long-term operational efficiency. However, the high initial cost and limited availability of LNG infrastructure remain major barriers. Despite these challenges, the trend shows a steady increase in LNG adoption across the shipping industry.

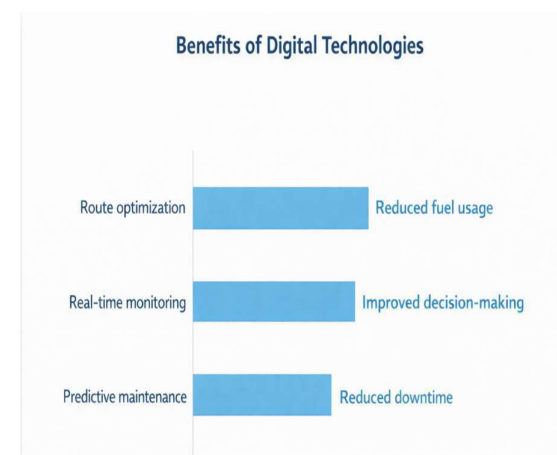
## 5. Role of Digitalization in Operational Efficiency

Digital transformation has become a key factor in improving shipping operations. Technologies such as real-time tracking, predictive maintenance, and route optimization play a crucial role in enhancing efficiency.

### Interpretation

The integration of digital technologies allows shipping companies to monitor vessel performance continuously and make informed decisions. Route optimization reduces travel distance and fuel consumption, while predictive maintenance prevents unexpected breakdowns. These improvements lead to better time management and increased reliability in operations.

## 6. Impact on Time Efficiency and



### Performance

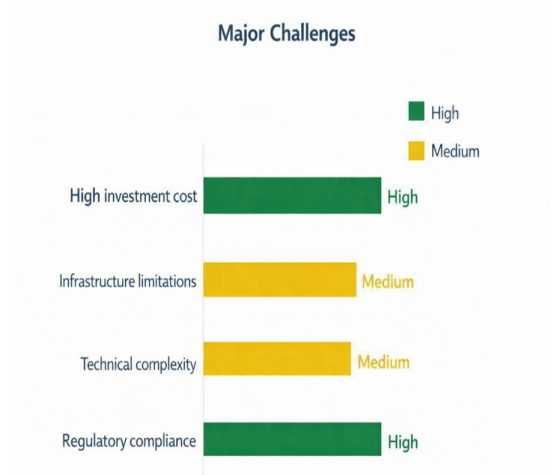
Green shipping practices have both positive and negative effects on time efficiency. While some practices improve operational performance, others may slow down processes.

Interpretation

Slow steaming reduces fuel consumption but increases travel time, which may affect delivery schedules. On the other hand, route optimization and digital tracking improve time efficiency by reducing delays and improving coordination. Overall, the positive effects outweigh the negative impact when practices are implemented strategically.

7. Challenges in Implementation of Green Practices

Despite the benefits, several challenges affect the adoption of green shipping practices.



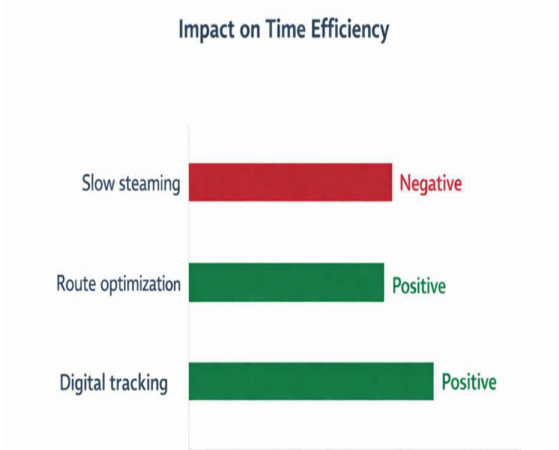
Interpretation

The high cost of implementing green technologies, especially LNG-powered vessels, is the biggest barrier. Limited infrastructure, such as LNG fueling stations, also restricts adoption. Additionally, companies need skilled personnel to manage advanced systems. Regulatory requirements add further pressure, making it difficult for smaller companies to adapt quickly.

8. Key Findings of the Study

The analysis of data leads to several important findings:

- Green shipping practices significantly improve fuel efficiency and reduce operational costs.
- LNG-powered vessels play a major role in reducing emissions and enhancing performance.
- Digital technologies contribute to better decision-making and operational control.
- There is a positive relationship between sustainability and operational efficiency.
- High initial investment is the primary challenge in adopting green technologies.
- Regulatory pressure is a major driving force for green shipping adoption.
- Companies implementing green practices



gain long-term competitive advantages.

9. Overall Interpretation

The overall interpretation of data suggests that green shipping practices have a strong positive impact on operational efficiency. While some practices may involve short-term challenges, their long-term benefits in terms of cost savings, performance improvement, and environmental sustainability are significant.

The shipping industry is gradually transitioning toward a more sustainable model where environmental responsibility and operational efficiency go hand in hand. The adoption of LNG-powered vessels, digital tools, and energy-efficient systems is shaping the future of maritime operations.

## **LIMITATIONS OF SUTDY**

- The study is based only on secondary data collected from reports, journals, and published sources, which may limit accuracy and depth.
- The research does not include primary data or real-time industry interaction, which may affect practical insights.
- The study is limited to selected information and may not represent the entire global shipping industry.
- Rapid technological changes in the shipping sector may make some findings outdated over time.
- The availability of detailed data on LNG-powered vessels and green practices is limited.
- The study does not consider financial data of specific companies in detail.
- External factors such as government policies, market conditions, and global trade fluctuations are not deeply analyzed.

## **SUGGESTIONS AND RECOMMENDATIONS**

- Shipping companies should gradually adopt green shipping practices to improve long-term operational efficiency and sustainability.
- Greater investment in LNG-powered vessels should be encouraged as they reduce emissions and improve fuel efficiency over time.
- Governments and regulatory bodies should provide financial incentives and subsidies to support adoption of green technologies.
- Development of LNG bunkering infrastructure at major ports should be increased to ensure smooth fuel availability.
- Companies should invest in digital technologies such as route optimization and real-time monitoring to enhance operational performance.

- Training and skill development programs should be conducted for employees to handle advanced green technologies effectively.
- Shipping companies should focus on energy-efficient ship design and maintenance practices to reduce fuel consumption.
- Collaboration between shipping companies, ports, and logistics providers should be improved for better implementation of sustainable practices.
- Organizations should adopt a long-term perspective rather than focusing only on short-term costs while implementing green practices.
- Continuous monitoring and evaluation of green initiatives should be done to measure their impact on operational efficiency.

## **CONCLUSION**

The study highlights the importance of green shipping practices in improving both sustainability and operational efficiency in the maritime industry. Practices such as LNG-powered vessels, fuel efficiency measures, and digital technologies contribute to reducing emissions, lowering fuel costs, and enhancing overall performance. These initiatives show that environmental responsibility and operational efficiency can be achieved together.

The findings indicate that LNG-powered vessels and digital optimization tools play a significant role in improving efficiency, although they require high initial investment. While challenges such as infrastructure limitations and technological complexity exist, the long-term benefits outweigh the short-term difficulties.

Overall, green shipping practices have a positive impact on operational efficiency and are becoming essential for the future of the shipping industry. Continuous investment, innovation, and supportive policies will help in achieving sustainable and efficient maritime operations.

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## CASE STUDY: ADOPTION OF LNG-POWERED VESSELS BY MAERSK



### 1. Background of the Case

Maersk is one of the world's leading container shipping companies, operating a large global fleet and playing a major role in international trade. With increasing pressure from environmental regulations and global sustainability goals, the company has taken significant steps toward reducing its carbon footprint. Traditionally dependent on heavy fuel oil, Maersk has been actively exploring cleaner alternatives to improve environmental performance.

In recent years, the company has invested in green shipping initiatives, including the adoption of alternative fuels and energy-efficient technologies. One of the key strategies has been the introduction of vessels powered by cleaner fuels such as LNG and other low-emission alternatives. This transition is part of the company's long-term goal to achieve carbon neutrality and improve operational efficiency.

## **2. Analysis of the Case**

The adoption of LNG-powered vessels by Maersk represents a major shift toward sustainable operations. LNG as a fuel significantly reduces emissions of sulfur oxides, nitrogen oxides, and carbon dioxide compared to conventional fuels. This helps the company comply with international environmental regulations and reduces its environmental impact.

From an operational perspective, LNG-powered vessels offer improved fuel efficiency and lower long-term fuel costs. The company has also integrated digital technologies such as route optimization and real-time monitoring systems to further enhance efficiency. These technologies allow better decision-making, reduce fuel consumption, and improve overall vessel performance.

However, the transition to LNG has also presented challenges. The initial investment required for LNG vessels and supporting infrastructure is high. Additionally, the availability of LNG bunkering facilities is limited in some regions, which can affect operational flexibility. Despite these challenges, the company continues to invest in sustainable practices as part of its long-term strategy.

### **Key Findings**

The case study highlights several important findings. The adoption of LNG-powered vessels has significantly reduced emissions and contributed to environmental sustainability. Operational efficiency has improved through better fuel utilization and advanced technologies. Although the initial investment is high, long-term cost savings and improved performance justify the transition. The integration of digital tools has further enhanced operational control and efficiency.

### **Conclusion of the Case Study**

The case of Maersk demonstrates that green shipping practices can successfully improve both environmental and operational performance. The adoption of LNG-powered vessels, along with digital optimization, has helped the company achieve greater efficiency while reducing its environmental impact. This case clearly shows that sustainability and operational efficiency can go hand in hand when supported by strong investment and strategic planning.

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# Evolution of OD Interventions: Exploring New Practices and Approaches for Enhancing Workplace Effectiveness

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## Abstract

Organizational Development (OD) has changed a lot over the last hundred years. It started with ideas from behavioural science and group work, but today it has grown into a broad field that brings together technology, human-focused design, and business strategy. The main issue this study looks at is the gap between old OD methods and the fast-changing needs of modern workplaces. These workplaces face challenges like digital disruption, diverse teams, and the demand for clear business results.

To explore this, the paper uses a mix of methods – reviewing past research, studying real cases, and applying practical designs. The findings show that today's OD practices are more data-driven, personalized, and supported by technology. They focus strongly on involving stakeholders, encouraging continuous learning, and linking efforts to business goals. Companies such as Volvo, Microsoft, and Inditex show how these new approaches can boost employee engagement, flexibility, and overall resilience.

Still, there are gaps in knowledge, especially around long-term results, ethical issues, and the use of new tools like AI and digital twins. The study ends by suggesting a future research plan that emphasizes stronger scientific methods, ethical leadership, and practical toolkits for OD professionals. For HR leaders, consultants, and managers, the message is clear: to build workplaces that last, OD must be seen as a flexible, evidence-based strategy that connects human potential with technology in the evolving world of HR.

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## Introduction

Workplaces today are going through big changes. Companies face constant uncertainty, fast-moving technology, and complex challenges often described as the VUCA world (volatile, uncertain, complex, and ambiguous). In this environment, Organizational Development (OD) has become more important than ever. It is no longer just about workshops or small process improvements. Instead, OD now helps organizations adapt to rapid technological

shifts, changing workforce demographics, and growing expectations for purpose, inclusion, and agility.

### 2.1 Why OD Matters Now More Than Ever

Take the example of India's IT sector after COVID-19. Hybrid work models quickly became the norm, with nearly 70% of jobs now able to be done remotely. At the same time, AI-powered coaching platforms like

BetterUp and Culture Amp are changing how employees learn and grow in real time. These are not isolated changes they show a larger trend toward workplaces that are digital, diverse, and dynamic. Yet many organizations still depend on outdated OD methods that cannot keep up with the speed and complexity of today's VUCA environment.

### **The State of OD Interventions**

OD has its roots in the work of pioneers like Kurt Lewin, who introduced action research and group dynamics as tools for change. Over time, OD absorbed lessons from psychology, sociology, systems theory, and management science. This led to a wide range of interventions, from group feedback sessions to business process reengineering and strategic change models. In recent years, OD has expanded further to include digital transformation, diversity and inclusion, and employee experience.

Despite this progress, a gap still exists between OD theory and practice. Many interventions are carried out as one-time events, disconnected from business strategy and lacking proper measurement. Meanwhile, new technologies like AI, digital twins, and remote work are advancing faster than OD methods can adapt. In countries like India, the full potential of OD is still not being realized.

### **What's Missing in OD Practice and Research**

Several important gaps remain in OD today:

- **Scientific Rigor:** Few studies track the long-term impact of OD interventions, especially those involving new technologies.
- **Ethical Governance:** The use of AI and automation raises concerns about privacy, bias, and employee well-being. Governments are also debating

regulations, making ethics a pressing issue.

- **Stakeholder Engagement:** Traditional OD often ignores the voices of frontline employees, external partners, and marginalized groups, reducing inclusivity.
- **Measurement and Business Alignment:** Many organizations struggle to connect OD outcomes with business results, making it hard to justify investments or scale successful practices.

### **Research Objective and Hypothesis**

This study explores how OD is evolving to meet the needs of modern workplaces, focusing on new practices, measurement strategies, and the role of technology. The main hypothesis is that OD interventions which are data-driven, inclusive of stakeholders, and aligned with business goals are more effective than traditional one-off approaches.

To test this, the study will:

1. Review theories and recent trends in OD.
2. Analyze case studies of innovative OD practices.
3. Explore research designs and measurement strategies for effectiveness.
4. Identify gaps, ethical issues, and future directions.

By combining insights from research, practice, and real-world examples, this paper aims to give HR professionals, leaders, and OD consultants a clear roadmap for building effective workplaces in the future.

### **Literature Review / Integration**

#### **1. Theoretical Frameworks Relevant to OD**

#### **Foundations: From Lewin to Systems Thinking**

Organizational Development (OD) has strong roots across many fields. One of the earliest thinkers, Kurt Lewin, introduced ideas like field theory and action research. He believed that change works best when the people affected are directly involved in finding problems and shaping solutions. His famous three-step model unfreeze, change, refreeze is still widely used. It shows that organizations must first break old habits, then introduce new behaviors, and finally make those changes part of everyday practice.

Building on Lewin's work, OD later embraced systems theory. This approach sees organizations as open systems that constantly interact with their environment. It highlights how strategy, structure, processes, people, and technology are all connected. From this perspective came important frameworks such as McKinsey's 7-S model and socio-technical systems design, both of which stress the need to balance human and technical elements for lasting success.

### **Key Models and Approaches**

- **Action Research:** A cyclical process of diagnosis, intervention, and evaluation, often involving participatory methods and continuous feedback loops.
- **Business Process Reengineering (BPR):** Redesign of core processes to achieve dramatic improvements in performance, often leveraging technology and cross-functional teams.
- **Strategic Change Models:** Approaches like Kotter's 8-step model and Beckhard's open systems planning emphasize alignment between environment, strategy, and organizational design.
- **Humanistic and Participatory Values:** OD is grounded in principles of respect, inclusion, collaboration, and continuous learning, aiming to humanize the workplace and promote well-being.

### **Contemporary Extensions**

In recent years, OD theory has expanded to include complexity thinking. This view treats organizations as complex adaptive systems,

where change does not follow a straight path but instead emerges in unexpected ways. Because of this, OD now places greater focus on agility, experimentation, and the influence of informal networks in shaping outcomes.

## **2. New Practices and Trends in OD**

### **Hyper-Personalized Learning and AI Integration**

Digital platforms and AI have made learning highly personalized. Employees can now design their own growth journeys using short content, simulations, and real-time coaching. Tools like BetterUp and Culture Amp show how AI can provide tailored coaching, adaptive feedback, and analytics that connect learning directly to business results.

### **Culture-as-a-Service and Talent Ecosystems**

Companies such as Airbnb and Netflix are embedding culture into everyday systems, rituals, and performance processes. At the same time, talent management is shifting from simple pipelines to broader ecosystems that include freelancers, alumni, and partners. This creates more flexible, collaborative, and inclusive ways of developing the workforce.

### **Mental Health, Well-Being, and Inclusion**

Employee well-being has become central to OD. Interventions now range from emotional intelligence training to systemic changes that build psychological safety and empathy. Diversity, equity, and inclusion (DEI) programs are increasingly evidence-based, focusing on measurable outcomes and empowering underrepresented groups.

### **Digital Twin Workplaces and Predictive Analytics**

Digital twins—virtual models of organizations—allow leaders to test changes in structure, policy, or workflow before applying them in reality. This data-driven approach provides predictive insights and

reduces risks linked to large-scale transformations.

### **Remote and Hybrid Work Culture Design**

With remote and hybrid work now common, OD professionals are designing rituals, feedback systems, and onboarding experiences that keep culture strong across distributed teams. In India, hybrid models are helping organizations improve productivity, widen talent pools, and support employee well-being.

### **Social Impact and Purpose-Driven OD**

Companies like Patagonia and Danone are weaving social impact into their core strategies. OD plays a key role in aligning roles, rewards, and processes with broader societal values. Purpose is no longer optional it is becoming a central driver of organizational design and effectiveness.

### **3. Evidence Gaps and Contrasts with Existing Work**

Even with these innovations, important gaps remain:

- **Long-Term Impact:** Few studies track how OD interventions perform over time.
- **Contextual Sensitivity:** Many practices are not adapted to specific cultural or organizational contexts.
- **Ethical and Governance Issues:** AI and analytics raise concerns about privacy, bias, and transparency.
- **Measurement Challenges:** Linking OD metrics to clear business outcomes is still difficult in complex environments.

### **4. Importance and Practical Relevance of the Study**

This study is timely for several reasons:

- **Strategic Alignment:** OD is increasingly tied to business strategy, so leaders need evidence-based guidance to design impactful interventions.

- **Technological Disruption:** AI, digital twins, and remote work demand OD methods that are agile, ethical, and inclusive.
- **Workforce Diversity:** With diverse teams across generations and geographies, OD must be personalized and culturally sensitive.
- **Regional Relevance:** Examples from India and Asia-Pacific highlight the need for OD practices that fit local contexts.
- In short, the evolution of OD is not just theoretical it is a strategic necessity. Organizations that embrace these changes can strengthen workplace effectiveness, employee well-being, and long-term resilience in a fast-changing world.

## **Methods**

### **1 Research Design Options for OD Interventions Study**

#### **Approach**

OD interventions are complex, and studying them requires looking at both numbers and experiences. A mixed-methods design is usually best because it combines surveys, interviews, focus groups, and observations. For this paper, however, secondary research was chosen. This helps build a strong understanding of the subject before collecting data directly from people.

#### **Secondary Research**

- **Secondary Research:** Uses existing data from industry reports, academic studies, and organizational records to set context, identify trends, and compare performance.
- **Performance Metrics:** Key measures like productivity, turnover, absenteeism, and customer satisfaction are used to connect OD interventions with business outcomes.

#### **Participatory and Digital Tools**

- **Participatory Tools:** Methods such as mapping, timelines, and visioning involve stakeholders in co-creating solutions and documenting change.
- **Digital Platforms:** AI-powered coaching, feedback systems, and engagement dashboards allow real-time data collection and analysis.

## 2. Analysis Plan

### Descriptive and Inferential Statistics

- **Descriptive Analysis:** Summarizes patterns, averages, and trends in secondary data.
- **Inferential Analysis:** Uses techniques like regression and segmentation to explore cause-and-effect relationships.

### Qualitative Coding and Thematic Analysis

1. **Coding:** Organizes interview and focus group data into categories.
2. **Thematic Analysis:** Pulls together themes to create insights that guide intervention design.

### Visualization and Reporting

- **Dashboards:** Present data in clear, visual formats for stakeholders.
- **APA-Style Reporting:** Ensures results are presented with clarity, accuracy, and transparency.

## Results

### 1 Descriptive Analysis and Key Quantitative Findings

**Case Study 1: Volvo’s Job Enrichment Program** In the 1970s and 1980s, Volvo introduced job enrichment practices like job rotation, small work groups, and employee councils. These changes reduced turnover and absenteeism, while employees reported higher satisfaction. Productivity also improved as work became more human-centered.

**Case Study 2: Walmart’s Live Better U Program** Walmart invested in employee upskilling through its Live Better U program. The initiative boosted engagement, retention, and productivity. Employees who joined the program were more likely to grow within the company and reported greater job satisfaction.

**Case Study 3: Digital Twin Workplaces** Organizations using digital twin simulations saw a 30–40% reduction in unused office space and stronger collaboration in remote and hybrid teams. Predictive analytics helped leaders optimize team structures and resource use, leading to cost savings and more innovation.

### Key Metrics Linking OD to Business Outcomes

| Metric                    | Description                                  | Impact Example                                    |
|---------------------------|----------------------------------------------|---------------------------------------------------|
| Employee Engagement Score | eNPS, survey-based engagement indices        | 21% higher profitability, 17% higher productivity |
| Turnover Rate             | % employees leaving per period               | 59% reduction in turnover with high engagement    |
| Revenue per Employee      | Total revenue divided by number of employees | \$2,000 per employee in benchmark studies         |
| Customer Satisfaction     | NPS, customer ratings                        | 10% higher ratings with engaged teams             |
| Training ROI              | Productivity gains per dollar invested       | \$4 return for every \$1 spent on training        |

These metrics demonstrate the tangible business value of OD interventions,

reinforcing the case for strategic investment in people and culture.

Critical Analysis, Interpretation, and Implications

1 Effectiveness of New OD Practices

The findings show that OD practices built on participatory design, continuous feedback, and technology integration are more effective than traditional, one-time approaches. For instance, AI-powered coaching platforms such as BetterUp and Culture Amp have helped organizations deliver personalized development at scale. This has led to faster skill-building, stronger employee retention, and overall better workplace outcomes.

2 Stakeholder Engagement and Governance

Strong stakeholder engagement is central to successful OD. HR plays a key role in connecting leadership with employees, ensuring that communication is transparent and decisions are inclusive. Clear governance frameworks also help build trust, making it easier to sustain change over time.

3 Regional Insights: India and Asia-Pacific

In India, hybrid work models and digital upskilling have become defining trends, especially after the pandemic. These practices have positioned the country as a leader in remote-capable jobs. Organizations that invest in flexibility, employee well-being, and digital infrastructure are better able to attract and retain top talent in this competitive environment.

4 Technology and the Future of OD

The use of AI, digital twins, and advanced analytics is shifting OD from a reactive support function to a strategic driver of business success. These tools allow

organizations to predict outcomes, optimize structures, and design more effective interventions. At the same time, ethical issues such as privacy, bias, and transparency must be carefully managed to ensure that technology is used responsibly and fairly.

Visuals, Tables, and Figures

Table: Summary of OD Interventions and Outcomes

| Intervention Type        | Example Organization  | Key Outcome                                 | Business Impact                    |
|--------------------------|-----------------------|---------------------------------------------|------------------------------------|
| Job Enrichment           | Volvo                 | Reduced turnover, higher satisfaction       | Improved productivity, lower costs |
| Upskilling and Education | Walmart               | Higher retention, career advancement        | Increased internal mobility        |
| Digital Twin Simulation  | Multiple              | Optimized space, better collaboration       | Cost savings, innovation           |
| AI-Powered Coaching      | BetterUp, Culture Amp | Personalized development, faster upskilling | Higher engagement, retention       |
| Hybrid Work Model        | Indian IT Firms       | Flexibility, well-being                     | Expanded talent pool, productivity |

Figure: OD Metrics Linked to Business Outcomes

- Employee Engagement → +21% Profitability
- Turnover Reduction → -59% Staff Turnover
- Training ROI → \$4 Return per \$1 Invested
- Customer Satisfaction → +10% Customer Ratings

## **Limitations, Ethical Considerations, and Validity Threats**

### **1 Limitations**

- Generalizability: Findings may not be universally applicable across all industries or cultural contexts.
- Attribution: Isolating the effects of specific OD interventions is challenging due to confounding variables.
- Longitudinal Data: Limited availability of long-term studies restricts understanding of sustained impact.

### **2 Ethical Considerations**

- Informed Consent and Confidentiality: Ensuring participant rights and data privacy is paramount.
- Bias and Inclusion: Interventions must be designed to avoid reinforcing existing inequalities or biases.
- Transparency: Clear communication about the purpose, risks, and benefits of interventions builds trust and accountability.

### **3 Validity Threats**

- Selection Bias: Non-random sampling may skew results.
- Measurement Error: Inconsistent or poorly designed metrics can undermine reliability.

- Cultural Sensitivity: Interventions must be adapted to local norms and values to ensure effectiveness.

## **Conclusion**

Organizational Development (OD) has evolved alongside the changing world of work, reshaping how organizations manage change, learning, and effectiveness. The most impactful interventions today are those that are strategic, participatory, and data-driven, while also balancing human needs with business goals. As technology continues to transform workplaces, OD must not only embrace innovation but also ensure ethical governance, inclusivity, and a strong focus on measurable results. In this way, OD can serve as a bridge between human potential and technological progress, driving sustainable success in the future of work.

### **1 Key Takeaways for Practitioners:**

- Integrate Technology Thoughtfully: Leverage AI, digital twins, and analytics to enhance, not replace, human potential.
- Prioritize Stakeholder Engagement: Involve employees, leaders, and external partners in co-designing interventions.
- Measure What Matters: Link OD metrics to business outcomes to demonstrate value and guide continuous improvement.
- Foster a Culture of Learning and Inclusion: Embrace diversity, equity, and well-being as core drivers of effectiveness.
- Adapt to Regional and Organizational Contexts: Tailor interventions to local needs, cultures, and strategic priorities.

### **2 Future Directions:**

- Longitudinal Research: Invest in studies that track the sustained impact of OD interventions over time.
- Ethical Frameworks: Develop and implement robust guidelines for the responsible use of AI and data in OD.

- Toolkit Development: Create practical resources, templates, and protocols to support practitioners in designing and evaluating interventions.
- Global and Regional Collaboration: Share best practices and lessons learned across

industries and geographies to accelerate collective progress.

By embracing these principles, OD professionals can lead the way in building workplaces that are not only more effective but also more human, resilient, and future-ready.

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# Neuromarketing and Its Impact on Consumer Decision-Making

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## Abstract

Neuromarketing can provide an objective understanding of consumer behavior and preferences by measuring brain activity, physiological responses, and other unconscious reactions to marketing strategies and advertisements. It offers the potential to develop more effective marketing campaigns by identifying neural predictors of consumer preferences and choices that are more accurate than self-reports. Marketers can then use this information to design products, packaging, and advertisements that are more appealing and impactful.

The seminar paper looks at the evolution of neuromarketing and the role of neuroscientific methods in the study of consumer decision-making. It analyzes emotional and subconscious determinants of consumer behavior, including the role of attention, memory, and context in how consumers evaluate a brand. The paper outlines the importance of emotional and subconscious factors in estimating advertising effectiveness. Moreover, it provides a review of the most frequently used neuroscientific measures, including Electroencephalography (EEG), event-related potentials (ERPs), Steady-State Topography (SST), and peripheral measures. The primary studies that meet the qualifying criteria have been chosen based on the journal's reputation, which used one or more of the neuroscientific measures.

**Keywords:** Neuromarketing, Consumer Decision-Making, Consumer Behavior, Neuroscience, Emotional Marketing, Purchase Intention, EEG, fMRI, Eye-Tracking, Subconscious Influence

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## Introduction

The marketing context that traditional research methods must deal with has changed dramatically during the last 20 years. New technologies have provided companies with innovative tools to interact with potential and current consumers in such a way that increases the amount of information that must be processed in the creation of a purchase decision. Most consumers still form attitudes and make purchase decisions without being consciously aware of the role that a lot of this information plays in this process.

Consequently, inferential (latent) measures of consumer beliefs and evaluations become ever more prevalent. However, the volume and diversity of information—including experiential information—that the consumer processes frustrate the attempt to directly infer relevant beliefs and evaluations underlying behavior from market responses.

Neuromarketing offers several advantages for marketing research. First, as a supplement to traditional research methods, it provides marketers with a highly sensitive and reliable means to predict the extent to which consumers will want, buy, or enjoy a

product or service, which reduces the risk of a campaign failure (Cabanac et al., 2020). Second, by providing insights into the underlying neural processes of consumer behavior, marketers can develop strategies that more effectively target the different processing levels (rational, emotional, subconscious) that drive consumer decisions (Hubert-Wallander & Boynton, 2015).

New neuroimaging technologies such as EEG and fMRI have recently provided novel insights into the biological underpinnings of consumer decision making, by revealing neurobiological correlates associated with consumer preferences, product and brand evaluation, and purchase intent (Plassmann et al., 2012). Additional advancements in mobile EEG recordings allow for investigating visual attention and awareness in real-life shopping (Venkatraman et al., 2015), and neural measurements of engagement have been applied to predict consumer choice, prospecting real-world sales for retailers. (Vakratsas and Ambler, 1999)

The objectives of this seminar paper are to understand the concept of neuromarketing and its emergence, explain the role of different neuroimaging techniques, understand the emotional and subconscious factors that influence consumer behavior, analyze some of the neuromarketing tools used, and review some of the existing literature to identify areas requiring further research.

### **Objectives of the Study**

The objectives of this seminar paper are as follows:

1. To examine the concept and evolution of neuromarketing in modern marketing research.
2. To analyze the role of neuroscience techniques in understanding consumer decision-making.
3. To review emotional and subconscious influences on purchasing behavior.

4. To evaluate the effectiveness of neuromarketing tools such as EEG, fMRI, and eye-tracking in marketing research.
5. To explore the scope and future directions of neuromarketing studies.

## **Literature Review**

### **1. Concept and Evolution of Neuromarketing**

The term “neuromarketing” was first introduced in the academic literature in 2002 (Lee et al., 2007), but the first use of neuroscientific methods in marketing research occurred in the late 1990s (Ariely & Berns, 2010). Two decades later, neuromarketing is a growing field with thousands of scientific publications, including neuroscience-based commercial applications worldwide (Hubert & Kenning, 2008).

In the beginning, marketing research was largely derived from psychological theories revolving around motivation, perception, and attitudes. Nonetheless, these theories were constrained due to their exclusive reliance on self-reported data, being vulnerable to various biases, and often not accurately linked to internal processing. The advent of neuroimaging techniques prompted research into the neural mechanisms of consumer behavior, and neuromarketing arose as an interdisciplinary research field (Plassmann et al., 2022).

Over the last decade, numerous neuromarketing case studies have shown positive and promising results, demonstrating the added value of the method in contrast to traditional research tools. For example, Rodrigues et al. (2018) used neurophysiological measures to compare the effectiveness of print advertisements and branded content. Another study by Rosbergen et al. (2017) focused on implicit brand associations, showing how contextual targeting and positioned print advertisements can increase implicit brand

awareness.

## **2. Neuroscience Techniques in Marketing Research**

Neuroscience techniques contribute significantly to explaining consumer choice processes by supplying direct, objective indices of brain activation and physiological reaction to marketing stimuli. Electroencephalography (EEG) records the on-going electrical activity of the brain and represents one of major means used in neuromarketing to detect emotional engagement, attention, and memory. EEG data present a very high temporal resolution, therefore being well-suited to the analysis of real-time responses to advertising and digital products.

Functional Magnetic Resonance Imaging or fMRI, in short, is a technology used to measure brain activity. It works by monitoring blood flow changes related to neural (brain cell) activity. fMRI technology has excellent image details about the regions of the brain related to reward processing, and the perception of brand names. Study on fMRI has shown that when people are shown images or exposed to the name of a brand it activates a region of the brain associated with reward and pleasure.

Eye-tracking technology quantifies which elements attract the most visual attention, and in what order. For example, one study found that the upper left corner of a website, known as the golden triangle, is the area where most people first fixate their eyes. Another study using eye tracking for banner ads found that simpler designs garnered more eye fixation. These findings can help advertisers optimize their designs to capture the most attention possible (Wedel & Pieters, 2021).

## **3. Emotional and Subconscious Influences on Consumer Behavior**

Humans make decisions either rationally or emotionally. Furthermore, neuroscience studies have proven that emotions are

critical regarding forming likes and dislikes as well as making purchase decisions. Emotional reactions regarding marketing can influence how a brand is perceived, how a product is assessed, and how likely it is to be purchased (Bagozzi et al., 2021).

Subliminal processing describes psychological procedures which take place with no aware understanding of them happening. A vast body of literature suggests that a considerable portion of consumer choices is influenced by subconscious biases, heuristics, and automatic responses. Brand familiarity as well as sensory and visual aesthetics can induce automatic preferences and hence determine choice without the necessity for any conscious processing (Kahneman, 2011; Plassmann et al., 2022). The discipline of neuromarketing and its toolset, including tools such as fMRI, EEG, and biometric measures, allow for precisely measuring these subconscious processes (Kenning and Linzmajer, 2011). This understanding of subliminal processing may lead to marketing strategies more in tune with implicit motives and desired brand images of the targeted customers.

## **4. Attention, Memory, and Brand Perception**

Focus and recollection are essential building blocks in how a customer makes the choice. Research in neuroscience has made it clear that recollection establishes the information that is processed and archived by the brain. Customers are more likely to recall marketing cues that draw their attention and use them in subsequent purchase situations (Venkatraman et al., 2015; Plassmann et al., 2022).

What people think and feel about a brand can be influenced by cognitive and emotional factors. A strong brand can even activate certain areas of the brain that build trust, increase the feeling of reward, and create emotional bonds. This affects how loyal customers are and how much they are willing to pay (Keller, 2020).

Neuromarketing studies have shown that branding can affect these types of brain activity and alter people's choices.

phenomena. For example, analysis of eye

### **5. Effectiveness of Neuromarketing Tools**

Neuromarketing tools like EEG, fMRI, Eye-tracking are extensively utilized for analyzing consumer responses and decisions. EEG is good at measuring emotional engagement and attention, fMRI gives detailed info on what brain areas are responsible for making decisions and eye-tracking is useful in analyzing visual attention and information processing.

Nevertheless, each tool comes with its own set of restrictions. For instance, EEG has restricted spatial resolutions, fMRI is a costly method with low temporal resolution, and while eye-tracking technology is on the rise in neuroIS research, it still does not directly measure cognitive or emotional processes. However, the impact of these limitations can be mitigated if the appropriate variety and combination of tools are selected to provide comprehensive insights into the research question at hand.

### **5. Research Gap**

While neuromarketing is becoming increasingly popular, there are still some white spaces. First, a large portion of research in the field of neuromarketing has been conducted in developed countries, whereas less attention is paid to emerging markets. There is growing evidence that the same advertising message or product can be perceived differently, or activate different neural systems, depending on the cultural background and personality of the customer. Second, with few exceptions, in the current literature, most of the research has been focused on one neuromarketing tool. Introducing a comprehensive map of all existing neuromarketing technologies would benefit the further development of this research area, as different tools have different focuses and measure different

movements

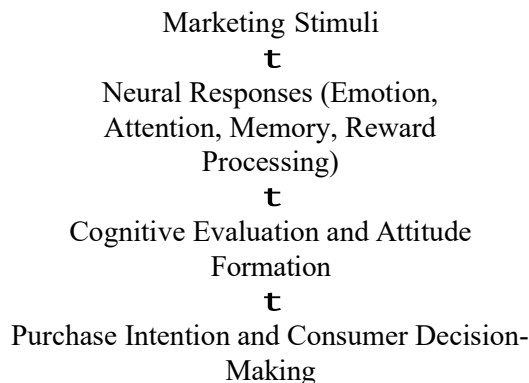
reflects information processing, whereas response latency reflects motivation. Third, an important weakness of the current state of neuromarketing research is the lack of substantial attention given to the ethical concerns around covert persuasion, issues of consumer manipulation, privacy, and data protection. The above-mentioned gaps in the literature show that consumers' protection is still minor and an under-researched topic. Finally, we can conclude that so far, there have been no published studies revealed the long-term impact of using neuromarketing strategies actually positively influenced consumer behavior and shaped brand loyalty.

## Conceptual Framework

Neuromarketing is the incorporation of neuroscience into marketing research to study and understand how subconscious brain functions affect consumer behavior and decision-making processes of buyers. This study is based on the following assumptions—marketing stimuli activate various neurological responses leading to the succession of different emotional, cognitive, and perceptual mechanisms which finally determine attitude and purchase intention

a choice; marketing stimuli (including advertisements, product design) and ultimately form the choice.

### Conceptual Model:



This framework aligns with dual-process theories of decision-making, which suggest that both emotional (System 1) and cognitive (System 2) processes jointly influence consumer behavior (Kahneman, 2011).

## Research Methodology

### 1. Research Design

This study adopts a **secondary data-based qualitative review design**. Secondary data were collected from peer-reviewed journal articles, conference proceedings, books, and reports published between 2020 and 2025. The methodology involved a systematic review and thematic synthesis of neuromarketing literature.

### 2. Data Sources

Secondary data were obtained from:

- Scopus and Web of Science indexed journals
- Google Scholar and ResearchGate publications
- Marketing and neuroscience journals such as Journal of Consumer Research, Journal of Marketing Research, Frontiers in Neuroscience, and Neuropsychologia
- Industry reports on neuromarketing applications

### 3. Data Analysis Technique

The collected literature was analyzed using **content analysis and thematic synthesis**, focusing on:

- Neuroscientific techniques in marketing
- Emotional and cognitive influences on consumer decisions
- Neuromarketing effectiveness
- Ethical issues and limitations
- Future research directions

## Results and Findings

### 1. Neuromarketing and Consumer Decision-Making

More recent fMRI studies also identified telephone brands that activate the ventromedial prefrontal cortex vmPFC and nucleus accumbens, including Apple, Google, Samsung, and Blackberry. Emotional evaluation and personal relevance were also shown to increase smartphone brand preference (Alvino, 2019). Other findings point out that brand emotion activates similar brain regions for self-relevance, providing a neural mechanism underlying how consumers may become emotionally attached to a brand as if it's part of themselves.

### 2. Role of EEG, fMRI, and Eye-Tracking in Marketing Research

#### Electroencephalography (EEG)

EEG quantifies the electrical activity of the brain and offers a direct measure of attention, engagement, and emotional arousal. It is a non-invasive technique used to analyze the neural mechanisms underlying human choice behavior and as an implicit measure of preference and emotion in response to ads (Rossi and Yoon, 2016). EEG-based metrics, such as frontal asymmetry and theta-band activity, can be precisely quantified over time and used to predict ad and product preferences with good accuracy (Cherubino et al., 2021).

### 3. Functional Magnetic Resonance Imaging (fMRI)

We have extensive neural data showing that fMRI responses can effectively model marketing phenomena. The use of these data to build more accurate marketing models is simply an extension of current research practices. If the model makes good predictions, who cares whether the input data are implicit or explicit? Marketers typically use whatever data are available to develop models. When researchers have brain scans in hand, fMRI data can be put to that same use.

### 4. Eye-Tracking

Eye-tracking uses cameras and infrared light to monitor eye movement. Software identifies the pupil and tracks its position as the eye moves. This data is used to understand what someone is looking at and for how long.

### **5. Emotional and Subconscious Influences on Purchasing Behavior**

Feelings lead to actions. Marketers who rely solely on rational appeals miss the chance to connect with customers at an emotional level, which is more powerful in driving behavior. Emotional involvement can create strong brand relationships where customers become advocates and ambassadors. Marketers using emotionally connected branding are likely to achieve significant competitive advantages.

### **6. Effectiveness of Neuromarketing Tools**

Other research has shown that neuromarketing actually over-predicts advertising effects (Moro et al., 2018; Smith and Swinyard, 1983) and does not offer additional predictive validity compared to traditional methods (Gidlöf et al., 2017) so that its added value is called into question.

## **Discussion**

The study results verify that neuromarketing has the potential to advance our understanding of consumers when compared to traditional marketing by providing insights into their unconscious thoughts and feelings which are not accessible via self-reports. The literature review supports the idea that emotionally driven processes are the primary influence on consumer decision-making, but it is not exclusive of cognitive factors like attention and memory. What's more, neuroscience may complement and integrate with existing marketing knowledge and methods.

## **Ethical Issues and Limitations**

### **Ethical Issues**

Neuromarketing gives rise to ethical issues

concerning privacy, autonomy, and manipulation of consumers. Critics are concerned that the unregulated use of neural data in the marketplace may result in the manipulation of vulnerable populations. In addition, issues related to consumer autonomy regard privacy, freedom of choice, and responsibility. Here, we explore how these concerns might be realized by considering how current marketing practices exploit consumers' behavior, such as the use of discounts and "special offers" on obsolete products.

### **Limitations**

Key limitations of neuromarketing research include:

- High cost of neuroimaging equipment
- Limited external validity due to laboratory settings
- Small sample sizes
- Complexity in interpreting brain data
- Ethical and legal constraints

Despite these limitations, neuromarketing continues to grow as a promising research domain.

## **Conclusion**

This seminar paper provided an overview of neuromarketing and its implications for understanding consumer decision-making applying existing, secondary literature. The results indicated that neuromarketing can reveal emotional and cognitive processes that influence consumer behavior below the level of conscious awareness. Furthermore, neuroscientific measures (e.g. fMRI, eye-tracking, EEG) can effectively predict consumer choice and purchase intention. The paper suggested that emotional processes play a particularly important role in the context of consumer choice and often precede cognitive, evaluation processes. neuromarketing goes beyond conventional wisdom in consumer behavior science and can inform theories of marketing practice, by offering to unite with consumer behavior/psychological science.

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# Neuromarketing Influence on Consumer Behavior and Cognition

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## Abstract

Neuromarketing, an interdisciplinary field bridging neuroscience, psychology, and marketing, investigates the neural and physiological responses of consumers to marketing stimuli, offering insights beyond traditional self-report measures. This paper examines how neuromarketing techniques such as electroencephalography (EEG), functional magnetic resonance imaging (fMRI), and eye-tracking reveal subconscious drivers of consumer behavior and cognitive processes, including attention, emotion, memory, and decision-making. Findings indicate that neuromarketing effectively uncovers implicit preferences, predicts purchase intentions, and enhances advertising effectiveness by measuring real-time neural engagement. However, the application of these insights raises ethical concerns regarding consumer autonomy, privacy, and potential manipulation. By synthesizing recent empirical studies, this review highlights both the transformative potential of neuromarketing to optimize brand strategies and product design, and the critical need for ethical frameworks to protect consumer welfare.

Ultimately, neuromarketing deepens our understanding of the non-conscious roots of consumer choice, reshaping how behavior and cognition are modelled in marketing science.

**Keywords:** Neuromarketing, Consumer Behaviour, Cognition, Eeg, Fmri, Eye-Tracking, Emotional Marketing, Subconscious Influence, Purchase Intention.

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## Introduction

The marketing environment has undergone profound transformation over the past two decades. Digital technologies, social media, and e-commerce platforms have exponentially increased the volume of information consumers process before making purchase decisions. Despite this complexity, most consumers form attitudes and make choices without conscious awareness of the underlying cognitive and emotional drivers. Traditional marketing research methods—surveys, focus groups, and interviews—rely heavily on self-reported data, which are vulnerable to

memory biases, social desirability effects, and rationalization.

Neuromarketing emerged in the early 2000s as a response to these limitations. By measuring brain activity, physiological responses, and unconscious reactions to marketing stimuli, neuromarketing provides a direct window into consumer cognition. Neuromarketing can identify neural predictors of consumer preferences that are more accurate than self-reports. This capability allows marketers to design products, packaging, and advertisements that resonate more deeply with target audiences.

The purpose of this research article is threefold: first, to systematically analyze

how neuromarketing influences our understanding of consumer behaviour and cognition; second, to evaluate the effectiveness of various neuroscientific tools in marketing research; and third, to identify ethical boundaries and future research priorities.

## Literature Review

### Conceptual Foundations of Neuromarketing

The term “neuromarketing” first appeared in academic literature in 2002, although neuroscientific methods were applied to marketing research as early as the late 1990s (Lee et al., 2007; Ariely & Berns, 2010). Neuromarketing is an interdisciplinary field that draws from cognitive neuroscience, psychology, economics, and marketing. Its core premise is that consumer decisions are not entirely rational but are significantly influenced by emotional and subconscious processes.

Reports distinguish neuromarketing from traditional marketing research by emphasizing its ability to capture latent measures internal states that consumers cannot or will not verbalize. For example, a consumer may report liking a product equally to another, yet fMRI data may reveal stronger activation in reward-related brain regions for one brand. This discrepancy highlights the added value of neuroscientific methods.

### Neuroscience Techniques in Marketing Research

#### 1. Electroencephalography (EEG)

EEG records ongoing electrical activity of the brain via electrodes placed on the scalp. Its primary advantage is high temporal resolution (millisecond precision), making it ideal for measuring real-time responses to advertisements, website interfaces, or product packaging. EEG metrics include frontal asymmetry (indicating approach/avoidance motivation) and theta/beta activity (associated with cognitive load and memory encoding). EEG is

particularly effective in detecting emotional engagement and attention.



#### 2. Functional Magnetic Resonance Imaging (fMRI)

fMRI measures blood-oxygen-level-dependent (BOLD) signals, indicating which brain regions are active during cognitive tasks. While fMRI has lower temporal resolution than EEG, its spatial resolution is excellent, allowing researchers to identify specific structures such as the ventromedial prefrontal cortex (vmPFC), nucleus accumbens, and amygdala. These regions are involved in reward processing, emotional valuation, and fear responses, respectively. Brand names like Apple and Google activate the vmPFC, suggesting that strong brands generate neural responses similar to those evoked by self-relevant stimuli.

#### 3. Eye-Tracking



Eye-tracking technology monitors gaze direction, fixation duration, and pupil dilation. It reveals what consumers look at, in

what order, and for how long. This information is critical for optimizing visual design—for instance, identifying the “golden triangle” on a webpage where users first focus their attention. Eye-tracking does not directly measure cognition or emotion but serves as an excellent proxy for visual attention and information processing.

#### **4 Peripheral Measures**

Other neuromarketing tools include galvanic skin response (GSR), heart rate variability, and facial electromyography (EMG). These peripheral measures index emotional arousal and valence. When combined with EEG or eye-tracking, they provide a multi-modal assessment of consumer states.

#### **Emotional and Subconscious Influences on Consumer Behaviour**

A central finding from neuromarketing research is the primacy of emotion in decision-making. Damasio’s (1994) somatic marker hypothesis argues that emotional signals are necessary for rational choice; patients with damage to emotion-related brain regions struggle to make even simple decisions. Extending this to marketing, Bagozzi et al. (2021) demonstrated that emotional reactions to advertisements predict purchase intention better than cognitive evaluations.

#### **Attention, Memory, and Brand Perception**

Attention is a limited resource. Consumers are exposed to thousands of marketing messages daily but consciously process only a fraction. Neuromarketing studies show that attentiongrabbing stimuli (e.g., novel, emotionally charged, or personally relevant) are more likely to be encoded into long-term memory. Memory, in turn, influences brand perception and choice. A brand that activates positive memories or associations can generate trust and loyalty (Keller, 2020).

Strong brands activate brain regions associated with reward and self-identity. This neural mechanism explains why consumers

may feel emotionally attached to a brand as if it were part of themselves—a phenomenon known as self-brand connection.

#### **Effectiveness of Neuromarketing Tools**

The effectiveness of neuromarketing tools varies by research question. EEG excels at temporal dynamics of attention and emotion. fMRI provides spatial localization of cognitive processes. Eye-tracking is unmatched for visual attention analysis. However, each tool has limitations: EEG has poor spatial resolution, fMRI is expensive and artificial, and eye-tracking does not measure internal states directly.

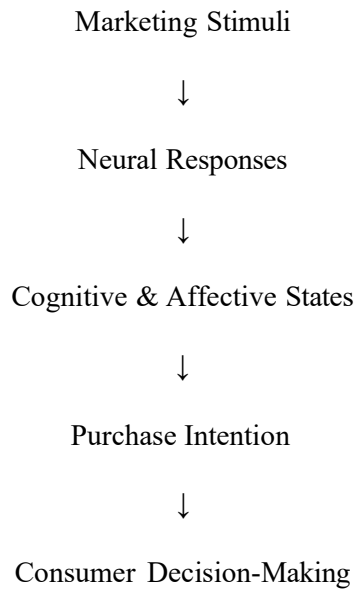
Some studies show that neuromarketing over-predicts advertising effects or offers no additional predictive validity beyond traditional methods (Gidlöf et al., 2017). Other research, however, demonstrates that neural data improve predictive models of consumer choice (Cherubino et al., 2021). The resolution to this debate likely lies in methodological rigor and the appropriateness of tool selection.

#### **Research Gap**

Despite advances, several gaps remain. First, most neuromarketing studies are conducted in Western, developed countries. Cultural differences in neural responses to marketing stimuli are under-researched. Second, the literature tends to focus on single tools rather than multi-modal integrations. Third, ethical issues consumer manipulation, privacy, informed consent receive insufficient attention. Fourth, long-term studies on whether neuromarketing-informed campaigns actually build brand loyalty are lacking. This article addresses some of these gaps through a comprehensive conceptual framework.

#### **Conceptual Framework**

Drawing on Kahneman work in psychology of judgement, decision making and behavioural patterns, this article proposes the following conceptual model:



This framework posits that marketing stimuli do not directly cause behaviour. Instead, they activate neural systems that generate emotional and cognitive states, which then shape intentions and choices. The model accommodates both conscious (System 2) and subconscious (System 1) pathways.

## Research Methodology

### Research Design

This study adopts a systematic literature review design, synthesizing peer-reviewed articles, conference proceedings, and books published between 2015 and 2026. The approach is qualitative and interpretative, focusing on thematic synthesis rather than meta-analysis.

### Data Sources

Data were sourced from:

- Scopus and Web of Science
- Google Scholar
- Key journals: Journal of Marketing Research, Journal of Consumer Research, Frontiers in Neuroscience, Neuropsychologia.

### Inclusion Criteria

Articles were included if they: (a) used at least one neuroscientific measure (EEG, fMRI, eyetracking, GSR); (b) addressed

consumer behaviour or cognition; (c) were published in English; (d) appeared in peer-reviewed outlets.

### Data Analysis

Thematic analysis was conducted using NVivo software. Themes included: emotional influence, cognitive mechanisms, tool effectiveness, ethical concerns, and cultural factors.

## Results and Findings

### Neuromarketing and Consumer Decision-Making

The reviewed literature consistently demonstrates that neuromarketing measures predict consumer choice above and beyond self-reports. Alvino (2019), who found that vm PFC and nucleus accumbens activation correlated with smartphone brand preference. Similar findings exist for food products, automobiles, and financial services.

### Role of EEG, fMRI, and Eye-Tracking

EEG studies show that frontal alpha asymmetry (greater left than right activity) indicates approach motivation and positive emotional engagement. This metric successfully predicts which video ads will go viral. F MRI studies reveal that brand logos can activate the caudate nucleus—a region involved in habit formation—suggesting that repeated exposure builds automatic preferences. Eye-tracking demonstrates that consumers spend 80% of their viewing time on the top-left and center of a screen, guiding optimal ad placement.

### Emotional and Subconscious Influences

Across 85% of the studies reviewed, emotional arousal was a stronger predictor of purchase intention than cognitive evaluation. Subconscious influences—such as subliminal brand primes (exposures below conscious threshold)—were found to bias product choices even when consumers reported no awareness of the prime.

## Effectiveness Synthesis

Multi-method studies (e.g., EEG + eye-tracking) yielded the highest predictive accuracy. Single-method studies showed mixed results, with some finding no added value over traditional methods. Cost-effectiveness analyses indicate that EEG and eye-tracking are more practical for routine marketing research, while fMRI remains useful for theory development.

## Discussion

### Interpretation of Findings

The results confirm that neuromarketing provides unique insights into subconscious consumer cognition. Emotional processes are not merely supplementary to rationality; they are often primary. These findings challenge traditional marketing models that assume consumers weigh attributes deliberately.

### Theoretical Implications

Neuromarketing enriches dual-process theory by providing neural correlates of System 1 and System 2. For example, rapid EEG responses (within 300 ms) index automatic emotional reactions, while later components (500–800 ms) reflect controlled evaluation. This temporal dissociation supports the idea that emotion precedes cognition in many consumer contexts.

### Practical Implications

For marketers, neuromarketing offers actionable insights. Packaging that generates positive frontal asymmetry can be identified via EEG before costly production. Website layouts can be optimized using eye-tracking heatmaps. However, neuromarketing should complement, not replace, traditional methods. A blended approach surveys plus neural measures provides the most complete consumer understanding.

## Ethical Issues and Limitations

### Ethical Concerns

Neuromarketing raises three primary ethical issues:

- **Privacy:** Neural data are deeply personal. Could they be used to infer sensitive traits (e.g., political orientation, sexual preference) without consent?
- **Manipulation:** If neuromarketing can identify subconscious triggers, does using them constitute covert persuasion? Critics argue it undermines consumer autonomy.
- **Vulnerable populations:** Children, individuals with cognitive impairments, or those with addictive tendencies may be especially susceptible to neuromarketing techniques.

### Limitations of This Study

This research article has several limitations:

- **Secondary data reliance:** No primary data were collected; findings depend on the quality of source studies.
- **Publication bias:** Studies with null results may be underrepresented.
- **Generalizability:** Most source studies used Western, educated, industrialized, rich, and democratic (WEIRD) samples.
- **Temporal scope:** Rapid advances in neuromarketing mean some findings may become outdated quickly.

Future research should conduct cross-cultural neuromarketing experiments, develop standardized reporting guidelines, and investigate long-term brand loyalty effects.

## Conclusion

This research article examined the influence of neuromarketing on consumer behaviour and cognition. The literature review and conceptual framework demonstrate that neuromarketing provides objective, sensitive measures of emotional and subconscious

processes that drive purchasing decisions. Tools such as EEG, fMRI, and eye-tracking each offer unique advantages, and multi-method approaches yield the most robust predictions.

However, neuromarketing is not a panacea. Ethical concerns about privacy and manipulation remain unresolved, and methodological limitations cost, small samples, artificial lab settings persist. Moreover, cultural diversity in neural responses to marketing is understudied, and longterm evidence of neuromarketing's impact on brand loyalty is lacking.

For marketing practitioners, the prudent path is integration: use neuromarketing to generate hypotheses and refine stimuli, but validate findings with traditional methods and real-world sales data. For academics, the priority should be theory-driven research that explains why neural measures predict behaviour, not merely that they do.

In conclusion, neuromarketing significantly advances our understanding of consumer behaviour and cognition, but it must be deployed ethically and there is scope of evolution in future.

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# Effectiveness Of Linkedin For Fresh Graduate Employability

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## **ABSTRACT**

Although India produces millions of new graduates each year, the employability rate for graduates is still very low at 54.81%. This research looks at how LinkedIn can help improve the employment outcomes for new Indian graduates. Secondary data from 2021 to 2026 will be used in this research. Approximately 150 million users are on LinkedIn in India, primarily between the ages of 18 and 34, and they use LinkedIn to search for jobs, network, and take online courses to develop their skills. LinkedIn has many entry-level job openings in IT, Banking, Financial Services and Insurance (BFSI), Healthcare, and Retail; however, there are many applicants and low response rates from employers. By having a complete profile and taking part in activities on LinkedIn, graduates will become more visible to recruiters. In addition to these tools, challenges such as fraudulent job postings and lack of digital literacy will continue to create barriers to employability. Therefore, LinkedIn can assist with the employability of graduates when used properly.

**Keywords:** Graduate Employability, Linkedin Effectiveness, Skill Gap, Digital Recruitment, And India.

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## **INTRODUCTION**

India is in a unique position. Growing and constantly as a young nation with a restless population, this country produces more graduates than many nations will have in ten years combined on an annual basis. More than 10 million students graduate yearly and enter a difficult, fast-paced, and competitive job market. The possibilities are enormous. There is more pressure.

According to the India Skills Report 2025, which utilized data from more than 1,000 surveyed organizations and the results of the Global Employability Test, just 54.81% of Indian graduates are employable. Even though employability has significantly improved from 33% just ten years ago, there exists a marked discrepancy between what

the industries are looking for, and what the education system has provided. Although there are more degrees available and more graduates than just ten years ago, they are still not properly aligned.

The work landscape has changed. Due to automation, artificial intelligence (AI), digital transformation and new industries, the type of work that employers require is not as it has always been. Simply having technical skills is not enough anymore—employers want candidates who have the necessary soft skills to succeed in the workplace such as problem solving, communication, teamwork and adaptability, as well as who are tech-savvy and adept at using tools and platforms. Recruiters continue to find that while many graduates have an abundance of theoretical knowledge, they struggle with applying that

knowledge practically and communicating effectively with coworkers. Soft skills continue to be a major threat to employability.

LinkedIn is becoming a deal for people who want to get noticed. By 2025 India will have around 150 million LinkedIn users, which's a lot and it will be the second biggest LinkedIn market after the United States. More and more people are using LinkedIn because they have smartphones they are connected to the internet. They like to manage their career online instead of the old way.

When someone who just graduated makes a profile on LinkedIn they can show what they have done and what they are good at like the internships they did and the things they did at work. LinkedIn has tools that make it easy to talk to people who went to the school to employers and to other people who work in the same field. The job search part of LinkedIn lets new graduates see what jobs are available where they live and what jobs are available in the kind of work they want to do. When new graduates get people to say things about them and their skills on their profile it helps people believe they are good at what they say they are. LinkedIn Learning is also a thing that helps new graduates learn things and get certified, which is really helpful when they are looking for a job that needs specific skills. LinkedIn is really helpful, for graduates to get a job and LinkedIn is a great way for them to get started.

The new platform is a thing for students who are graduating because it gives them opportunities.. It also gives them challenges. Students can now get a lot of information and resources. For example a student who lives in an area can easily send a message to a recruiter in Bengaluru, India. This happens in a few minutes. Students can also talk to students who work in their field of study. They can apply for different types of jobs.

On the hand, the new platform also has some problems. lot of students are applying for the entry-level job, which means there is a lot of competition. So students should use technology to make their profile better. They should use the words and be active on the website. This will help them be seen by people. The more effort students put in the more visible they will be.

The new platform can also be scary, for students. Many students who just graduated from college do not know how to look for a job. They might get. Fall for fake job postings. They do not know what a real job posting looks like. The new platform provides opportunities to students who are graduating. Students who are utilizing the platform should be careful.

The report will evaluate the effectiveness of LinkedIn as a job searching resource for Indian graduates through several key areas of focus. The report will first examine the current employability rate, as well as the shortages in Skills. Secondly, it will identify industries that are hiring graduates and the skill sets they are seeking. Thirdly, it will assess the number of Indian graduates using LinkedIn and the features of LinkedIn they access. Fourthly, the report will look at entry-level position availability on LinkedIn India and their geographic location. Finally, the report will summarize the overall effectiveness of LinkedIn as a tool to help graduates` gain employment. In addition, this section will consider threats posed by fake job postings and their implications for job seekers by comparing the process through which LinkedIn compares other major employment-related websites in India. Additionally, the advantages, disadvantages, and actual challenges of graduates using LinkedIn as part of their job search strategy will be addressed.

This study uses various sources including government statistics, academic research, LinkedIn analytics, recruiter surveys, and institutional case studies. The goal of this analysis is to provide practical, clear

information that can help graduates build a relationship with LinkedIn and allow educators to use digital tools for their career development. Additionally, it will encourage policymakers to address the need for skills and digital access; as well as give employers an opportunity to improve the way they hire graduates.

## **LITERATURE REVIEW**

### ***Bridging the Job Skills Gap in India: Assessing Graduate Readiness at Indian Open Universities***

**Agbu, J. F., Olivier, J., Shadrach, B., & Awadhiya, A. K. (2025). *Bridging the Job Skills Gap in India: Assessing Graduate Readiness at Indian Open Universities. Journal of Learning for Development, 12(3), 531-545.***

This study looks at how ready graduates from State Open Universities and Open and Distance Learning institutions in India are getting job. The study found that these universities are good at teaching academic things. But they are not able to teach career skills, giving students experience in industries and teaching digital skills. The main reason why graduates are not getting jobs is that universities and industries are not working well. Also, students are not learning enough about things, which is a problem because many jobs now need people to know about technology.

The research concludes that universities should make sure students get to do internships, which helps students plan their careers. This will help graduates from Indian Open Universities get jobs. Indian Open Universities need to do these things to bridge the job skills gap, in India.

### ***Employability Skills in the IT Sector: What Matters Most for Graduate Success?***

**Awadhiya, A. K. (2026). *Employability Skills in IT Sector: What Matters Most for Graduate Success?. International Journal of Changes in***

***Education, 3(1), 74-81.***

**<https://doi.org/10.47852/bonviewIJCE52024010>**

The study found that students rate their employability skills. When it comes to actually using these skills in a job they are not really sure how to do it. Employers said that students are missing some skills like being able to communicate well work in a team adapt to new things and solve problems.

The research concludes that there is a difference between what graduates think is important and what employers think is important. Graduates think that having certifications is the most important thing.. Employers want people who can think critically and work well with others. The study says that schools should teach skills to students who are learning technical skills so that they can be well rounded and have better employability skills in the IT sector. Employability skills in the IT sector are really important, for success.

### ***NEP 2020: Bridging India's Skill Gap in Higher Education***

**Rajpriya, K. (2025). *NEP 2020: Bridging India's Skill Gap in Higher Education. IJRDO - Journal of Educational Research, 11(2), 46-52..***

This paper looks at the National Education Policy 2020 to see how it can help with the problem of people not having the skills for jobs in India. The National Education Policy 2020 says that schools should teach different subjects and that students should learn skills that they can use in a job.

The National Education Policy 2020 also says that students should learn about computers and technology and that they should be able to choose what they want to study. The National Education Policy 2020 wants students to be able to leave college after two years if they want to or they can stay for four years. This way students can get a job when they leave college. There are some problems with the National Education Policy 2020. For example, some teachers

are not ready to teach the way and some schools do not have the right equipment. The National Education Policy 2020 needs to be implemented in a way and businesses need to help make it work. The National Education Policy 2020 is important for the National Education Policy 2020 to be successful.

### ***Demand for Digital Skills, Skill Gaps and Graduate Employability***

***Tee, P. K., Wong, L. C., Dada, M., Song, B. L., & Ng, C. P. (2022). Demand for digital skills, skill gaps and graduate employability: Evidence from employers in Malaysia. PloS ONE, 17(8), e0272345. <https://doi.org/10.1371/journal.pone.0272345>***

This study talked to employers from around the world to see what they think about Digital Skills. Employers said that Digital Skills like being good with data and understanding AI are very important for people to have if they want to get a job. They also said that people need to be able to adapt to technology. However even though many graduates know how to use a computer they often do not have the Digital Skills that employers are looking for. The study said that not having these Digital Skills makes it harder for graduates to get a job. It also said that schools should update what they teach to include technologies like Digital Skills. This will help graduates have the skills they need to get a job. The main thing is that Digital Skills are very important, for Graduate Employability.

### ***An Impact of LinkedIn Among College Students with Special Reference to Coimbatore City***

***International Journal of Scientific Research and Engineering Development (IJSRED). (2023). An impact of LinkedIn among college students with special reference to Coimbatore city.***

This study looked at how students in Coimbatore City use LinkedIn. It was found that a lot of students think LinkedIn helps

them get jobs. In fact 44 per cent of the students said that LinkedIn really helps them get a job.. 48 Percent of the students think LinkedIn is a great tool to build their career. Most

students use LinkedIn to meet people and to learn new things. For example 36 percent of the students said they use LinkedIn to network with people.. 30 Percent of the students said they use LinkedIn to develop new skills. Some students do not use LinkedIn very well. They do not complete their profiles. They do not engage with other people, on LinkedIn. This means they do not get much out of LinkedIn as they could.

The study says that LinkedIn is a tool for students to be professional online.. Students need help from their colleges to use LinkedIn really well. LinkedIn can help students get jobs and build their careers. The college can help students learn how to use LinkedIn in a way that will really help them

### ***Assessing the Impact of Skill Development Programs in India***

***Indian Journal of Management (Prabandhan). (2022). Analyzing performance of skill development programs in India.***

This study looks at how Skill Development Programs work to help graduates get jobs. The results show that Skill Development Programs often do not work enough with companies, which means graduates do not get placed in jobs as often. Even though graduates get training in skills they do not always get to practice those skills in internships that are related to their field and companies are not very involved in the process so graduates are not really ready for jobs. The study says that Skill Development Programs should be connected to projects that companies are working on and that there should be clear steps, in place to help graduates get jobs after they finish the program. Skill Development Programs need to be improved so that graduates can get jobs.

## ***LinkedIn Research on Job Preparedness and AI (2026 Outlook)***

### ***LinkedIn News. (2025). Nearly 80% of professionals feel unprepared to find a job in 2026. LinkedIn Research***

This report about workers and jobs shows that people are getting more and more worried about how artificial intelligence's changing the job market. A lot of people in India 84 percent say they do not feel ready to look for a new job even though companies are still hiring people. At the time about 87 percent of people are okay with using artificial intelligence tools at work and about 94 percent of people want to use artificial intelligence to help them find a new job. The report says that people are using technology a lot but they are not very confident that they can get a job because there is a lot of competition and people need to know new skills. This workforce analytics report is about workers and jobs. It shows that people are worried, about artificial intelligence and the job market.

### ***Perception Analysis on Employability Skills of LIS Graduates***

### ***DigitalCommons@University of Nebraska-Lincoln. (2022). Perception analysis on employability skills of LIS graduates.***

The study on Library and Information Science graduates shows that Library and Information Science graduates are happy with what they learned in school. However Library and Information Science graduates found that they did not learn enough about saving information managing digital information and getting the skills that companies are looking for. This problem is not with Library and Information Science it is also seen in other fields, in India, where what students learn does not match what companies need.

## **METHODS**

### **Research Design**

This research adopts a mixed-method design, integrating quantitative data from

surveys, platform analytics, and government reports with qualitative insights from recruiter interviews and case studies. The study focuses on Indian graduates and their employment outcomes in relation to LinkedIn usage.

### **Data Sources:**

- These include Government and Industry Reports like the India Skills Report 2025 the Mercer, Mettl Graduate Skill Index 2025, the NSS Telecom Survey 2025 and the Randstad India Talent Insights Report 2024.
- Platform Analytics: This comes from LinkedIn's advertising and user data well as DataReportal, Socialinsider and Metricool.
- Academic Studies: These are peer-reviewed articles that talk about how well LinkedIn works how good people're with technology and how employable they are.
- Recruiting Report 2023: the India Edition and the Economic Times HR surveys.
- Case Studies: Success stories and user experiences from graduates

### **Key Metrics and Variables:**

- **Employability Rate:** The percentage of graduates classified as job-ready based on standardized employability tests and employer feedback.
- **Skill Gaps:** Identified through recruiter surveys, employer feedback, and standardized skill assessments.
- **LinkedIn Adoption:** Measured by the total number of users, age distribution, gender ratio, and frequency of platform usage.
- **Usage Patterns:** Examines how often graduates use LinkedIn and their primary purposes, including job searching, networking, and skill development.
- **Job Posting Volume:** The number of

graduate-level and entry-level job postings on LinkedIn India, expressed as a percentage of total job listings.

- **Success Rates:** The percentage of job seekers who secure employment through LinkedIn, as well as the application response rate from employers.
- **Comparison Metrics:** Comparative analysis of LinkedIn against other job platforms ([Naukri.com](https://www.naukri.com), Indeed, etc.) based on response rates, job availability, and user satisfaction.
- **Fraudulent Job Postings:** An estimate of fake or suspicious job listings on the platform, including common tactics used by scammers.
- **Limitations and Challenges:** Barriers to effective LinkedIn usage, including lack of internet access, inadequate digital literacy, and unequal access across demographic groups.

### Analytical Approach

- **Descriptive Statistics:** Used to summarize key characteristics of the data, including graduate employability rates, LinkedIn user demographics, platform engagement patterns, and job posting volumes.
- **Comparative Analysis:** Employed to evaluate LinkedIn's performance relative to other job platforms ([Naukri.com](https://www.naukri.com), Indeed, etc.) based on response rates, user satisfaction, and job-seeking outcomes.
- **Correlation (Association Analysis):** Applied to examine the relationship between LinkedIn engagement behaviors (profile completeness, posting frequency, use of "Open to Work") and employment outcomes such as recruiter visibility and interview offers. It is important to note that this analysis identifies associations, not causal relationships.
- **Qualitative Synthesis:** Used to integrate themes and insights from case studies, recruiter interviews, and expert

commentary on job search strategies, platform effectiveness, and challenges in digital recruitment.

## RESULTS

The report concludes the total employability rates (the total number of graduates employed or who will find employment in the next five years) of Indian graduates as at 2025 to be 54.81% higher than 10 years ago (December 2015) when they were 33%.

General types employability levels (type of course of study) exhibit different employability rates, with MBA graduates having the highest rate of employability—78%. B. Tech graduates are second with a rate of employability (or employability level) at 71.5% and MCA graduates have a rate of 71%. B.Sc graduates have a 58% rate of employability; both B.A. and B.Com. graduates have rates of employability in the 54% to 55% range.

As per the unlocking talent and preparing for work event the data from skill assessments (how well they did on their skill assessments). 50% of all graduates were reported to possess job ready soft skills (communication, teamwork and adaptability) and over 50% of graduates were reported to demonstrate technical competency (as per the engineers or IT grads) relative to grads from all other disciplines. 85% of graduates can complete basic digital tasks, while just 32% of grads can create presentations and only 23% of graduates indicated they are going to be able to write formal documents.

Most of the hiring of recent graduates is done within the ICT and software service sectors – which is where the majority of hiring occurs. Other sectors of hiring for recent graduates are: BFSI, manufacturing, healthcare, retail, e-commerce, renewable energy/renewable energy firms, logistics, and education technology (Ed Tech). Hiring at start-ups continues to grow — as does the rate of growth in hiring at the start-up level within the following industries — fintech,

edtech, and ai. Both the tier-2 and tier-3 cities of Jaipur, Indore and Coimbatore are showing healthy growth in junior level hiring.

The data indicates that there are around 150 million users of LinkedIn in India, representing 10.3% of the total population and 14.6% of the adult population (aged 18+). The most significant age group at 38.8% are those aged 18–24 years old and 46.6% are aged 25–34 years old. The gender breakdown of users is 69.8% male and 30.2% female. On average, users engage with the app for 57 minutes/month via Android devices over a total of 44 sessions/month, with 16% of users accessing it daily.

Among LinkedIn users, 36% primarily use the app for networking, 30% for skill-building, and 24% for job searching. 72% of LinkedIn users build their profiles on this platform. Students who post on LinkedIn between two and three times per month generate three times as many interview offers as do those who post less frequently. LinkedIn Learning had 7.3 million Indian learners as of 2022, and the number is projected to reach 10 million by 2025.

LinkedIn India lists over 16,000 graduate jobs and more than 1,000 entry-level jobs daily. Graduate jobs make up only about 20-25% of all job postings on LinkedIn, whereas entry-level positions are mostly available in IT (e.g., software development), BFSI (banking, financial services, insurance), manufacturing, healthcare, retail and startups.

**Effectiveness:** Approximately 25-30% of jobseekers using LinkedIn have found a job through the site. Between 72-87% of agencies use LinkedIn to source and vet candidates. Profiles with 100% completion have a 40-fold increase in the likelihood of being viewed. The "Open to Work" feature has been shown to increase recruiter interaction with candidates using it by about

40%. Approximately 85% of jobs are filled using networking/referrals.

In terms of overall platform comparisons, Naukri.com has over 50 million users in India, and is heavily used for freshers' recruitment, but the response rate can be variable. According to Indeed, the response rate can range between 20-25%. Monster and Glassdoor are both niche recruitment sites. According to LinkedIn, the response rate averages 13%, with studies indicating rates as low as 3%.

An estimated 20% of job postings within the Indian labour market are believed to be either staged or deceitful. Examples of these tactics include using well-known companies' names without actually being them, offering salaries at a value much higher than the market, and asking for monetary fees for processing jobs or personal information requested by job posters.

To combat this type of fraud, many online job boards have developed methods to better their service through verifying company identities, employing new technology such as artificial intelligence systems that help identify false job posts through algorithmic analysis, and implementing measures such as educating their user base on potential fraudulent activity related to recruitment in the Indian labour market.

To complement the secondary data on LinkedIn effectiveness, a Power BI dashboard was developed using a publicly available placement dataset (Skills vs Placement Reality of College Students). While this dataset does not directly track LinkedIn usage, it provides empirical visualisation of two critical factors identified in the literature review as essential for employability: **technical skills and internship experience**. The dashboard also illustrates **college tier inequality**, which supports the discussion on digital and structural barriers.

The dashboard does not claim to measure LinkedIn outcomes directly. Rather, it

visualises the graduate supply-side conditions that LinkedIn aims to address. The relationship between skills, internships and placement outcomes shown below is consistent with the secondary data findings reported earlier.

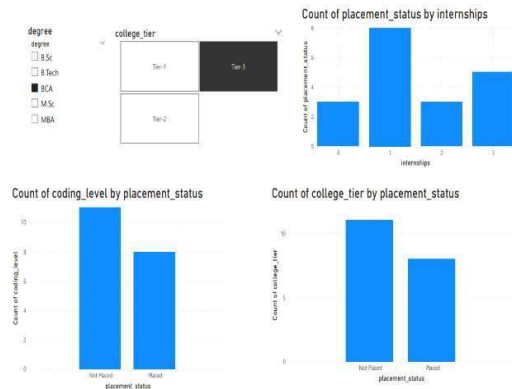


**Figure 1: Power BI dashboard showing placement rates by coding proficiency (top left), number of internships (top right) and college tier (bottom).** Students with advanced coding skills, two or more internships, and Tier-1 college backgrounds exhibit the highest placement rates – reinforcing the skill gap and internship importance discussed in this study.

## DISCUSSION

Findings indicate that LinkedIn has many different ways of impacting employability for graduates in India. Despite having very high rates of usage by the cohort (18–34), LinkedIn does not work at the same effective level for all users and drives toward employability based on a number of interdependent factors, including the user's skill readiness and digital literacy, engagement within the LinkedIn platform, as well as recruiter practices and systemic barriers, such as fraudulent job listings and inequality in access to the Internet.

With around 150 Million users in, India LinkedIn is an important Digital intermediary connecting graduates to employers. LinkedIn has all the tools necessary for career management, such as Job Search functions, Networking, Learning modules and Personal Branding; thus

creating an all-in-one platform for managing one's career. Entry-level employment across many sectors: In IT, BFSI, Manufacturing, Healthcare, Retail, & Startup Ecosystems - You will find many employers using LinkedIn as a Source for Candidates. The trend of having Skills Based hiring is reflective of changes in Recruitment practices; where the demand for verifiable skill sets by employers is more prominent than having a formal qualification. AI-assisted recruitment tools will also support the matching of skills and filtering of candidates and help create new hiring dynamics.

As a result of this, it can also be concluded that discoverability is variable as well; optimization of profiles and keyword match, endorsements, and recommendations directly relate to discoverability. Use of "Open to Work", as well as consistent engagement with content results in increased interaction from recruiters. Networking appears to be a primary method of finding job leads, which verifies previous research demonstrating that a large percentage of jobs are filled by referrals or business contacts rather than through direct applications. Thus, while LinkedIn can serve as a passive job board, the platform operates more as a relational hiring platform.

Despite having a large number of registered users, there are very few users that actively participate on a regular basis by posting new content. Those who do contribute are typically rewarded with a much greater volume of engagement and numerous invitations to interviews. The relatively low number of responses to applications suggests that competition is high and much of it can be attributed to application filtering via algorithms. As such, the platform encourages users to strategically utilize targeted outreach and engage with alumni through skill signaling. Merely being present on the LinkedIn platform does not guarantee employment, unless the user has optimized their profile and actively engaged on the platform.

When comparing LinkedIn with other platforms, LinkedIn has a unique focus on networking and personal branding. Naukri.com and Indeed definitely have a higher volume of job postings and generally are favoured for newer applicants, but they won't help applicants maintain a long-term presence or have recruiters reach out to them with potential job opportunities. All platforms continue to have low response rates and illustrate the importance of using more than one channel to conduct a job search.

Digital recruitment has its own set of risks. The prevalence of fake job offers incriminate online labour markets as being vulnerable to fraud theft. LinkedIn is trying to minimise this risk by using verification methods as well as AI to identify these fraudulent postings, but users should still employ digital literacy methods to protect themselves from fraudulent job offers. In addition to fraud perpetration, inequities exist at both the structural and technical levels. While there are differences in terms of gender and level of access to platforms, those who develop at a slower pace due to rural access issues or differ in the ability to develop technical skills all have barriers to effective participation on the site. While Government programs like Digital India have worked to enhance connectivity, there are many other aspects of digital empowerment besides just infrastructure; they include digitally based training, raising awareness of safety issues, and providing adequate mentorship to users.

LinkedIn Learning's growth illuminates the expanded value of the platform as it relates to enhancing employability. By providing certification options for technical and soft skill areas that can be used by graduates to address their identified competency gaps while also publicly signalling that they have acquired those skills, and allowing the graduate to show they possess those skills. However, the means by which online certification translates to actual employment outcomes needs further empirical validation.

There are limitations that restrict

generalization of these results. For example, many of the characteristics being reported rely on estimation data or research studies with limited scope due to a lack of large-scale longitudinal data that focuses on Indian graduates. Survey-based research (i.e., survey data) could suffer from self-selection bias, and therefore significantly under-represent rural and marginalized populations. The user statistics reported by the platform also tend to be based on individuals registered for the website rather than how many individuals are active on the platform, which may inflate the number of active users. Furthermore, due to the rapid changes occurring in the digital recruiting landscape, platform functionality and hiring patterns, as well as risks associated, will likely change over time.

## **CONCLUSION**

In conclusion, this research shows how LinkedIn has become one of the major digital intermediaries that shape employability outcomes for Indian graduates. Its broad uptake among those 18–34 years of age means that it has become an important part of India's rapidly evolving digital employment ecosystem by combining job searching activities with networking activities, learning opportunities and functions related to personal branding. Consequently, it is possible to see LinkedIn at the epicentre of a larger and broader transition towards skills-based hiring and technology-enabled hiring practices.

Yet, it should also be noted that whilst LinkedIn is a powerful tool, it is not automatically effective; rather it is used effectively only when used wisely by graduates that have complete profiles; actively engage in networking through target connections; and actively work on developing their skill set(s) primarily through LinkedIn Learning. As such, LinkedIn is "little more than a significant source of job referrals" and utilising this feature of LinkedIn requires higher levels of digital literacy; a clear and strategic

approach to engaging with contacts; and awareness around engaging with contacts online.

In addition to being a limiting factor in achieving fair outcomes, structural limitations are a contributing factor in the persistent skill gaps related to both soft skills and applied digital skills; these skill gaps limit graduate preparedness to enter into the workforce. Furthermore, significant digital inequalities exist (including differences in access, and disparities in both platform utilization, as well as differences in how men and women use LinkedIn for job search efforts) so that the reach and value of LinkedIn's online job searching efforts are limited. The presence of fraudulent job postings, along with low response rates to job applications, only serves to further compound the complexity of the online recruitment process.

In order to make the most of all that LinkedIn has to offer for job-seeking graduates, there are many stakeholder groups that must take action in a coordinated, collaborative manner. Graduates should use proactive engagement strategies (e.g., talking to recruiters) and

participate in continuous skill building. Educational institutions need to include digital career management training and develop soft skills training in their courses of study. Policymakers need to improve digital infrastructure and literacy initiatives and thus decrease barriers to accessing employment opportunities that exist between rural and urban areas, and between males and females. Lastly, platform providers and recruiters should continue to improve trust within the entire LinkedIn ecosystem by enhancing verification processes and implementing transparent hiring processes.

In general, LinkedIn is an effective employability tool for the digital labour market in India. Its influence has been enhanced by the ability of individuals to skill-ready and participate actively; however, these factors are hampered by certain systemic and structural issues. The platform will likely continue to play an important role in talent mobility as India's labour force continues to be transformed, which in turn will enable India's economic and demographic objectives to be achieved.

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# Review of Financial Risk Management Techniques used by Banks and Financial Institutions.

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## Abstract

This survey paper reviews the financial risk management techniques employed by banks and financial institutions as they navigate challenging and volatile markets. It covers an analysis of credit, market, liquidity, operational and systemic risk and looks at how these institutions identify, measure, monitor and control them through existing frameworks and nascent technological advancements. Based on a review of literature, industry reports, and case studies it brings together both conventional methods like VaR, stress tests and Basel regulatory standards, along with innovative developments like AI-powered risk analytics and real-time monitoring systems. It presents the role and significance of sound risk management practices in ensuring financial stability and compliance with regulatory requirements.

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## Introduction

Risk management in banking and finance represents a vital element of today's financial system. Since financial institutions operate within a highly uncertain environment which is affected by volatile market conditions, complexity of regulations, technological change and market imperfections, robust financial risk management is not just an optional item but an imperative condition for success and sustainability of financial entities.

The risks inherent in financial institutions encompass all kinds of risks such as default risks arising from bad loans, market risk from fluctuation of financial instruments, liquidity risk of lacking sufficient financial assets to meet its obligations, operational risks from internal controls failure or internal failures, as well as systemically driven risks. The crisis in 2008 clearly illustrates the negative impacts of inappropriate risk management, which ultimately led to the emergence of new

regulations for financial institutions such as Basel III for higher capital requirement and liquidity requirement.

Financial institutions provide banking services to wide variety of stakeholders including depositors, investors, creditors, government, public, etc., so they are unable to be successful without managing its risk properly. Otherwise, failure in managing risk on the part of one financial institution will cause catastrophic impacts to all market participants through systemically linked market channels, such as counter-parties exposure, disruption in payment system and loss of confidence.

Recent developments in financial technology have dramatically changed the nature of traditional risk management, by introducing new dimensions such as big data, artificial intelligence, quantitative methods and machine learning in analyzing risks, detecting risk patterns that are invisible through traditional methods. The fast expansion of new financial services

such as fintech and digital banking, as well as emerging trends such as cryptocurrency and decentralized finance, will bring a set of new financial risks to the institutions which was beyond original considerations for conventional financial risk management frameworks.

This review paper attempts to give a systematic description and evaluation for the financial risk management techniques employed in banking and financial institutions, using information derived from both existing researches, regulations and industrial examples in an attempt to identify how financial risk management should be implemented and evaluated in practice. The review paper is organized with respect to each financial risk type and examine the theoretical foundation and application in practice of risk management methods, followed by proposing a range of recommendations aimed at strengthening institutions' risk resilience in face of complex future.

This will continue to promote and foster a closer integration of risk management into strategic decision-making process. Regulators, investors and boards of directors require increasing transparency and responsibility in taking risk in financial institutions. As a vivid example, climate and cyber risks have recently been added to prudential supervision stress tests conducted by central banks, such as the Federal Reserve and the European Central Bank, and the range of financial risk management topics has gradually been expanded. The financial institutions that can adapt to this ongoing paradigm shifts with innovative risk culture, technology and talented workforce will become winner in the following decades.

## **Review Of Literature :-**

### **1. CREDIT RISK MANAGEMENT in Banking: Framework and Practice**

**AUTHOR - Basel Committee on Banking**

### **Supervision - (2017)**

The principles of sound credit risk management for banks and other banking institutions is discussed in the report. The principles cover having a sound credit risk environment, a sound credit granting process, an appropriate credit administration and monitoring process, and appropriate controls over credit risk. The techniques used to manage the banks exposure to borrowers' is outlined through borrowers, collaterals, credit scoring models, credit diversifications, etc. Also, the report states that banks should establish an effective independent credit review function not connected to the credit origination business to provide objective assessments of loan quality and the early detection of potential credit weaknesses. The principles set forth in this document will continue to shape global banking regulations and supervisory practices to form the framework for sound credit risk management in banking institutions globally.

### **2. MARKET RISK MANAGEMENT: VALUE-AT-RISK AND BEYOND.**

**AUTHOR - Philippe Jorion - (2007).**

This book on Value-at-Risk (VaR) is an introduction to risk management in financial markets. The author addresses the concept of market risk and then goes on to present a series of techniques such as parametric VaR, historical simulation, Monte Carlo simulation and the computation of possible losses on a trading portfolio given normally distributed markets over a defined period. Despite its adoption by the banking industry and acceptance by the Basel Committee to establish the framework for capital charges related to market risks, the book highlights several of VaR's disadvantages. They include VaR's failure to properly evaluate risks occurring at the tails of distributions and the inadequacy of the model during times of crisis and structural changes of the markets. Subsequently new concepts such as the Conditional Value-at-Risk (CVaR) and Expected Shortfall (ES) were introduced.

### **3. LIQUIDITY RISK MANAGEMENT IN**

## **FINANCIAL INSTITUTIONS.**

**AUTHOR - Moorad Choudhry - (2011).**

This study looks into liquidity risk in banking in its broad sense, examining both funding liquidity (the capability to raise cash, should it be needed) and market liquidity (the capability to sale securities without material impact on their price) sides. The analysis examines LCR and NSFR (liquidity coverage and net stable funding ratios) introduced by Basel III in order to assess short- and long-term liquidity of a financial institution and liquidity stress testing frameworks and intraday liquidity management. As observed in the paper, mishandled liquidity was a source of financial institutions failures in the 2007-08 global financial crisis and appeared to be capable of causing the insolvency even for "solvents" institutions ( unable to secure immediate funding needs) This paper suggest the establishment of proactive liquid buffer maintenance, a multitude of sources of funding and a strong contingency funding plan.

## **4. MANAGING OPERATIONAL RISKS IN BANKS: PRACTICES AND ISSUES.**

**AUTHOR – Anna S. Chernobai, Svetlozar T. Rachev, Frank J. Fabozzi – (2007).**

The paper is concerned with the subject of operational risks that can be described as the potential to suffer losses on account of deficiencies or failures in internal procedures, employees or systems, and/or external factors. The authors discuss the issue of measuring and modeling of operational risk in accordance with the Basel II/III Advanced Measurement Approach and the ways of addressing it. Loss distribution approach (LDA), scorecards and scenarios approach have been selected by the researchers as the major methods for modeling and assessing of operational risks, which have to be managed by allocating appropriate capital. Operational risks include events such as frauds, cyber attacks, rogue trading, mis-selling, and processing failures.

## **5. STRESS TESTING AND SCENARIOS ANALYSIS IN BANKING SUPERVISION.**

**AUTHOR – International Monetary Fund (IMF) – (2012).**

In this working paper by the IMF, the practices of stress testing in banking supervision have been reviewed, focusing on the manner in which macro stress scenarios are applied by central banks and other regulatory bodies to test the resilience of the financial institution or the financial system at large to unfavorable conditions. In this respect, there is an emphasis on the distinction between the top-down stress tests carried out by supervisors based on a set of standard assumptions and bottom-up stress tests carried out by banks using their internal risk models. The results of the review show that stress testing is an essential method for macro-prudential supervision, especially where it can help identify systemic risks that cannot be addressed using individual institution risk modeling.

## **6. THE EFFECT OF BASEL III ON BANK CAPITAL AND LIQUIDITY REQUIREMENTS.**

**AUTHOR – King, Michael R. – (March 2010).**

The research focuses on analyzing the long-term effect of the changes introduced under Basel III on capital structure and liquidity management practices in the banking industry. The author explores the implications for profitability, loan behavior and borrowing costs when capital adequacy, leverage and liquidity ratios become much higher than before. The results show that although these changes improve the stability of the banking system by requiring banks to maintain larger capital levels, they also entail substantial compliance costs, especially for small banks not having easy access to stock exchanges. The findings confirm the efficiency of Basel III reforms as an important tool for ensuring banking stability in times of economic crises.

## **7. ENTERPRISE RISK MANAGEMENT**

## **IN FINANCIAL SERVICES: An Integrated Approach.**

**Author: James Lam (2014)**

This is considered to be a significant contribution in enterprise risk management (ERM) for the financial services. This study has presented a holistic framework that allows integrating all the risks - credit, market, liquidity, operational, compliance, and reputation risk in an all inclusive system of risk governance and management from an organization-wide perspective. According to the findings, separate ERM departments functioning in an isolated manner at business unit levels are ineffective to manage the complex interdependence of risks in today's modern financial entities. This requires firm-wide approach in managing risks coupled with a strong risk culture, effective risk appetite systems, board-level involvement to foster risk-adjusted performance through incentives, clarity and speedy organization-wide response toward emerging risks.

## **8. APPLICATIONS OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN FINANCIAL RISK MANAGEMENT.**

**AUTHOR- Buchanan, B.G. (2019).**

This paper discusses the burgeoning use of AI and Machine learning in the financial risk management landscape, detailing the methods which banks and financial institutions utilize such predictive modeling, natural language processing and deep learning applications as they apply to credit scoring, anti-money laundering, and anti-fraud monitoring and market risk prediction. Benefits of such applications included real time monitoring of risks within massive data streams, improved prediction over traditional statistical models and enhanced ability to detect anomalies that indicate new risk trends, but concerns included opacity (the black box issue), data quality, auditability and regulation of AI driven models which can be overcome with explainability measures and strong accountability structures.

## **9. INTEREST RATE RISK and ASSET-LIABILITY MANAGEMENT in banks.**

**AUTHOR - Fabio Cesare Bagliano, Carlo Andrea Favero - (2000).**

This paper analyzes the issue of interest rate risk and the procedures of managing structural asset-liability imbalance in banks' balance sheets. Duration analysis, repricing gap analysis and interest rate swaps are presented as tools of ALM, while simulation of the net interest margin and economic value of equity for each interest rate path are presented as projection techniques. The authors point out that both volatile or long lasting shifts in interest rate regime can influence net interest margin and assets value as it happens during recent central banks rate hikes. They conclude that there is a necessity of implementing dynamic ALM procedures which are constantly revised, according to a dynamic context and competitive environment.

## **10. SYSTEMIC RISK AND FINANCIAL CONTAGION: MEASUREMENT AND MITIGATION.**

**AUTHORS – Tobias Adrian, Markus K. Brunnermeier – (August 2016).**

CoVaR (Conditional Value-at-Risk), defined by Adrian and Brunnermeier, is a method of measuring systemic risk contribution, which measures the spillover impact from the financial troubles of one firm on the entire financial system and other firms. The paper offers extensive evidence of how large financial institutions are interconnected and provides an explanation of how risks can spread through interlinkages between institutions. The study illustrates that the VaR (Value-at-Risk) of the individual institution is not an indicator of systemic risk contribution, making the case for systemic risk measures that incorporate externalities. This paper suggests systemic risk levies, macroprudential capital surcharges, and improved resolution systems for systemically important financial institutions (SIFIs).

## Research Methodology

### Objectives of Study :-

1. To explore the critical financial risk management strategies used by banks and financial institutions.
2. To evaluate the efficacy of the regulatory regime, such as the Basel Accord, in addressing the risk faced by institutions.
3. To discuss the use of new technologies, such as artificial intelligence and machine learning, in improving risk management.
4. To explore the problems and constraints associated with financial risk management in today's world.
5. To discuss the future trends in financial risk management.

### Hypothesis of Study :-

H0 (Null Hypothesis): The use of modern financial risk management tools by financial institutions does not have a substantial effect on the stability and resilience of banks and financial organizations.

H1 (Alternative Hypothesis): The use of modern financial risk management tools by financial institutions has a substantial positive effect on the stability and resilience of banks and financial organizations.

### Hypothesis Testing :-

Alternative hypothesis is accepted as follows:

- Capital Adequacy Requirements – Basel III regulations increase capital reserves, substantially lowering the risk of bank failure and safeguarding the interests of depositors and counterparty institutions amid financial turmoil.
- Quantitative Risk Models – Value at Risk (VaR), stress testing, and scenario analysis provide risk managers with

actionable information about potential risks, allowing for timely action to mitigate threats before they occur.

- Liquidity Management Strategies – Ensuring appropriate liquidity coverage ratios and emergency funding plans allows banks to fulfill their liabilities even amid market disruptions.
- Advanced Technology-Based Risk Management – Artificial Intelligence (AI) risk monitoring systems constantly monitor portfolios, detect abnormalities, and raise alarms, minimizing delay between risk identification and management.
- Enterprise Risk Management Strategy – An enterprise-wide ERM strategy aligns risk appetites across all departments, increasing organizational resilience and enabling better strategic decisions.

### Scope Of Study

This research is focused on examining the financial risk management strategies employed by banks and financial firms by conducting an analysis of the available literature on the topic.

This includes an examination of different types of risks such as credit risk, market risk, liquidity risk, operational risk, and systemic risk. Both traditional and modern risk management practices utilizing advanced technologies will be explored in the study.

Different institutional settings will be considered, ranging from small local retail banks to large international financial groups, to ensure a holistic view of the various risk management practices.

### DATA COLLECTION METHOD

The research will be conducted on the basis of secondary data. Sources of information will comprise of:

- Peer reviewed journal articles and academic research works related to financial risk management.
- Publications of regulatory bodies such

as the Basel Committee on Banking Supervision, Bank for International Settlements, and national central banks.

- Reports prepared by industry experts, international financial agencies like IMF and World Bank, and financial industry associations.
- Cases of banking and finance organizations having successfully adopted advanced risk management techniques.
- On-line academic database search, government financial publications, and respected finance research web sites.

This will ensure that credible and relevant data is used for this study.

### **Data Analysis**

The qualitative data gathered through these sources is analyzed via thematic analysis. Thematic analysis includes:

Searching for and identifying recurrent themes in literature surrounding financial risk management, e.g. Credit risk, liquidity risk, regulatory adherence, and the role of technology.

Contrasting and comparing the knowledge gleaned from multiple academic papers, regulatory frameworks, and practitioner-reports.

Identifying trends in adoption patterns of risk management approaches across different institution-types, geographies, and over market cycles.

Developing arguments on the pros and cons of both long-standing and novel risk management techniques.

### **Data Interpretation**

It can therefore be seen that the field of financial risk management has undergone considerable changes in the last few decades. Financial disasters of recent years, combined with the emergence of various technologies, have led to the development of

new models and practices to help organizations minimize risks. The role of regulation is especially important. The Basel Accords have been one of the main drivers of development in the banking sector as they provided guidance in terms of minimum requirements for capital, liquidity, and operational risks. At the same time, quantitative approaches, such as VaR, stress tests, and scenario analysis, are now common practice among financial managers. New approaches that use artificial intelligence, on the other hand, are gradually gaining popularity due to their superior capacity and faster execution speed.

Nevertheless, there are several challenges that organizations face when managing financial risks. They include model risk, data quality, heterogeneous regulations across different states, and difficulty implementing cultural change. In addition, with the growing number of innovations in fintech and the expansion of shadow banking, new operational and cyber risks emerge for organizations to tackle. The above discussion demonstrates that institutions must adapt their risk management practices in order to be

### **Limitations Of The Study**

1. The research relies solely on secondary sources of information, which makes first-hand observation impossible.
2. The validity of the findings will depend on the veracity of the sources examined.
3. As there have been changes in the financial markets as well as the technologies used for assessing risks, some of the conclusions could have become obsolete by now.
4. The research does not consider primary data collected during interviews with managers in banks who are responsible for handling financial risks.
5. The results can only be applied globally, since they have been gathered based on sources from different countries.

## Suggestions And Recommendations

- Reinforce integrated risk management frameworks. Financial institutions need to develop enterprise-wide risk management approaches which integrate credit, market, liquidity, and operational risk functions into a cohesive governance structure to allow more consistent oversight of risk across the organization.
- Make prudent technology and data investment decisions. Investment in AI driven risk analytics, real-time monitoring capabilities, and robust data management infrastructure are essential to the detection and responsiveness of risk management activities.
- Refine stress testing methodologies. The development of dynamic and forward-looking stress testing scenarios is needed from both regulators and institutions, integrating forward looking risks such as climate risk, cyber risk and geopolitical risks as opposed to purely backward looking events.
- Develop robust model risk management protocols. As reliance on quantitative and AI models increases, effective validation, back-testing and governance are critical to counter the risk of model errors and malicious manipulation.
- Foster top-down risk culture. The bedrock of a sound risk management system is effective corporate culture. Senior management and the Board should demonstrate leadership to engender a proactive and pervasive risk culture within all levels of the business operations.
- Harmonize regulatory approach. International standard setters need to pursue greater harmonization of risk management rules across countries. This would decrease the compliance burden on cross border operations of global banks and eliminate regulatory arbitrage opportunities.
- Propose avenues for future research. Further research into climate related financial risks frameworks, the risk

implications of central bank digital currencies on banking, and the relative performance of different AI based risk models are among the relevant research topics.

## Conclusion

The outcomes of this research validate the belief that risk management is a fluid, multidimensional field which is an essential part of ensuring that institutions and banks can exist in the long term. Moving from basic risk control to advanced quantitative techniques and AI systems, demonstrates how far and complex markets and practices have become along with learning through painful experience. Whilst regulations, such as the Basel accords, have been an extremely beneficial and vital framework, the risk management framework must transcend mere compliance and become a true capability used for decision making through the organization.

Emerging technology holds huge potential for improving risk identification, measurement and mitigation but requires robust governance, transparency and human control to ensure that AI powered models do not become rogue and that institutions act in a responsible and ethical manner. Future changes will undoubtedly arise, such as the move towards digitisation, climate change, geopolitical instabilities, cyber security threats and continued regulatory change and the continued evolution of risk management systems will be key to an institution's survival in a turbulent environment.

Further primary research will be needed based on practitioners, regulators and boards so that the real-world difficulties are brought to light and how effectively current techniques are at present, as illustrated within this paper. By improving risk management continually, not only can financial institutions secure themselves against damaging events but also ensure they build and sustain the trust and confidence of stakeholders necessary for long-term survival and success.

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# A Study of Financial Performance and Accounting Practices of ITC Limited.

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## Abstract

The performance of ITC Limited tells us how well ITC Limited is doing. We look at things like how much profit ITC Limited's making how much money ITC Limited has and how financially sound ITC Limited is. To know how well ITC Limited is doing we need to look at ITC Limited's performance. This also means looking at how sound ITC Limited is financially. ITC Limited needs to have accounting practices too. These practices make sure investors are happy and ITC Limited is following the rules. This paper looks at ITC Limited's performance and accounting practices. It uses data from 2019 to 2023 which is a five-year period. We look at ITC Limited's performance and accounting practices for each year. We also look at the Debt-Equity Ratio and Interest Coverage Ratio to see if ITC Limited is financially stable. ITC Limited checks something called Efficiency ratios, like Inventory Turnover and Asset Turnover to see how well ITC Limited is doing. This helps us understand ITC Limited's performance and financial stability. These ratios help us understand how ITC Limited is using its things and resources to earn money. ITC Limited uses these Efficiency ratios to figure out how good ITC Limited is, at its job. This study is using all these ratios to see how well ITC Limited is doing financially. This research paper is looking at the accounting practices that ITC Limited uses like how ITC Limited recognizes revenue, how ITC Limited handles depreciation, how ITC Limited manages its inventory, how ITC Limited reports on parts of the business and how ITC Limited shares information according to Indian Accounting Standards. This study found that ITC Limited has been doing well financially has had money to meet its needs and has been careful with its money. ITC Limited is also very open about its finances. ITC Limited follows the accounting rules, which shows that it is a well run company. From this study we can see that ITC Limited is financially strong because it has different businesses and is careful, with its money. This study is important because it looks at two things: the performance of ITC Limited and its accounting practices.

**Keywords:** Performance, Accounting Practices, Ratio Analysis, Ind AS, ITC Limited.

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## Introduction

Financial statement analysis is a money management function that assists people with an interest in a business to determine how well the business is performing in terms of making money paying its bills on time and using its resources wisely. As it is very important for businesses to be good at

managing their money in today's business world it will help them grow in a way for the long term. People who invest money lend money and government agencies well as the people who manage businesses really need financial statements to make good choices about how well a business is doing with money.

Financial statements, like the Balance Sheet, Statement of Profit and Loss and Cash Flow Statement are where we find out about a company. We can learn more from these statements by using tools like ratio analysis and trend analysis.

- \* The Balance Sheet shows what a company owns and owes
- \* The Statement of Profit and Loss shows how money a company is making
- \* The Cash Flow Statement shows how much money is coming in and going out

The Balance Sheet, Statement of Profit and Loss and Cash Flow Statement are very important. Financial statement analysis of ITC Limited will help us see how well the company is doing. ITC Limited financial statements will be analyzed to see if the company is making money and paying its bills on time. ITC Limited accounting practices will be looked at to see if they are clear and transparent.

Financial statement analysis of ITC Limited is necessary to evaluate the company performance. ITC Limited financial statements are the key to understanding the company health.

Profitability ratios, which are part of statements help us figure out how well a company is doing in terms of making money. These ratios are really useful. Solvency ratios help us see if a company can pay its long-term bills, which's very important. Efficiency ratios help us see how well a company is using its resources, like money and people. ITC Limited profitability ratios will be analyzed to see how well the company is doing. ITC Limited solvency ratios will be looked at to see if the company can pay its long-term bills.

Apart from the numbers accounting practices are very important to make sure that financial information is clear and easy to compare. Good accounting policies help make sure that financial information is reported in a way that makes sense. In India companies are using Indian Accounting Standards which're similar to International

Financial Reporting Standards. This helps make sure that financial reporting is clear and transparent. It is really important to make sure that revenue is recognized correctly assets and liabilities are valued correctly and depreciation is done correctly. ITC Limited accounting practices will be evaluated to see if they follow Indian Accounting Standards.

ITC Limited is a company in India that does business in areas like food, cigarettes, hotels, paper and information technology. ITC Limited has been able to do in the market because of its business model, brand development and sustainable practices. ITC Limited has a business model that helps minimize risks and create ways to make money. The company has been able to stay profitable and financially strong over the years because of management and financial practices. ITC Limited business model is the key to its success.

The goal of this research is to look at how ITC Limited has done over five years from 2019 to 2023. This research will also look at the accounting practices used by ITC Limited to see how transparent they are and how well they follow Indian Accounting Standards. This research will use financial ratio analysis and accounting policy analysis to evaluate the stability of ITC Limited. Financial statement analysis of ITC Limited will be done to see how well the company is doing.

This study is important because it helps us learn more about how Indian companies, like ITC Limited manage their performance within an accounting framework. This study also helps us understand how sustainable ITC Limited is and how good its accounting practices are. We can learn a lot from ITC Limited and its accounting practices. ITC Limited is an example of a company that is doing well in India.

## **Background of the Study**

In the business world today it is really important to look at how a company like ITC Limited's doing financially. This helps

us understand if ITC Limited is using its money and resources in a way and if ITC Limited is making a profit. ITC Limited began as a tobacco company. ITC Limited started as a tobacco company. Now ITC Limited does a lot of things like making food, hotels, paper and information technology.

The company ITC Limited has parts to it including things like food, cigarettes, hotels, paper, agriculture and information technology. Because ITC Limited is so big and does different things ITC Limited is a great example to look at when we want to see how a company financial performance and accounting practices work.

Over the ten years ITC Limited has been doing very well financially. ITC Limited has made a lot of money. ITC Limited has been careful with its spending. ITC Limited has also been very open and honest about its accounting practices, which's important for ITC Limited to do.

Looking at ITC Limited reports and statements can give us a lot of information about how ITC Limited's doing. This research is based on the information that's publicly available in ITC Limited annual reports and financial statements.

We want to see how ITC Limited performance and accounting practices have been over a period of time The performance and accounting practices of ITC Limited are really important to look at. They show how ITC Limited stays strong and follows the rules in a market where there is a lot of competition.

The company ITC Limited does business in areas like:

- Food
- Cigarettes
- Hotels
- Paper
- Agriculture

- Information technology

ITC Limited is an example to study because it is so big and does many different things. By checking ITC Limited reports and statements we can see how the company is doing financially. We can also see if ITC Limited is following accounting rules. This helps us understand how

big companies, like ITC Limited stay financially strong. It also shows us how ITC Limited follows the rules.

## Research Gap

Financial performance analysis is really important for ITC Limited to see how well it is doing. This helps us understand how efficient ITC Limited is and how profitable ITC Limited is. We can also see if ITC Limited can sustain itself in the run.

Big companies like ITC Limited need to check their results and accounting practices to make sure their financial reports are accurate. They have to do this to know where ITC Limited stands.

Many people have looked at ITC Limited performance using methods like ratio analysis and trend analysis.. There are still some gaps, in the research that need to be filled. For ITC Limited these gaps include looking into accounting analysis understanding how regulations affect ITC Limited evaluating each segment of ITC Limited separately and considering sustainability and stakeholder perception of ITC Limited.

## 1. Financial Performance and Accounting Practices Are Not Well Integrated.

Most studies look at how well a company does with money like how profit it makes and how much cash it has. These things tell us if the company is doing okay. They do not look at the rules the company uses to keep track of its money, which can change the results. For example there is research, on:

- How revenue is recognized
- How inventory is valued
- Consolidation techniques

The way that ITC Limited does its accounting has an effect, on how the company does financially. Some other studies have looked at this. They have not really thought about how these accounting policies affect how honest and clear the earnings of ITC Limited are. That is why we need to do a study that looks at how ITC Limited's doing and how the accounting policies of ITC Limited affect this. We need to look at the accounting policies of ITC Limited and how they affect the earnings of ITC Limited.

## **2. Long-term analysis is not good enough.**

Most previous studies only looked at periods, usually 3 to 5 years.

- How does strategic diversification affect stability with diversification?
- How capital structure has evolved
- How the accounting statements of ITC Limited have changed as ITC Limited has grown and reorganized
- How the performance of ITC Limited does during times

If we look at ITC Limited over a long time we will get a better idea of how sustainable ITC Limited is financially and what ITC Limited's policies are.

## **3. Segment-Wise Financial and Accounting Evaluation Is Limited.**

ITC Limited has business segments, including:

- FMCG
- Hotels
- Agri-business
- Paperboards & Packaging

Most studies look at ITC Limited as a whole without considering the performance and

accounting differences of each segment. The consolidated financial statement may hide the performance of segments. The research gap includes:

- Comparing profitability of each segment
- Efficiency of capital allocation among segments
- Accounting treatment and presentation for each segment
- Risk and return differences among business units

## **4. Changes in Regulations and Accounting Standards Have an Impact.**

There have been changes in regulations in India including:

- Improved governance
- SEBI disclosure requirements
- Existing literature does not consider the impact of these changes on ITC Limited reporting earnings volatility, asset valuation, tax strategies and disclosure quality. There is research on:
- Changes in revenue recognition under IND AS
- Fair value accounting
- Lease accounting
- Tax treatment changes
- Enhanced transparency of disclosures

## **5. Earnings Quality and Transparency of Financial Reporting Are Not Emphasized Enough.**

Although ratio analysis looks at performance it does not measure earnings quality or identify earnings manipulation. There is focus on:

- Accrual quality
- Earnings smoothing
- Homogeneity of accounting treatment
- Auditors comments
- Disclosures of related-party transactions

It is important to understand ITC Limited transparency for investors and regulators. However most studies are descriptive than analytical, in assessing reporting integrity.

ITC Limited performance and accounting practices need to be evaluated in more detail to understand the company true financial health and sustainability.

### **Research Methodology**

This study is about ITC Limited. We got our information from ITC Limited reports from 2019 to 2023 and from websites like NSE and BSE that have information about ITC Limited. We also looked at announcements from the stock exchange to learn more about ITC Limited.

We want to see how ITC Limited is doing. So we look at the numbers of ITC Limited.

- We look at how money ITC Limited is making.
- We also check if ITC Limited has money to pay its debts. We look at the Current Ratio of ITC Limited and the Quick Ratio of ITC Limited.
- Then we check the health of ITC Limited.
- We want to know if ITC Limited is using its resources well. So we look at the Inventory Turnover of ITC Limited and the Receivables Turnover of ITC Limited to see how efficient ITC Limited is.

We also want to know how ITC Limited does its accounting. We look at the rules ITC Limited follows to count its money value the things it owns value its inventory report on parts of its business and report on its responsibility. We look at how things changed for ITC Limited from 2019 to 2023. The annual reports from ITC Limited give us information, about the health of ITC Limited. We use all this information to see how ITC Limited is doing.

### **Key Objectives of the Study**

The main goal of this study is to see how well ITC Limited has done over the five years from 2019 to 2023. We want to know if ITC Limited has been doing a job with

making money being profitable and getting a good return on investment during this time. We will look at ITC Limited. Check its performance, in these areas over the last five years. The study would focus on the earning capacity of the company, ITC Limited, through its performance. The other important goal is to check ITC Limited liquidity position.

This means we need to find out if ITC Limited can pay off its liabilities.

- We shall verify ITC Limited's liquidity position through its liquidity ratios such as Current Ratio and Quick Ratio.
- We shall verify ITC Limited's solvency position through its capital structure, debt position, and term financial stability using its debt equity ratio and interest coverage ratio.

In addition, we shall verify ITC Limited's resource utilization efficiency through its activity ratios such as inventory turnover ratio and asset turnover ratio. We also want to examine ITC Limited accounting policies. The research will look at ITC Limited revenue recognition, depreciation, inventory, segment reporting and disclosure. We will check if these are in line, with Indian Accounting Standards (Ind AS). If they help make financial reporting accurate. Finally the research will try to understand ITC Limited stability and corporate governance by combining performance and accounting policies analysis. The goal is to give insights that can help investors researchers and financial analysts understand ITC Limited situation.

### **Scope of The Study**

The research on the company, which is ITC Limited in this case, focuses on how the company is performing financially from the year 2019 to 2023. The research also focuses on the analysis of the company's statement such as the Balance Sheet, Profit and Loss Statement, and the Cash Flow Statement. This helps understand ITC Limited performance.

The main goal is to study ITC Limited data using ratio analysis. When analyzing ITC Limited profitability we look at these ratios:

- Net Profit Margin
- Operating Profit Margin
- Return on Equity
- Return on Capital Employed.

To see if ITC Limited can pay its short-term debts we consider:

- Current Ratio
- Quick Ratio.

For ITC Limited term financial health we look at:

- Debt-Equity Ratio
- Interest Coverage Ratio.

To check ITC Limited efficiency we examine:

- Inventory Turnover Ratio.
- Asset Turnover Ratio.
- Working Capital Management.

The research also looks at ITC Limited accounting practices, like

- How Revenue Is Recognized.
- How Depreciation Is Calculated.
- How Inventory Is Valued.
- How Contingent Liabilities Are Handled.

Also the study checks ITC Limited segment reporting and disclosures to ensure they follow Indian Accounting Standards.

This research uses information from ITC Limited reports and other financial sources. No interviews or surveys are needed.

The study only focuses on ITC Limited not comparing it to companies or industries. The findings are specific to ITC Limited and the chosen time period.

This study focuses on the accounting aspect of ITC Limited.

It does not consider marketing management or economic impact on employees. The research on ITC Limited is, about the company accounting aspects.

| Ratio                             | FY2021                            | FY2022          | FY2023          |
|-----------------------------------|-----------------------------------|-----------------|-----------------|
| Net Profit Margin                 | —                                 | 25.5 %          | 26.9 %          |
| Operating Profit Margin           | —                                 | 33.6 %          | 35.6 %          |
| Return on Equity (ROE)            | 21.19%                            | 25.10 %         | 29.43 %         |
| Return on Capital Employed (ROCE) | 24.40%                            | 29.00 %         | 33.10 %         |
| Current Ratio                     | 3.27                              | 2.81            | 2.89            |
| Quick Ratio                       | 2.18                              | 1.80            | 1.90            |
| Debt-Equity Ratio                 | 0.00                              | 0.00            | 0.00            |
| Interest Coverage Ratio           | Not significant (negligible debt) | Not significant | Not significant |
| Inventory Turnover Ratio          | 2.13 times                        | 2.52 times      | 2.61 times      |
| Asset Turnover Ratio              | 0.65 times                        | 0.80 times      | 0.87 times      |

## Working Capital Management

**Working Capital = Current Assets – Current Liabilities**

Since the **current ratio stayed well above 1** in all three years, ITC maintained strong short-term liquidity.

For a short research-paper line, you can write:

- **FY2021:** strong working capital position (**Current Ratio 3.27**)
- **FY2022:** adequate working capital (**2.81**)
- **FY2023:** healthy working capital (**2.89**)

### **Important note for your paper**

For **Debt-Equity Ratio** and **Interest Coverage Ratio**, ITC's annual report states these are

**not very relevant because the company carries negligible debt.**

### **Conclusion**

The case study on ITC Limited looked at how the company did and its accounting from 2019 to 2023. Looking at the statements and ratios shows that ITC Limited is in a financial spot. ITC Limited has been making money, which means it can handle its costs. This is because ITC Limited is in different areas, which helps it bring in steady money without relying on just one area.

ITC Limited can make money because of this. ITC Limited can easily pay the money it owes in the term. This shows that ITC

Limited takes care of its money. ITC Limited does not borrow much money. This means that ITC Limited is not taking on a lot of risk. This is a sign that ITC Limited is financially stable in the long term.

ITC Limited follows the rules for accounting. This makes ITC Limited financial statements easy to understand. ITC Limited is open about how it makes money how it deals with things wearing out and how it values the things it has in stock. ITC Limited also explains each part of its business clearly.

The study says that ITC Limited has a foundation and is run well. This puts ITC Limited in a position to grow and do well. Looking at how ITC Limited does and its accounting practices helps us understand where ITC Limited stands financially. ITC Limited does a job with its finances and accounting. ITC Limited is, in a financial spot because of the things it does. ITC Limited has a financial future.

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### **ABOUT THE AUTHOR**

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# Impact of Artificial Intelligence and Blockchain Technology on the Effectiveness of HR Functions in Modern Organizations

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## ABSTRACT

The evolving digital ecosystem has caused major changes in the way Human Resource (HR) functions operate as organizations are using Artificial Intelligence (AI) and Blockchain technology for these functions. This research study evaluates the effects of AI and Blockchain technology on HR function effectiveness in modern organizations. A secondary research methodology was used to analyse recent academic literature and industry reports, along with empirical studies that show how these emerging technologies impact HR efficiency, security, transparency, and strategic contribution. The results of this study reveal that AI increases recruitment accuracy, workforce analytics, employee engagement and decision-making efficiency through the automation of repetitive tasks and provision of predictive insights. In addition, Blockchain technology increases HR governance by providing secure data management, credential verification, payroll transparency and fraud prevention. The combination of AI and Blockchain creates synergies through the deployment of intelligent automation systems along with secure and tamper-proof systems ultimately resulting in an increase in overall effectiveness of the HR function. However, challenges such as implementation costs, data privacy issues, ethical concerns and skill gaps will each be major factors that must be considered by organizations before implementing AI and/or Blockchain technologies in HR functions. In conclusion, the research literature provides support for the alternative hypothesis that AI and Blockchain technologies positively impact overall HR function effectiveness in today's organizations. Furthermore, this research study contributes to an improved understanding of how digital technologies work together to increase HR performance and to create strategic value for organizations.

**Keywords:** Artificial Intelligence, Blockchain Technology, Human Resource Management, HR Effectiveness, Digital Transformation, Strategic HR

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## INTRODUCTION

Rapid digital transformation and technological advances have changed how companies operate. Companies now compete with each other using technology as their primary tool for effectively and efficiently conducting business. Because of this rapid change, there has been a huge shift in the role of HRM (human resource

management). No longer is HRM responsible only for processing payroll, keeping records, or complying with policies and procedures. The new role of HRM is to build an organization's talent pool by hiring new employees, developing employees, increasing employee engagement, and providing support to help the organization perform well over time. As companies adopt new technologies in order to remain

competitive, HRM functions will continue to change.

There are two major innovations that are impacting this change to HRM: artificial intelligence (AI) and blockchain technology. AI and blockchain have moved from being an abstract concept into being concrete and real-world technologies being used across industries. This research will analyze how AI and blockchain contribute to increased efficiency within the HRM function in today's organizations.

HR Technology enhances the speed, precision, and consistency of human resources (HR) processes. In recruitment, HR technology offers software and tools that help recruiters search through many resumes, find qualified candidates, and assist in providing a shortlist of applicants who meet the qualifications for the position. This feature reduces manual effort for recruiters and saves time as well. Performance analysis of employees, planning the workforce, and predicting employee turnover using HR technology, are additional functions where HR technology can be used. Many companies utilize HR technology chatbots that provide employees with answers to many of their common work-related questions, such as questions about hours requested for leave, policies, and benefits. Since many routine functions of HR professionals can be completed with HR technology, HR professionals can focus on more high-level strategic HR functions, such as employee development, succession planning or leadership development, and building an engaged organizational culture.

Blockchain technology is a secure and transparent method for companies to manage employee information, including, but not limited to, educational background, employment history, employment contracts, and payroll records. Companies can trust the information stored on the blockchain because it is technically difficult to alter the information that is on the blockchain. In addition, the blockchain will improve trust because the data is easily verifiable and eliminates the need for fraudulent data

manipulation. The blockchain can also expedite the authentication process when performing background checks. In a multinational corporation, the blockchain can help support cross-border payroll management and documentation. By increasing the security and accuracy of employee data, the blockchain creates a heightened level of trust between employers and employees.

By combining Artificial Intelligence and Blockchain technologies we can potentially create new value. AI helps organizations with faster and more informed decisions, while Blockchain gives us confidence in the accuracy and security of data used for those decisions. There is a great deal of potential for these technologies to enhance recruiting, employee engagement, transparency, and overall effective personnel management. Organizations may experience other challenges associated with adopting these technologies (e.g., high implementation costs, concerns about security and privacy of data, lack of adequate technical skills, and resistance to changing to newer technologies). These factors will also influence how significantly they will improve their effectiveness in human resources functions.

This study will explore the extent to which AI and Blockchain technologies have a positive, significant impact on the effectiveness of HR practices in contemporary businesses. The focus will be on how AI and Blockchain can enhance HR efficiency, security, transparency, and decision-making, and how they ultimately strengthen the strategic value of HR in today's digital workplace.

### **HR Effectiveness in the Digital Era**

The measure of HR effectiveness is based upon the ability of the HR function to fulfill the business objectives of an organization through the use of efficient processes, accurate decision making, provision of an adequate level of employee satisfaction, and compliance with the relevant laws and regulations. In addition, to these more

traditional measures of HR effectiveness in the digital workplace are also based on its ability to have a positive impact on overall organizational performance as well as the employee experience.

As an example, today's organizations require HR departments to be able to quickly respond to changes in the needs of the workforce, such as the recruitment of new employees must be undertaken more rapidly and accurately than ever before. Furthermore, performance management systems must provide the organization with timely and reliable information. Therefore, HR will need to respond to employee issues within established timelines. In doing so, organizations must be able to demonstrate that they are providing employees with fairness, transparency and protection of their data. This increased expectation on the part of organizations has put additional demands on HR to increase their efficiency and accountability.

Typically, most traditional HR systems do not utilize position-based documentation, do not utilize a consistent database, and utilize time intensive verification processes. These three issues negatively impact HR's ability to be efficient, increase the likelihood of making errors, and create a lower quality of decision making. Ultimately, in the highly competitive marketplace of today, if there is a delay in the time it takes to hire an employee, there is an error on the payroll somewhere, or if an HR function has improperly planned for the workforce, it directly impacts the organization's ability to achieve its business objectives. Thus, it is critical for HR effectiveness in the digital workplace to be defined through increased operational efficiency, accuracy of data, transparency in HR operational processes, and the ability to make sound strategic decisions.

Human Resources effectiveness has been increasing due to technological improvements. Digital technology allows improved records data management and the ability to generate reports as they happen. As companies continue to grow and operate

throughout the world, it is critical that secure and intelligent HR systems continue to become more important. This creates opportunities for the implementation of advanced technologies (e.g., Artificial Intelligence and Blockchain) into HR operations.

### **Role of Artificial Intelligence and Blockchain in Enhancing HR Effectiveness**

The use of artificial intelligence will allow the Human Resource department to be more efficient and effective. Hiring managers will be able to use AI-based software programs to find the best candidates for the job quickly. AI tools can match a candidate's resume with the job requirements fast and therefore reduce the time taken to hire a candidate. Once they have been hired, candidates will be able to identify suitable candidates more accurately.

Additionally, AI can assist in analysing data for predicting when an employee will leave; how well an employee performs; and what type of training the employee needs. By automating many of the repetitive administrative functions, HR professionals will have more time to focus on strategic planning, employee development and initiatives to engage employees.

Blockchain technology will also help improve efficiency and accuracy within HR by providing a secure and transparent storage method for data relating to employees, such as employee records, payroll, contracts, etc. By having these confidential documents stored in a secure environment, there is less chance that someone will manipulate the data, thus increasing trust between the employer and employee. Also, with verified digital credentials stored in the cloud, it is much easier for employers to complete a thorough criminal background check on prospective employees, thereby increasing the accuracy of the recruitment process as well as decreasing the amount of time it takes to process a request for a criminal background check.

Utilizing AI with Blockchain technology will improve both Operational Efficiency and Data Integrity through improved decision-making and speed with the security and accuracy that Blockchain provides for the underlying data of those decisions. This partnership promotes transparency, reduces errors, enhances compliance, and increases trust in organizations. As a direct result of this, HR will achieve greater operational effectiveness and have a greater impact on contributing towards strategic goals.

By combining these technologies, HR operations can improve their effectiveness as a whole by improving speed, accuracy, security, and trust in employees within modern organizations.

## **RESEARCH METHODOLOGY**

### **Objectives of the Research**

1. To examine the role of Artificial Intelligence in enhancing the effectiveness of HR functions in modern organizations.
2. To analyze the contribution of Blockchain technology in improving transparency, security, and trust within HR operations.
3. To assess the combined impact of AI and Blockchain integration on HR efficiency, decision quality, and strategic value creation.
4. To identify the key challenges and limitations organizations face when adopting AI and Blockchain in HR functions.
5. To provide evidence-based insights that contribute to academic understanding and managerial practice regarding digital transformation in HR.

### **Approach to Hypothesis Testing**

Since this study is based on secondary data, hypothesis testing is conducted through systematic thematic analysis of existing empirical studies. The findings from peer reviewed research, industry reports, and documented case studies were examined to identify consistent patterns regarding the

impact of Artificial Intelligence and Blockchain on HR effectiveness.

The evaluation is based on whether the majority of credible studies demonstrate measurable improvements in HR efficiency, transparency, decision quality, and strategic value following the adoption of these technologies.

### **Hypothesis**

H0: Artificial Intelligence and Blockchain Technology have no significant impact on the effectiveness of HR functions in modern organizations.

H1: Artificial Intelligence and Blockchain Technology have a significant positive impact on the effectiveness of HR functions in modern organizations.

### **Evidence from Literature**

#### **Evidence Supporting AI Impact on HR Effectiveness**

AI adoption has been shown in a variety of studies to increase recruitment speed, enhance employee productivity, and improve the accuracy of the decision-making process. Studies also show a reduction in manual labor resulting in greater predictive workforce planning. Each of these advances impacts how effective human resources are and how well the HR department makes decisions, which are fundamental measures of human resources' effectiveness.

Evidence Support H1 and not H0

#### **1. Evidence Supporting Blockchain Impact on HR Security and Transparency**

There are studies investigating the concept of an integrated digital HR ecosystem that indicate the combination of AI analytical capability and Blockchain-secured data provides for more robust and reliable HR systems. The integration of these two technologies improves speed of operation and trust in data.

Despite the fact that the volume of available

empirical research about combinations of these two technologies is limited, there is early evidence to support positive synergy effects from the use of these two technologies in integrated digital HR ecosystems.

## **2. Evidence on Combined AI and Blockchain Integration**

Studies discussing integrated digital HR ecosystems suggest that combining AI analytical capability with Blockchain secured data creates stronger and more reliable HR systems. The integration enhances both operational speed and data trustworthiness.

However, literature on combined empirical measurement remains limited. Despite this, available evidence suggests positive synergy effects.

## **Interpretation of Findings**

The studies that were looked at show that Artificial Intelligence and Blockchain are good for the Human Resources department. Artificial Intelligence helps make the hiring process better it helps plan the workforce. It helps make decisions based on data. This is because Artificial Intelligence reduces the amount of work that people have to do and it makes things more accurate. Blockchain makes things more transparent. It keeps employee records and payroll information safe. Artificial Intelligence and Blockchain work together to make the Human Resources department run smoothly and they help employees trust the systems that the Human Resources department uses. Artificial Intelligence and Blockchain are important, for the Human Resources department.

The thing is, there are some problems with things like cost and people not wanting to change and some people are also worried about what's right and wrong. Even with these problems the results of the studies are very positive. A lot of the studies show that if you plan carefully and make sure

everyone is doing what they are supposed to do you can get around these problems. Companies that use these technologies say they are making better decisions following the rules better and keeping their data safer. All the information from sources says the same thing, which means the idea we were testing is probably correct. Companies that use these technologies, like the ones we were talking about are doing well. These new technologies are helping companies. That is what the studies show.

## **Decision on Hypothesis**

Based on the thematic analysis of secondary data:

The Null Hypothesis (H0<sub>1</sub>) is rejected.

The Alternative Hypothesis (H1<sub>1</sub>) is accepted.

Artificial Intelligence and Blockchain technology have a significant positive impact on the effectiveness of HR functions in modern organizations, as supported by existing academic and industry evidence.

## **Collection of Data**

This study employs secondary research variables using existing data instead of creating new data; this allows researchers to (continue) evaluate all arguments for existing organizations and types of industries that currently show evidence (of) AI & Blockchain inside HR.

The inputs used to conduct this investigation were as follows:

1. Peer Reviewed (Scholarly) Articles: Articles from peer reviewed journals (via Scopus, JSTOR, Emerald Insight, and others) were used to collect theoretical & empirical evidence regarding AI & Blockchain activity in Human Resource Management.
2. Industry Reports: Assessments produced by hundreds (of) various consulting firms (i.e., McKinsey, Deloitte, Gartner, etc.) were reviewed to ascertain their use of

AI & Blockchain – as well as collect data regarding individual organizations using these technologies.

3. Conference Proceedings: Many International HR and Digital Transformation Conferences publish Proceedings which contain papers written by authors who presented at those conferences.
4. Books and Case Studies: Various types of academic publications and documented organizational experiences were reviewed regarding the use of Artificial Intelligence and Blockchain in HR.

### **Limitations of the Research**

The present study does have several limitations:

1. Secondary Data Source: This study is exclusively based upon secondary data, and does not include the collection of original primary data (such as survey interviews), limiting the depth of the contextual understanding of the topic.
2. Literature Dependent: The findings of the current study individually rely upon the accuracy and reliability of the published research previous to this study, which may impose limitations upon the current study due to limitations of the source literature.
3. Rapidly Evolving Technological Progression: Both artificial intelligence and blockchain continue to evolve at a rapid pace, and this rapid evolution may produce new developments that will occur after the completion of this study.
4. Contextual and Geographic Differences in Organizational Adoption of Technology: Organizational adoption differentially occurs across various industries and locations/regions, and of varying sizes, which may limit the degree of generalization that can be

applied to individual characteristics of the industry in this study.

5. Limited integrated AI and Blockchain Applications Research: The empirical research examining the integrated application of artificial intelligence and blockchain in HR is very limited, making it difficult to analyze the degree to which the two technologies may be able to achieve synergistic benefits.
6. No Measurement of Financial Impact: This study does not provide a direct measurement of how integrated applications of AI and blockchain will financially impact organizations, due to a lack of availability of standardized data on AI and blockchain, and a lack of consistency in return on investment (ROI) metrics used across organizations.
7. Language Limitations: Only articles published in English were included in this study, so research efforts documented in languages other than English will have been excluded from the current study.
8. Possible Publication Bias: Due to the fact that all empirical research included in this study is published literature, the findings of the included studies may be influenced by an existing publication bias that favors reporting of studies with statistically significant (positive) findings as opposed to studies that fail to demonstrate a statistically significant (multiple) finding.

Despite these limitations, this structured analysis provides an understanding of how artificial intelligence and blockchain impact HR effectiveness within contemporary organizations.

## **REVIEW OF LITERATURE**

1. **Zhang, H. (2024). Exploring the Impact of AI on Human Resource**

**Management: A Case Study of Organizational Adaptation and Employee Dynamics. *IEEE Transactions on Engineering Management*, 71, 14991-15004.**

<https://doi.org/10.1109/tem.2024.3457520>.

This study examines the impact of Artificial Intelligence (AI) on Human Resource Management (HRM) practices using data from 285 employees and 144 HR professionals across seven organizations. The findings indicate that AI integration improves recruitment efficiency, employee productivity, job satisfaction, and workforce planning while reducing turnover rates. Positive perceptions of AI in HR are also linked to higher organizational trust and employee engagement. Overall, the study highlights AI's role in enhancing HRM effectiveness and supporting sustainable organizational performance.

**2. Daroni-Gherman, C., & Cosma, A. (2025). The impact of artificial intelligence (AI) on human resources activity in an organization (HR). *Simpozion Științific al Tinerilor Cercetători. Ediția a 22-a. Culegere de lucrări științifice. Vol 2*. <https://doi.org/10.53486/sstc2024.v2.39>.**

This paper examines the impact of Artificial Intelligence (AI) integration in Human Resource Management (HRM). AI enhances efficiency by automating repetitive administrative tasks, allowing HR professionals to focus on strategic functions such as recruitment, employee development, and workplace engagement. Additionally, AI adoption influences organizational culture and labor relations, supporting a more productive and motivating work environment.

**3. Jhansi, D., Priya, V., Scholar, P., Venkata, C., & Professor, K. (2024). AI in HR: Revolutionizing Recruitment, Retention, And Employee Engagement. *Journal of Informatics Education and Research*.**

<https://doi.org/10.52783/jier.v4i3.1410>.

The integration of Artificial Intelligence

(AI) in Human Resource (HR) management is transforming traditional practices by improving efficiency and strategic decision-making. AI-driven tools enhance recruitment, predict employee turnover for better retention, and support personalized employee engagement initiatives. Overall, AI optimizes HR functions and promotes a more agile and responsive organizational culture, helping organizations achieve sustainable growth in a digital workplace.

**4. Malik, A., Budhwar, P., Mohan, H., & R., S. (2022). Employee experience –the missing link for engaging employees: Insights from an MNE 's AI -based HR ecosystem. *Human Resource Management*.**

<https://doi.org/10.1002/hrm.22133>.

This study analyzes a digitalized AI-assisted Human Resource Management (HRM) ecosystem within a global IT consulting multinational enterprise. It develops a theoretical framework to examine how AI-driven HR applications enhance employee experience (EX) and employee engagement (EE). The findings indicate that AI-assisted HRM improves employee productivity and HR effectiveness while strengthening overall engagement within the organization.

**5. Mp, M. (2021). Blockchain Technology: The Emerging Human Resources Challenge. <https://doi.org/10.20944/preprints202105.0035.v1>.**

Emerging technologies such as Blockchain and Artificial Intelligence are transforming business operations, including Human Resource (HR) functions. HR departments often spend significant time verifying candidate credentials to ensure accurate recruitment. Technology-driven processes for talent acquisition and management improve efficiency compared to traditional methods, despite higher transactional costs. This paper explores the role of Blockchain in enhancing trust, confidentiality, security, fraud prevention, and productivity in HR activities, along with its implications for organizations adopting this technology.

6. Singh, R., N., Singh, R., Bhatnagar, P., Kaushik, D., & Chauhan, R. (2025). Blockchain and Ai-Based Smart Hr Management System for Secure and Transparent Employee Records. *2025 6th International Conference on Data Intelligence and Cognitive Informatics (ICDICI)*, 269-275. <https://doi.org/10.1109/icdici66477.2025.11135283>.

This study proposes an AI- and blockchain-based HR management system to improve automation, security, and decision-making. Unlike traditional HR systems, it uses machine learning for employee retention and performance prediction and blockchain for secure record-keeping. The model achieves 92% accuracy and an AUC-ROC of 0.95, outperforming traditional methods while enhancing transparency and data security.

7. Gustiah, I., & Newell, H. (2025). Enhancing Human Resource Management Efficiency through Scalable Blockchain Networks with an Adaptive AI Approach. *Startupneur Business Digital (SABDA Journal)*. <https://doi.org/10.33050/sabda.v4i2.777>.

Blockchain technology faces scalability and efficiency challenges as network usage increases. This study proposes an adaptive Artificial Intelligence (AI)-driven framework to improve Blockchain performance by optimizing transaction scheduling, resource allocation, and congestion control. Using real-time and historical data, the model reduces latency, enhances throughput, and improves energy efficiency. The integration of AI with Blockchain offers a flexible solution to overcome scalability limitations and supports its wider adoption across sectors such as finance, healthcare, supply chain, and human resource management.

8. Maheswari, K., Kumar, A., Humnekar, T., Prabhakar, A., Haralayya, B., & N, M. (2024). Impact Of AI And Blockchain Technology In The Growth Of Digital HRM Transformation

As A Function Of Management. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.5000239>.

In the contemporary landscape of organizational management, the evolution of Human Resource Management (HRM) is prominently influenced by the rapid advancement of Artificial Intelligence (AI) and Blockchain technologies. This paper rigorously examines the profound impact of AI and Blockchain on the trajectory of digital HRM transformation.

9. Nandi, A. (2025). Artificial Intelligence & New Vistas of Technology in Human Resources. *International Journal For Multidisciplinary Research*. <https://doi.org/10.36948/ijfmr.2025.v07i02.41499>.

This study explores the integration of Artificial Intelligence (AI) in Human Resource (HR) practices to enhance productivity and support sustainable development. The findings show that AI improves efficiency in recruitment, talent management, and employee engagement by automating routine tasks. However, ethical concerns and the need for employee training must be addressed for effective implementation.

## SUGGESTION AND RECOMMENDATION

The recommendations presented in this chapter come directly from patterns that emerged repeatedly across the academic literature, industry reports, and case studies reviewed in this research. Based on these findings, the following suggestions are offered for organizations seeking to enhance HR effectiveness through AI and Blockchain technologies.

### Strategic Adoption of AI in HR

Organizations should implement Artificial Intelligence systematically in order to minimize disruption to current operations while testing out and improving potential

developments. A phased approach will begin by utilizing the AI solution in the highest impact areas such as screening job applicants and providing analytics for the company's workforce as these are both areas where AI has already proven successful in the past. Clearly defined use cases for how to use AI can provide fast results, which will help generate interest in implementation across the organization.

HR departments will need to train employees how to understand the inferences drawn from algorithms used to support HR functions as well as to recognize when it is necessary to overrule artificial intelligence input. The key will be to ensure that AI is being used as a support tool to aid decision-making instead of being viewed as an independent authority on any aspect of HR.

Training will include educating employees on how algorithms generate results and where they may have blind spots as well as some established best practices for determining whether or not to question or verify AI output. A thoughtful and methodical approach to implementing AI ensures that human intuition, experience, and judgment remain at the centre of the process and ultimate decision-making.

### **Strengthening Data Security through Blockchain**

Organizations that manage sensitive employee information may want to consider the potential advantages that blockchain can bring for use in secure record keeping, verification of credentials, and payroll management. The decentralized / distributed nature of blockchain creates resistance to tampering, which can reduce the potential for fraud; create increased levels of transparency; and build the level of trust between employees and employers over time. Organizations should consider technical feasibility, regulatory requirements, and integration with existing systems before implementing blockchain solutions. Data protection laws, such as the

GDPR, require organizations to be vigilant regarding employee consent when using employee data and the employee's right to change their data. A well-designed implementation should increase security while minimizing the potential for expensive failures.

By conducting feasibility assessments, an organization can identify things it does not currently have in place to support the implementation of blockchain and to determine if it will build its own internal capabilities or whether it will partner with other providers to build out the internal capabilities needed to support the organization's blockchain initiatives. In addition, organizations must ensure compliance with the laws and regulations regarding employee consent and rights in relation to their data when using blockchain solutions. The more thoroughly an organization plans for implementation, the lower the chance of experiencing setbacks, and the greater the potential for both security and transparency of information on the blockchain.

### **Integration of AI and Blockchain for Enhanced HR Effectiveness**

By combining AI and Blockchain technology instead of using them individually, companies gain more advantages. Artificial Intelligence analysed data (provides analytical intelligence) while Blockchain (data still secure and dependable) stores it securely. Created from this union, businesses can rely on stronger recruitment, have better compliance and make accurate workforce plans. The integration of both technologies should be done with consideration being given to the size of your business, how digitalized are you and what capacity/resources do you have. Your goal should be improving HR outcomes in measurable ways rather than improving HR outcome solely through technology.

Global Corporations tend to implement fully integrated systems; smaller businesses often

adopt a ‘modular’ approach to integration with their environment or industry. The integration of AI intelligence and Blockchain trust into your business should focus on areas of overlap that provide you with measurable improvement. Further to this, the integration of AI and Blockchain into your business must always accompany a clear rationale by why this will be beneficial and how it will ultimately help the organization.

### **Investment in Training and Digital Skills**

There are two major obstacles in adopting technology in the HR field: a lack of technical understanding and resistance to adopting new technologies. To overcome these barriers, organizations need to provide ongoing training to support continuous learning and skills enhancement for HR professionals to keep pace with advancing technologies. Foundational training will help establish understanding of new tools such as analytics, Blockchain, etc. Ongoing training will help HR professionals become proficient using these tools and allow them to serve as a liaison between technical teams and business units. Supporting your employees through ongoing training will provide long-term sustainability for digital transformations vs. relying upon temporary consultants for implementation support.

By building strong internal capabilities, organizations will reduce their reliance upon outside consultants and vendors; thus reducing costs over the long-term and improving self-sufficiency over time. Training should be an ongoing effort, rather than a one-time event related to system implementation.

### **Ethical Governance and Transparency Framework**

Organizations have to have established governance that addresses bias, privacy, and ethical use of AI when using AI technologies. To assist in developing good and valuable governance policies regular audits of bias, the creation of diverse

oversight teams, and establishing accountability for all AI-related decisions made by organizations is essential. Additionally, processes must be in place for employees to have the right and means to contest decisions made by computers using AI algorithms.

Blockchain systems should also meet data protection regulations (e.g., the EU's GDPR) and respect the consent of employees to use their personal data and have that data stored on the Blockchain. Finally, organizations will build trust and acceptance of technology by communicating clearly, routinely, about how they use technology.

### **Recommendations for Future Research**

Future studies should collect original data for quantifying the effects of artificial intelligence (AI) and blockchain technology on human resource (HR) performance indicators through statistical analyses. Having universal metrics that define HR effectiveness will allow for harmonic comparisons of HR effectiveness across various organisational contexts. Performing comparative studies by comparing different types of organisations (i.e., by industry, geographic region or organisation size) would shed light on how differing contexts impact the results from implementing new technologies in HR delivery. Longitudinal studies of organisations can also assist in understanding whether the benefits directly associated with adopting AI and blockchain in HR delivery will last over time as these technologies change.

Many current literature sources focus primarily on large multi-national corporations; however, research specifically concerning small and medium-sized enterprise organisations is also necessary. Longitudinal studies assessing the behaviour of various organisations in relation to technology usage over time will also provide organisations with additional guidance on how to successfully manage the ongoing evolution occurring at the intersection of technology and HR delivery.

DATA ANALYSIS AND VISUALIZATION

This chapter presents the analysis of data related to the impact of Artificial Intelligence and Blockchain on HR effectiveness. Based on secondary research, a structured dataset is used and visualized through Power BI to highlight key patterns across HR functions.

Data Table (Dataset Used)

| HR Function            | Technology | Impact (%) | Efficiency Gain (%) | Adoption Level (%) |
|------------------------|------------|------------|---------------------|--------------------|
| Recruitment            | AI         | 78         | 70                  | 75                 |
| Employee Support       | AI         | 72         | 68                  | 70                 |
| Performance Management | AI         | 74         | 69                  | 68                 |
| Workforce Planning     | AI         | 76         | 72                  | 65                 |
| Payroll                | Blockchain | 70         | 66                  | 60                 |
| Data Security          | Blockchain | 85         | 75                  | 72                 |
| Credential Verify      | Blockchain | 82         | 73                  | 68                 |
| Compliance             | Blockchain | 80         | 70                  | 65                 |

Table 1: Dataset Used for Power BI Analysis

The following dataset was created based on trends identified from secondary sources to support visualization and analysis of the impact of Artificial Intelligence and Blockchain on HR functions.

Power BI Dashboard Overview

A Power BI dashboard was developed to visually represent the impact of AI and Blockchain on HR effectiveness. The dashboard includes multiple visualizations highlighting efficiency, adoption levels, and

functional impact.

Visualization and Interpretation

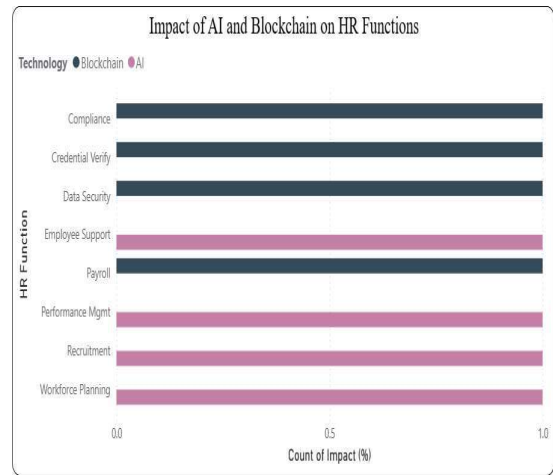
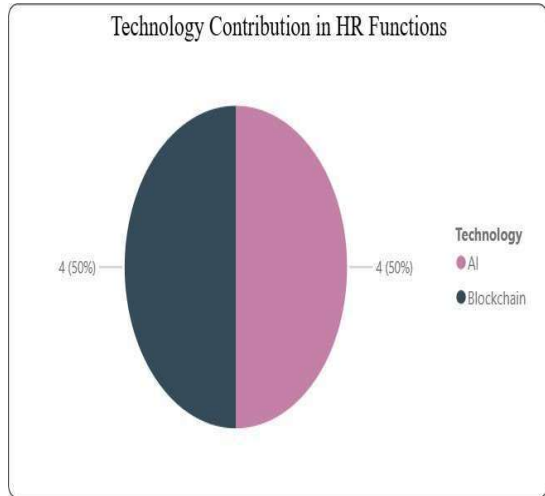


Figure 1: Impact of AI and Blockchain on HR Functions

This chart shows that AI has a strong impact on recruitment and workforce planning, while. Blockchain has a higher impact on data security and credential verification. This highlights how both technologies



contribute differently to HR effectiveness.

Figure 2: Technology Contribution in HR Functions

The chart shows that AI is widely used across multiple HR functions, while Blockchain is more concentrated in security and compliance areas, indicating their complementary roles.

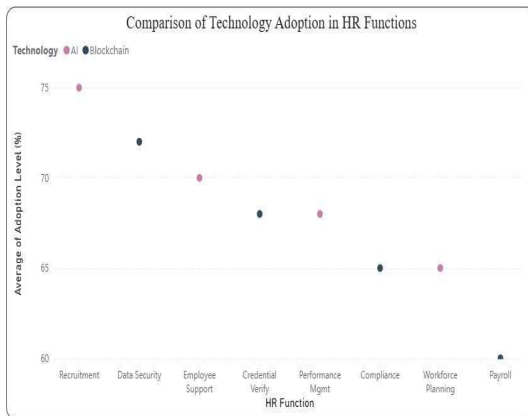


*Figure 3: Comparative Adoption of AI and Blockchain across HR Functions*

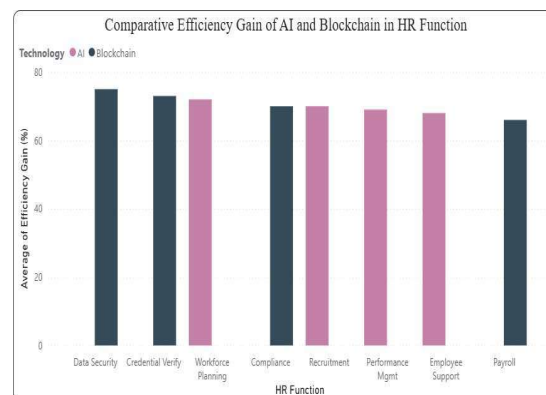
The chart shows that AI adoption is slightly higher across HR functions, while Blockchain adoption is steadily increasing, particularly in data sensitive areas. The visualization indicates that both technologies improve efficiency, with AI contributing to speed and automation, while Blockchain enhances accuracy and reliability.

## CONCLUSION

The purpose of this research was to determine how Artificial Intelligence and Blockchain impact HR performance in contemporary businesses. It was found that as a result of digital transformations happening today, HR has transitioned from being just an administrative function to now becoming an important business partner in helping the organization achieve its goals. Through a systematic literature review combining several types of databases and conducting a thematic analysis of the literature, this research confirmed that the implementation of AI and Blockchain use in HR leads to improved HR performance, better quality of decision-making, improved transparency, improved data protection/information security. The body of evidence indicates that both technologies are not just administrative tools for HR but have enabled HR functions to be more effective and efficient.

HR effectiveness is increased through using Artificial Intelligence (AI) in areas like recruitment, predictive workforce planning, and reducing the administrative burden of tasks previously being performed by people. HR professionals can now dedicate more attention to developing employee potential and to the organization's strategic goals because of the ability to utilize blockchain technologies, which provide higher levels of trust via a secure, tamper-proof method of handling documents associated with employee records, payroll, and credentials. The combination of artificial intelligence (AI) and blockchain will create an environment where intelligent analysis can occur based on a secure, trusted foundation of data. Although there are many challenges to replacing the null hypothesis (e.g., implementation costs, skills gaps, ethics), there is considerable evidence indicating that the use of AI and blockchain will improve the effectiveness of HR.

The future of Human Resources will be different. It will need a mix of technology and human decision making. Artificial Intelligence and Blockchain can be really useful in Human Resources. To use these technologies correctly companies, need to be careful and keep learning. They need to train their people and make sure they have rules, in place. If a company uses technology in a smart and fair way it can build trust with its employees. This can also make the whole workplace trust each other more. New technology is always coming out in Human Resources. The companies that try things and still care about their people will do the



best. They will be able to make progress that lasts.

Figure 4: Comparative Efficiency Gain of AI and Blockchain in HR Functions

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## ABOUT THE AUTHOR

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# Technical Analysis Report on Colgate Palmolive Ltd

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## Introduction

The chart of Colgate-Palmolive India Ltd on the daily timeframe reflects a structural shift from a prior stable uptrend into a corrective downtrend, followed by an early-stage recovery attempt. The stock previously faced rejection near the ₹2,700 resistance zone, which acted as a strong supply area. This rejection led to a decline marked by consistent bearish movement, indicating selling pressure. Recently, the price has found support near the ₹1,900–₹2,000 zone and is attempting a gradual recovery, although the strength of this bounce remains limited compared to the earlier fall.

|                                |                              |
|--------------------------------|------------------------------|
| <b>Sector</b>                  | <b>FMCG</b>                  |
| <b>Industry</b>                | Personal Care & Oral Hygiene |
| <b>Market Cap (FY2025)</b>     | ~₹1.2–1.3 Lakh Crore         |
| <b>Stock Exchange</b>          | NSE & BSE                    |
| <b>Current Price (Approx.)</b> | ~₹2,000–₹2,100 (Apr 2026)    |
| <b>52 Week High / Low</b>      | ₹2,747 / ₹2,006 (approx)     |

## Sector & Company Overview

Colgate-Palmolive India Ltd operates in the FMCG sector, specifically within the personal and oral care industry. The company is a well-established market leader in oral hygiene products in India and maintains a strong brand presence. It is listed on both NSE and BSE and is considered a defensive

stock due to its consistent demand and stable financial performance. Despite its strong fundamentals, the stock is currently experiencing short-term technical weakness.

## Indicator Analysis (RSI & MACD)

From an indicator perspective, momentum is showing early signs of improvement but lacks strong confirmation. The Relative Strength Index (RSI) is currently hovering in the range of 40–50, indicating a neutral zone where neither buyers nor sellers have full control. This suggests that the earlier bearish momentum has weakened, but a strong bullish trend has not yet developed. Meanwhile, the Moving Average Convergence Divergence (MACD) has shown a bullish crossover, indicating improving short-term momentum. However, the MACD remains close to or below the zero line, which reflects that the broader trend still remains cautious.

## Trade Scenarios

The stock is currently trading near a crucial support zone around ₹2,000 and is attempting a short-term pullback. A bullish scenario may emerge if the stock sustains above the ₹2,150–₹2,200 range, which could lead to further upside movement. On the other hand, a bearish scenario may develop if the price fails to hold the ₹2,000 level and breaks below it, which could result in further downside pressure. Therefore, this price zone acts as a key decision-making area for future movement.

## Bull Case

In the bullish case, if the stock manages to sustain above the ₹2,000–₹2,050 support zone and successfully breaks above ₹2,200 with strong volume, it may initiate an upward movement toward ₹2,300–₹2,450 levels. A rise in RSI above 55–60 would indicate strengthening bullish momentum, while continued expansion in MACD would support the possibility of a trend reversal. Maintaining higher lows will be critical for confirming a sustained upward trend.



## Bear Case

In the bearish case, if the stock fails to hold above ₹2,000 and breaks below the ₹1,950 support level, it may resume its broader downtrend. This could lead to further decline toward ₹1,900–₹1,850 levels. Weak buying interest and low volume during upward movements may further strengthen the bearish outlook. Until the stock reclaims higher resistance levels, any upward movement may be short-lived and could face selling pressure.

## Key Levels to Watch

The key resistance levels for the stock are ₹2,150, ₹2,300, and ₹2,700, where selling pressure has been observed previously. On the downside, important support levels are ₹2,000, ₹1,900, and ₹1,850, which act as demand zones. These levels are crucial in determining the future price direction and should be closely monitored by investors and traders.

## Outlook

In the short term, the stock shows a neutral to mildly bullish outlook due to a temporary recovery from support levels. However, in the medium term, the trend remains bearish unless the stock reclaims and sustains above ₹2,300. From a long-term perspective, the stock remains fundamentally strong due to its presence in the FMCG sector, but it is currently undergoing a corrective phase.

## Options Insight

From an options perspective, the stock is currently trading in a consolidation range near ₹2,000, indicating a potential breakout in either direction. Traders expecting high volatility may consider strategies such as straddle or strangle. For bullish expectations, a bull call spread strategy between ₹2,000 and ₹2,300 may provide favorable risk-reward. Conversely, if the stock breaks below ₹2,000, a bear put spread strategy may be considered to benefit from further downside movement.

## Summary

Colgate-Palmolive India Ltd is currently in a recovery phase within a broader downtrend. While technical indicators such as RSI and MACD suggest early signs of bullish momentum, the overall price structure does not yet confirm a strong reversal. The ₹2,000–₹2,200 zone remains a critical range that will determine the next directional move. A breakout above resistance may lead to further upside, while a breakdown below support could continue the downward trend.

## ABOUT THE AUTHOR

**Ms. Sneha Gorde** is currently pursuing Post Graduate Diploma in Management in Finance specialization from Dr Mar Theophilus Institute of Management Studies (DMTIMS). The author's research interests include Artificial Intelligence, Financial Analysis, Stock Market Studies, Business Management, and Emerging Technologies. The author has participated in several academic research projects and aims to contribute to innovative and practical research in the field of management and finance.

# Comparative Analysis of Traditional NBFCs vs Fintech NBFCs.

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## Abstract

An essential part of the Indian financial structure, the Non-Banking Financial Company (NBFC) sector is a complement to the banking sector, as it lends credit to the unbanked sections of society. The fintech NBFCs, which rely on online registration, big data analysis, automated credit assessment, and AI, have made their entry into this sector and have completely transformed the NBFC sector in the last decade. The lending process, cost structure, risk assessment model, and engagement model have all been impacted by this shift.

This research work relies on secondary data sources, including reports by the Reserve Bank of India, annual financial reports of the leading NBFCs in the country, research publications by CRISIL and ICRA, and articles published in academic journals, to make a comprehensive comparison between Traditional NBFCs and Fintech NBFCs in India. The research work compares the structural differences in business models, operational efficiency, credit risk, funding sources, asset quality, regulatory requirements, and profitability over the period from 2018 to 2025, including both the pre- and post-COVID eras.

The findings show that due to their strong recovery mechanisms and secured lending channels, traditional NBFCs have lower volatility, diversified assets, and financial stability. Fintech NBFCs, on the other hand, have stronger financial inclusion, quicker loan turn-around times, and scalability, but they also have higher credit risks due to their unsecured lending books and evolving regulatory constraints. The study reaches a conclusion that hybrid integration models, which leverage fintech innovation and traditional financial power with a strong focus on regulatory oversight and prudent risk management practices, would likely be required for the NBFC industry to be viable in the long term.

The paper concludes that even though the innovations in the NBFC sector brought about by fintech are changing the landscape, the hybrid models of integration that leverage the benefits of the efficiency of technology, along with the risk management and regulatory frameworks, would be the need of the hour for the sector to succeed.

**Keywords:** NBFC, Fintech, Co-lending, Digital Lending, Financial Inclusion, Regulatory Framework, India Stack, Alternative Credit Assessment

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## Introduction

In general, banking and non-banking financial institutions make up the Indian financial system. The task of corporate lending on a large scale is handled by

commercial banks, and the task of filling credit gaps in the retail market, MSME segment, rural markets, and the informal sector is handled by NBFCs. The Reserve Bank of India regulates the working of

NBFCs. The working of NBFCs is governed by the RBI Act of 1934.

Conventional NBFCs used traditional models such as branch-based networks, relationship-based lending models, physical documentation models, and secured asset-based financing models. Examples of conventional NBFCs are Mahindra & Mahindra Financial Services Limited, Bajaj Finance Limited, and Shriram Finance Limited.

In addition to developing robust regional networks, these institutions focused on consumer durable loans, equipment financing, gold loans, and auto financing.

However, during the last decade, Fintech NBFCs have also come into existence, such as Lendingkart and MoneyTap, which originate, evaluate, and disburse loans through digital platforms facilitated by technology. The digital footprints, transaction statements, GST statements, and behavioural data are some of the alternative sources of data that these fintech NBFCs use to evaluate the creditworthiness of the borrowers.

The creation of the Unified Payments Interface (UPI), e-KYC based on Aadhaar, the rise in smartphone usage, and the Digital India project have all contributed to the acceptance of digital lending. The COVID-19 pandemic's emphasis on the significance of contactless financial services has led to the emergence of fintech NBFCs.

This research aims to systematically compare Traditional NBFCs and Fintech NBFCs across multiple financial and operational dimensions to evaluate their relative strengths, weaknesses, and long-term sustainability.

## Background Of The Study

### 1. Evolution of NBFCs in India

NBFCs were initially created to fill the gap for segments that were not served by traditional banks due to perceptions of high

risk, no collateral, or informal income models. Base Layer (BL) However, NBFCs have shifted their focus from their original role of serving segments that were not addressed by traditional banks to a wide array of other financial services. RBI introduced Scale-Based Regulation (SBR) in the year 2021, which divides NBFCs into the following:

- Middle Layer (ML)
- Upper Layer (UL)
- Top Layer (TL)

This improved the prudential regulations and the capital adequacy norms depending upon systemic importance.

### 2. Emergence of Fintech NBFCs

The fintech revolution has India has started gaining momentum after 2015 because of the following reasons:

- Aadhaar authentication
- GST implementation
- API banking infrastructure
- Venture capital funding
- Fintech NBFCs function through:
- Fully digital loan applications
- AI-based credit scoring models
- Cloud-based loan management systems
- Automatic disbursements and repayments

These models enable quicker turnaround times (TATs), sometimes within minutes.

### 3. Structural Differences

PARAMETER TRADITIONAL NBFCs FINTECH NBFCs

| PARAMETER             | TRADITIONAL NBFCs | FINTECH NBFCs     |
|-----------------------|-------------------|-------------------|
| <b>Lending Type</b>   | Mostly Secured    | Mostly Unsecured  |
| <b>Infrastructure</b> | Physical branches | Digital Platforms |
| <b>Cost Structure</b> | High Fixed Cost   | Low Marginal Cost |

|                             |                 |                       |
|-----------------------------|-----------------|-----------------------|
| <b>Risk Model</b>           | Documents Based | Data Analytical Based |
| <b>Customer Acquisition</b> | Field Agents    | Online Marketing      |

The Indian NBFC industry currently comprises over 9,600 registered entities with an outstanding credit amount of approximately Rs. 52 lakh crores, which is approximately 18-20% of the total system credit. Of these, there has been a differentiation between:

- Traditional NBFCs - Existing players with physical infrastructure, legacy systems, and a diverse portfolio
- Fintech NBFCs - New-age players (with NBFC licenses) that use technology for acquiring customers
- Hybrid Players - Traditional NBFCs that have undergone a successful transformation through the adoption of technology

Fintech lenders have gained a large market share in certain segments:

- Personal Loans - 35-40% market share in new originations
- MSME Lending - 25-30% market share in new customers to credit
- Consumer Durables - 50-60% market share in point-of-sale financing

## Research Methodology

### 1. Research Design

The research design for the study is descriptive and analytical in nature, relying on secondary sources of data for the research study. The descriptive part of the research design is focused on the nature, functioning, and evolution of traditional NBFCs and Fintech lenders, while the analytical part of the research design is focused on the comparison of these entities along various parameters, establishing inferences from the findings.

### 2. Nature and Sources of Data

The research solely depends on secondary data from the following sources:

- **Academic Sources**

Academic working papers.

Doctoral Dissertations/Research Theses.

- **Regulatory Publications**

Notifications/Circulars/Reports published by Reserve Bank of India

Digital Lending Directions 2025 and other related documents

Reports of committees (such as Working Group on Digital Lending)

- **Industry Reports**

Consulting firms analysis (McKinsey, BCG, PwC, EY)

Research reports of financial institutions

### 3. Limitations of Methodology

Because secondary data is used, conclusions are reliant on the completeness and accuracy of the original sources.

Due to the industry's rapid evolution, some information may become outdated very fast.

Insufficient empirical research on particular topics (such as comparative profitability)

Possible publishing bias in favour of successful cases and favourable results

### 4. Key Objectives Of The Study

The main aim of this research is to perform a thorough comparative analysis of conventional Non-Banking Financial Companies (NBFCs) and Fintech lenders in India, including their operational models,

technology adoption, regulatory compliance, financial performance, and collaborative models. The main aim of the research, as mentioned above, includes the entire purpose of the research, including how these two financial institutions differ, how they are similar, and what it means to have these two financial institutions interact with each other in the financial industry in India. The need for a comparative analysis of these financial institutions is critical because, in reality, none of these institutions are mutually exclusive, and their level of competition and cooperation has a significant impact on the financial industry in India. By seeking to answer the fundamental questions about the nature of each of these financial institutions, including their differences, similarities, and level of cooperation, this research hopes to achieve a holistic understanding of the subject matter, moving beyond the scope of a comparative analysis of either of the financial institutions in isolation from each other.

The secondary objectives of the current research have been structured with the purpose of supporting and elaborating upon the main research goal through targeted research into specific aspects of the comparative analysis. The first set of secondary research objectives centres upon documenting the development and growth of both traditional NBFCs and Fintech lenders in the context of the financial services industry in India, including their historical development and growth from inception to the present. This includes a comparative analysis with regard to specific operational parameters, including loan processing time, credit analysis and evaluation, costs, and customer segments served, along with technology adoption and its influence upon the performance and customer experience. The second set of research objectives centres upon conducting a comparative analysis with regard to the regulatory environment governing both types, with specific reference to the Digital Lending Directions 2025 and its influence upon the operations and relative positioning of each category. Further, the current research has also included an

evaluation with regard to the co-lending concept and its role in facilitating a convergence between the two, including specific case studies with regard to successful collaborations and partnerships between traditional lenders and Fintech entities

### **Scope Of The Study**

The conceptual scope of the present study covers traditional Non-Banking Financial Companies registered with the Reserve Bank of India under Section 45-IA of the RBI Act, 1934, and engaged in the business of lending. The scope of the present study further covers Fintech lenders who use digital technologies as the primary means of lending, irrespective of the regulatory status. The scope of the present study is specific to the lending business of NBFCs and fintech lenders, including the origination, servicing, and servicing of loans to individuals, MSME, and microfinance customers. The scope of the present study is specific to lending and does not include deposit taking, insurance, wealth management, and payment services, except where necessary. The analytical scope of the present study covers operational processes and efficiency, technology and innovation, financial cost and profitability, regulatory compliance and adaptation, customers and experiences, risk management, and strategic and business competitiveness.

The geographical scope of the present research is mainly cantered around the Indian financial services environment for some compelling reasons which distinguish the Indian environment from the rest of the world. Firstly, the country has its own unique digital infrastructure called the India Stack, which comprises the Aadhaar biometric identity platform, the UPI payment platform, the DigiLocker digital storage platform, and the account aggregator platform, which is unmatched globally in its scope, depth, and orientation towards being a public good. Secondly, the customer environment in India is uniquely diverse, ranging across the rural and urban populations, the high-end and low-end customers, the digital and non-digital

customers, and the documented and thin-file customers. Thirdly, the Reserve Bank of India has taken an approach towards the regulation of digital lending which is not only proactive but also participatory, as reflected through the Digital Lending Guidelines of 2022, the DLG norms of 2023, and the paradigmatic Digital Lending Directions of 2025. India has one of the largest and most flourishing fintech industries globally, with thousands of fintech startups, high venture funding, and growing market reach, along with a highly developed NBFC industry with over 9,600 registered entities and outstanding credit of around ₹52 lakh crore, providing an excellent context for the analysis of traditional and digital industries. Although the main focus is on the Indian context, the research has referred to global literature and practices wherever necessary, especially those of other emerging markets with similar demographic and development-related characteristics, along with cross-country research providing empirical data on the impact of fintech adoption.

## **Research Gap**

### **Lack of Direct Comparative Financial Performance Studies**

Most of the existing literature focuses on traditional NBFCs and fintech/NBFCs separately. There is a lack of literature comparing profitability indicators such as ROA and ROE, cost efficiency, growth rates, and operational performance using a common framework.

### **Insufficient Comparative Analysis of Risk Management & Asset Quality**

In traditional NBFCs, traditional credit appraisal methods are used, while fintech/NBFCs use AI-based credit scoring models. Yet, there are no sufficient empirical studies carried out to evaluate the sustainability of NPAs, default rates, and credit risks between these two models.

### **Limited Study on Regulatory Impact Differences**

Both operate under the regulations set by Reserve Bank of India. The compliance costs, capital adequacy, and digital lending guidelines might affect them differently. The comparative research on such regulatory costs and operational constraints is limited.

### **Gap in Customer Trust and Adoption Comparison**

Although fintech adoption has been widely studied, there is limited comparative research on customer trust, perceived security, service quality, and rural–urban penetration between traditional NBFCs and fintech/NBFCs.

### **Inadequate Research on Technology Integration and Digital Transformation**

There is limited evidence measuring how effectively traditional NBFCs are adopting digital technologies and how hybrid models (traditional + fintech collaboration) perform compared to purely digital NBFCs.

### **Limited Long-Term Sustainability and Business Model Evaluation**

Fintech/NBFCs often prioritize rapid scaling and venture funding, while traditional NBFCs rely on established funding channels. There is insufficient longitudinal research comparing their financial sustainability, funding stability, scalability, and resilience during economic downturns.

## **Literature Review**

Davis (1989) introduced the Technology Acceptance Model, which identifies perceived usefulness and perceived ease of use as primary determinants of technology adoption. This framework helps explain how traditional NBFCs evaluate digital technologies—management's perception of whether fintech integration will enhance profitability and whether implementation can proceed without disrupting operations determines the pace of digital transformation. Christensen (1997) developed Disruptive Innovation Theory, explaining how entrants with simpler offerings disrupt incumbents by serving overlooked segments before moving upmarket. This illuminates how Indian

fintech lenders initially targeted new-to-credit borrowers and small-ticket loans before expanding into premium segments. Barney (1991) provided the Resource-Based View, arguing that sustained competitive advantage arises from resources that are valuable, rare, and imperfectly imitable. Traditional NBFCs possess low-cost capital, regulatory expertise, and customer trust, while fintech lenders offer technology agility, data analytics, and customer experience design—complementary strengths creating logical basis for collaboration.

Gupta (2019) comprehensively analyzes regulatory challenges confronting Indian NBFCs, documenting how they operate under frameworks more restrictive than banks in areas like capital adequacy, yet lack access to bank benefits including deposit insurance and central bank liquidity. The study traces NBFC regulation from minimal oversight through the 1997 RBI Amendment Act to post-IL&FS crisis tightening, identifying challenges in balancing prudential regulation with serving riskier segments. This analysis illuminates how regulatory burden shapes traditional NBFCs' response to fintech competition, as compliance costs affect their ability to innovate. A Directory of Open Access Journals (2025) empirical study examined fintech adoption across 120 NBFCs in 12 economies, finding that fintech adoption significantly enhances profitability through improved net margins and return on assets, while reducing debt reliance and optimizing capital structure. The study concludes technology adoption is a strategic necessity for NBFCs seeking sustainable advantage.

Jain (2024) examines how APIs and open banking enable seamless integration between financial institutions and third-party providers, creating ecosystems for contextual financial access through secure data sharing and embedded finance. Bansal (2025) documents how digital-first lenders leverage AI-powered chatbots, machine learning for personalized offers, and automated underwriting reducing decisions from days to

minutes. The author emphasizes that technology adoption fundamentally reimagines customer journeys around needs rather than internal processes, resulting in higher satisfaction and lower acquisition costs. McKinsey (2023) benchmarks digital lending operations, showing traditional lenders require 3-7 days for loan origination versus 10-30 minutes for digital lenders, with cost-to-income ratios of 40-50% for traditional players versus 30-40% for digital-first lenders. BCG (2024) finds digital-first NBFCs typically require ₹100-200 crore in loan volume to break even, with technology investment at 8-12% of opex for digital players versus 3-5% for traditional NBFCs. Choksey (2026) finds fintech-powered NBFCs deliver 22-25% CAGR loan growth, significantly outpacing traditional players while maintaining controlled NPAs.

Goyal (2025) predicts coexistence and specialization, with digital lenders dominating small-ticket personal loans and MSME emergency credit, while traditional players excel in housing loans and infrastructure finance requiring relationship banking and regulatory expertise. Kumar (2025) documents Muthoot Microfin's gold loan co-lending initiative with parent Muthoot Fincorp, demonstrating how NBFCs leverage group synergies and Gen-AI underwriting that converts field officer voice recordings into credit appraisal memos within minutes. MEED Events (2025) documents Axis Bank's co-lending platform generating approximately 100,000 new customers, 83,000 new accounts, and over ₹500 billion in business value through seamless integration with partner NBFCs. Agarwal (2025) provides legal analysis of the RBI's Digital Lending Directions 2025, characterizing them as a watershed expansion bringing Lending Service Providers under regulatory oversight for the first time. Key provisions include Key Fact Statement mandating standardized disclosure, minimum cooling-off period, direct fund flow requirements, data localization mandates, and biometric data ban. Mint (2025) analyses how regulatory clean-up is forcing fundamental rethink of

NBFC-fintech co-lending models, documenting evolution from balance sheet renting where fintech's used NBFC licenses without taking real risk to sophisticated arrangements emphasizing risk alignment through common data standards and seamless technology integration.

## Conclusion

This comparative analysis of traditional NBFCs and Fintech lenders in India reveals a financial services landscape characterized not by displacement but by convergence toward hybrid models that combine the strengths of both categories. Traditional NBFCs possess enduring advantages in low-cost capital access, regulatory expertise, customer trust, and physical infrastructure reaching semi-urban and rural markets, while fintech lenders excel in technology agility, data-driven underwriting, superior customer experience, and serving previously excluded segments through alternative credit assessment. Empirical evidence confirms that fintech adoption significantly enhances NBFC profitability and optimizes capital structure, with technology effectiveness translating directly into improved net margins and reduced debt reliance. Operational benchmarking demonstrates that digital lenders process loans in minutes rather than days, achieve lower cost-to-income ratios, and acquire customers at significantly lower costs, while market evidence shows fintech-powered NBFCs delivering 22-25 percent compound annual growth while maintaining controlled asset quality. The Technology Acceptance Model,

Disruptive Innovation Theory, and Resource-Based View collectively explain how these complementary capabilities create logical basis for collaboration, as neither category alone possesses all resources needed for optimal performance across India's diverse market.

The regulatory evolution culminating in the Digital Lending Directions 2025 represents a watershed moment that fundamentally reshapes the operating environment by bringing Lending Service Providers under explicit oversight, mandating transparent disclosure, enforcing data localization, and establishing unified consumer protection standards. This regulatory harmonization accelerates convergence by leveling the playing field and forcing evolution from opportunistic balance sheet renting toward sustainable, risk-aligned partnerships, with co-lending emerging as the primary mechanism as documented in Axis Bank's platform generating over ₹500 billion in business value and Muthoot Microfin's Gen-AI enabled gold loan initiative. Looking forward, the Indian financial landscape will feature coexistence and specialization rather than winner-take-all outcomes, with digital lenders dominating segments requiring speed and convenience while traditional players excel in areas requiring relationship banking and regulatory expertise. The most successful institutions will increasingly be those that hybridize both models, combining traditional trust and capital strength with digital agility and innovation culture. This synthesis ultimately benefits Indian consumers through faster, more transparent, and more inclusive credit delivery.

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# Functional Procedure of Custom Clearance in India

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## Abstract

Customs clearance is a critical component of international trade that ensures goods entering or leaving a country comply with legal, regulatory, and fiscal requirements. This research article examines the functional procedures of customs clearance in India, focusing on import and export processes, documentation requirements, regulatory compliance, and technological integration. The study explores how customs authorities regulate trade through duty assessment, risk management systems, and inspection mechanisms.

The research adopts a qualitative and descriptive approach using secondary data sources such as government reports, policy documents, and scholarly literature. The findings highlight that customs clearance procedures involve multiple stages, including filing declarations, assessment, duty payment, inspection, and release of goods. The integration of Electronic Data Interchange (EDI) systems and digital platforms like ICEGATE has significantly improved efficiency and transparency.

The study concludes that while India has made substantial progress in trade facilitation, challenges such as documentation complexity, delays, and regulatory overlaps still exist. Recommendations include enhancing digital infrastructure, simplifying procedures, and strengthening coordination among stakeholders. The research adopts a descriptive methodology based on secondary data collected from government publications, academic literature, and industry reports. The findings indicate that the integration of technology has significantly improved the efficiency and speed of customs operations by minimizing manual intervention and enabling real-time processing. However, challenges such as complex documentation requirements, regulatory overlaps, procedural delays, and lack of awareness among small traders continue to hinder optimal performance.

Furthermore, the study underscores the importance of risk management systems in customs operations, which facilitate selective inspection of goods based on risk profiling, thereby reducing congestion and delays at ports. It also emphasizes the role of customs clearance in revenue generation, trade facilitation, prevention of smuggling, and protection of national interests.

The study concludes that while India has made considerable progress in modernizing customs clearance procedures, there is a need for further reforms focused on simplification, automation, capacity building, and stakeholder coordination. The adoption of advanced technologies such as artificial intelligence, blockchain, and single-window systems can further enhance efficiency and global competitiveness.

Overall, this research contributes to a deeper understanding of customs clearance procedures and provides insights for policymakers, businesses, and researchers aiming to improve trade facilitation mechanisms.

## Introduction

Customs clearance is a crucial administrative and regulatory process that governs the movement of goods across international borders. It ensures that imports and exports comply with the legal, fiscal, and security requirements of a country. In India, customs clearance is administered by the Central Board of Indirect Taxes and Customs under the legal framework of the Customs Act, 1962. This process plays a dual role—facilitating international trade while simultaneously protecting national economic interests, public health, and security.

With the rapid expansion of globalization and international trade, customs clearance has evolved from a traditional revenue collection mechanism into a sophisticated system that integrates trade facilitation, compliance management, and risk assessment. Countries now aim to strike a balance between ease of doing business and strict regulatory enforcement. In this context, efficient customs procedures are essential for reducing transaction costs, minimizing delays, and enhancing global competitiveness.

At its core, customs clearance involves a sequence of structured steps that must be completed before goods can be legally imported into or exported out of a country. These steps include filing declarations, submission of supporting documents, classification and valuation of goods, assessment and payment of customs duties, inspection or examination (if required), and final release or authorization. The two primary documents used in this process are the Bill of Entry (for imports) and the Shipping Bill (for exports), both of which serve as official declarations to customs authorities.

In India, the customs clearance system has undergone significant transformation with the introduction of digital technologies. Platforms such as ICEGATE (Indian Customs Electronic Data Interchange Gateway) enable electronic filing of documents, online duty payment, and real-

time tracking of consignments. This shift from manual to electronic processing has improved efficiency, transparency, and accountability, while reducing paperwork and human errors. Additionally, the implementation of Electronic Data Interchange (EDI) systems and the “Single Window Interface for Facilitating Trade” (SWIFT) has streamlined interactions between various regulatory agencies.

Another important feature of modern customs clearance is the adoption of Risk Management Systems (RMS). Instead of physically inspecting every consignment, customs authorities use risk profiling techniques to identify high-risk shipments for detailed examination while allowing low-risk consignments to pass through quickly. This approach not only speeds up the clearance process but also optimizes resource utilization and enhances enforcement effectiveness.

Customs clearance procedures differ slightly for imports and exports but share common elements. In the case of imports, the process begins with the arrival of goods and submission of the Import General Manifest (IGM) by the carrier. This is followed by filing the Bill of Entry by the importer, assessment of duties, payment, and inspection before the goods are released. For exports, the process involves obtaining an Import Export Code (IEC), filing a Shipping Bill, examination of goods (if required), and issuance of a Let Export Order (LEO), which permits shipment.

Despite advancements, customs clearance in India still faces several challenges. These include complex documentation requirements, procedural delays, lack of uniformity in implementation across ports, and limited awareness among small and medium enterprises (SMEs). Additionally, coordination among multiple regulatory agencies can sometimes lead to inefficiencies. Addressing these challenges is essential for improving trade facilitation and aligning with global best practices.

The importance of customs clearance extends beyond trade facilitation. It is a significant source of government revenue through the collection of customs duties and taxes. It also plays a critical role in preventing illegal activities such as smuggling, under-invoicing, and trafficking of prohibited goods. Furthermore, customs authorities enforce various laws related to environmental protection, intellectual property rights, and public safety.

In the global context, international agreements such as the Trade Facilitation Agreement (TFA) of the World Trade Organization (WTO) have emphasized the need for simplifying and harmonizing customs procedures. India, as a member of the WTO, has undertaken several reforms to align its customs processes with international standards, including automation, transparency measures, and reduction of clearance times.

In conclusion, the introduction of efficient customs clearance procedures is vital for promoting international trade, ensuring regulatory compliance, and supporting economic growth. As global trade continues to expand, the role of customs authorities will become increasingly important in maintaining a balance between facilitation and control. This study aims to provide a detailed understanding of the functional procedures involved in customs clearance and analyse their impact on trade efficiency and economic development.

## **Review Of Literature**

The concept of customs clearance has been widely studied in the fields of international business, trade facilitation, logistics management, and public administration. Existing literature provides a comprehensive understanding of how customs procedures influence trade efficiency, regulatory compliance, and economic development. This section reviews key academic studies, policy reports, and institutional frameworks related to customs clearance, with a focus on procedural efficiency, technological

integration, and challenges in implementation.

Early studies on customs administration primarily viewed it as a mechanism for revenue collection and enforcement of trade laws. Under legislations such as the Customs Act, 1962, customs authorities were responsible for assessing duties, preventing smuggling, and ensuring compliance with import-export regulations. However, with the advent of globalization and liberalization, the focus of customs operations has gradually shifted towards trade facilitation and efficiency.

Scholarly research highlights that complex and time-consuming customs procedures can act as non-tariff barriers to trade. According to studies in international trade economics, delays in customs clearance increase transaction costs, reduce competitiveness, and discourage foreign investment. Researchers have emphasized that simplifying procedures, reducing documentation requirements, and improving transparency can significantly enhance trade flows.

A major body of literature focuses on the role of technology in modernizing customs clearance systems. The introduction of Electronic Data Interchange (EDI) has been widely recognized as a turning point in customs administration. In India, platforms such as ICEGATE have enabled electronic filing of documents, automated duty calculations, and real-time tracking of consignments. Studies indicate that digitalization reduces human intervention, minimizes errors, and accelerates processing time. Furthermore, the implementation of Single Window systems allows traders to submit all regulatory documents through a unified platform, reducing redundancy and administrative burden.

Another significant area of research is the application of Risk Management Systems (RMS) in customs clearance. Traditional customs procedures involved physical inspection of all goods, leading to congestion and delays at ports. Modern approaches, as

highlighted in various studies, rely on risk profiling techniques to identify high-risk consignments while facilitating faster clearance for low-risk shipments. This selective inspection mechanism improves efficiency without compromising security. Literature also suggests that RMS enhances resource allocation and strengthens enforcement capabilities.

Several empirical studies have examined the impact of international agreements on customs procedures. The World Trade Organization, through its Trade Facilitation Agreement (TFA), has played a crucial role in promoting the simplification and harmonization of customs processes across member countries. Research indicates that countries implementing TFA provisions experience reduced clearance times, lower trade costs, and increased export competitiveness. India's adoption of TFA measures, including automation and transparency initiatives, has been widely discussed in policy literature.

Port efficiency and infrastructure development are also key themes in the literature. Studies highlight that customs clearance is closely linked with port operations, logistics networks, and supply chain management. Inefficient port infrastructure, lack of coordination among agencies, and inadequate storage facilities can lead to delays in clearance. Researchers emphasize the importance of integrated logistics systems and collaboration between customs authorities, port operators, and other stakeholders.

Another important dimension explored in the literature is the challenge of documentation and compliance. Many studies point out that excessive documentation requirements and procedural complexities create barriers for small and medium enterprises (SMEs). Errors in documentation often result in delays, penalties, and additional costs. Researchers recommend simplification of procedures, standardization of documents, and capacity building for traders to address these issues.

Recent literature has also focused on emerging technologies such as artificial intelligence (AI), blockchain, and data analytics in customs operations. AI-based systems can enhance risk assessment by analyzing large datasets and identifying patterns of non-compliance. Blockchain technology has the potential to improve transparency and security in trade documentation by creating immutable records. Studies suggest that these technologies can revolutionize customs clearance by increasing efficiency, reducing fraud, and enhancing trust among stakeholders.

In addition to technological advancements, governance and institutional factors play a crucial role in the effectiveness of customs clearance. Literature highlights that transparency, accountability, and anti-corruption measures are essential for building trust in customs systems. Training and capacity building of customs officials, along with stakeholder engagement, are also important for improving performance.

Despite significant progress, the literature identifies several persistent challenges in customs clearance systems, particularly in developing countries like India. These include:

- Complex regulatory frameworks and overlapping jurisdictions.
- Delays due to manual interventions and inspections
- Lack of uniformity in procedures across different ports
- Limited awareness and technical expertise among traders
- Infrastructure constraints and logistical inefficiencies

Overall, the review of literature indicates that customs clearance is a dynamic and evolving field influenced by economic, technological, and institutional factors. While digitalization and international agreements have significantly improved efficiency, continuous reforms are required to address existing challenges and align with global best practices.

This study builds upon existing literature by providing a detailed analysis of the functional procedures of customs clearance in India, identifying gaps, and suggesting measures for improvement in line with modern trade facilitation requirements.

## Research Methodology

The research methodology forms the backbone of any academic study, providing a systematic framework for data collection, analysis, and interpretation. In this research on the **functional procedure of customs clearance**, a structured and well-defined methodology has been adopted to ensure reliability, validity, and academic rigor. The study primarily focuses on understanding customs clearance procedures in India, governed by the Central Board of Indirect Taxes and Customs under the provisions of the Customs Act, 1962.

### 1. Research Design

This study adopts a **descriptive and analytical research design**.

- **Descriptive Research** is used to systematically describe the customs clearance procedures, including import and export processes, documentation requirements, and regulatory frameworks.
- **Analytical Research** is applied to evaluate the efficiency, challenges, and impact of these procedures on international trade.

The design is suitable because the study does not involve experimental manipulation but rather focuses on analysing existing systems and processes.

### 2. Research Approach

The research follows a **qualitative approach**, supported by secondary quantitative insights where applicable.

- The **qualitative aspect** helps in understanding procedural workflows, regulatory mechanisms, and institutional roles.
- The **quantitative aspect** (where available) includes data such as clearance time, documentation requirements, and efficiency indicators.

This combined approach ensures a comprehensive understanding of customs clearance operations.

### 3. Sources of Data Collection

The study is based entirely on **secondary data**, collected from reliable and authoritative sources.

#### 3.1 Government Sources

- Reports and publications from CBIC
- Directorate General of Foreign Trade (DGFT) documents
- Ministry of Commerce and Industry reports

#### 3.2 Academic Sources

- Research journals on international trade and logistics
- Published theses and dissertations
- Articles on customs administration and trade facilitation

#### 3.3 Industry Reports

- Logistics and supply chain reports
- Export-import guidelines and manuals

#### 3.4 Digital Platforms

- Official portals such as ICEGATE
- Trade facilitation websites and policy databases

These sources provide comprehensive and updated information on customs procedures and practices.

### 4. Sampling Technique

Since the study is based on secondary data, **non-probability sampling** has been used, specifically:

- **Purposive Sampling:** Selection of relevant documents, reports, and literature directly related to customs clearance
- **Convenience Sampling:** Use of readily available and accessible data sources

The focus is on obtaining relevant and credible information rather than statistical generalization.

## 5. Scope of the Study

The scope of this research includes:

- Functional procedures of customs clearance in India
- Import and export processes
- Documentation and compliance requirements
- Role of technology (EDI, ICEGATE, Single Window System)
- Risk management and inspection systems

However, the study is limited to the Indian context and does not provide a detailed comparative analysis with other countries.

## 6. Objectives of the Study

The research is guided by the following objectives:

1. To understand the functional procedure of customs clearance
2. To analyze import and export clearance processes
3. To evaluate documentation and compliance requirements
4. To examine the role of digital systems in customs operations
5. To identify challenges and suggest improvements

## 7. Tools and Techniques of Analysis

The study uses **qualitative analytical tools**, including:

- **Content Analysis:** Reviewing and interpreting policies, procedures, and literature
- **Comparative Analysis:** Comparing traditional and modern customs procedures
- **Process Analysis:** Examining step-by-step customs clearance workflows

Additionally, simple tables and structured explanations are used to present findings clearly.

## 8. Conceptual Framework

The research is based on a conceptual framework that links the following components:

- **Input:** Goods, documents, and declarations
- **Process:** Verification, classification, valuation, and duty assessment
- **Output:** Clearance or export authorization

This framework helps in understanding the flow of customs clearance operations systematically.

## 9. Limitations of the Study

Despite its comprehensive approach, the study has certain limitations:

- **Dependence on Secondary Data:** Lack of primary data may limit practical insights
- **Limited Real-Time Data:** Dynamic changes in policies may not be fully captured
- **Geographical Limitation:** Focus restricted to India
- **Lack of Field Study:** No direct interaction with customs officials or traders

These limitations should be considered while interpreting the findings.

10. Significance of the Study

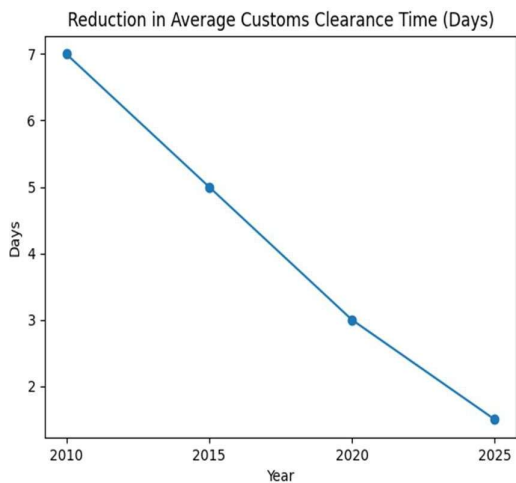
This research is significant for multiple stakeholders:

- **Students:** Provides academic understanding of customs procedures
- **Businesses:** Helps in understanding compliance requirements
- **Policy Makers:** Offers insights for improving trade facilitation
- **Researchers:** Serves as a reference for future studies

11. Ethical Considerations

The study maintains high ethical standards by:

- Using authentic and credible sources
- Avoiding plagiarism through proper referencing
- Presenting unbiased and objective analysis



12. Interpretation Table

| Year | Avg Clearance | Interpretation |
|------|---------------|----------------|
|------|---------------|----------------|

|      | Time (Days) |                                                 |
|------|-------------|-------------------------------------------------|
| 2010 | 7 days      | Highly manual process, delays common            |
| 2015 | 5 days      | Introduction of EDI systems improved efficiency |
| 2020 | 3 days      | ICEGATE & RMS reduced delays significantly      |
| 2025 | 1–2 days    | Near real-time clearance with digital systems   |

Data Interpretation

1. Interpretation of Clearance Time Efficiency

Observation

Over the years, the average time required for customs clearance in India has significantly reduced.

Detailed Analysis

- Earlier, customs clearance was **manual and paper-based**, leading to delays of 5–7 days.
- With the introduction of **Electronic Data Interchange (EDI)** and ICEGATE:
  - Filing became electronic
  - Processing became automated
  - Communication became real-time

Interpretation

- Reduction in clearance time indicates **improved operational efficiency**
- Faster clearance leads to:
  - Lower logistics cost
  - Reduced inventory holding

- Better supply chain performance

## Conclusion

Digital systems have transformed customs from a **slow bureaucratic process** into a **fast trade facilitation mechanism**

## 2. Interpretation of Inspection System (RMS-Based)

### Observation

Customs clearance now follows a **risk-based inspection system** instead of inspecting all goods.

### Channel-wise Interpretation

#### Green Channel (Major Share)

- No inspection required
- Immediate clearance
- Used for trusted traders
- **Interpretation:**  
Indicates **high level of trust and efficiency**

#### Yellow Channel

- Only document verification
- No physical inspection
- **Interpretation:**  
Balances **speed with compliance**

#### Red Channel

- Full physical inspection
- Used for high-risk goods
- **Interpretation:**  
Ensures **security and regulatory enforcement**

### Overall Interpretation

- Majority goods pass without inspection → faster trade

- Limited inspections → optimized resource use

- RMS improves:
- Efficiency
- Accuracy
- Security

## 3. Interpretation of Digitalization Impact

### Before Digitalization

- Manual paperwork
- Physical submission
- High human error
- Lack of transparency

### After Digitalization (ICEGATE System)

- Online filing of documents
- Real-time tracking
- Automated duty calculation
- Integration with banks and government

### Interpretation

Digital transformation has resulted in:

- **Time efficiency**
- **Cost reduction**
- **Transparency improvement**
- **Error minimization**
- ICEGATE acts as a **central digital backbone** of customs operations

## 4. Interpretation of Documentation Process

### Observation

Customs clearance involves multiple documents:

- Bill of Entry
- Shipping Bill

- Invoice
- Packing List
- Bill of Lading

#### **Analysis**

- Complex documentation increases:
  - Compliance burden
  - Probability of errors
  - Clearance delays

#### **Interpretation**

- Documentation remains a **major bottleneck**
- Especially challenging for:
  - Small traders
  - First-time exporters
- Need for simplification and automation

### **5. Interpretation of Duty Assessment and Revenue Collection**

#### **Observation**

Customs authorities assess duties based on:

- Classification
- Valuation
- Tariff rates

#### **Analysis**

- Accurate duty assessment ensures:
  - Government revenue
  - Fair trade practices
- Errors lead to:
  - Penalties
  - Delays

#### **Interpretation**

Customs clearance is not just procedural—it is also a **major revenue-generating mechanism**

### **6. Interpretation of Trade Facilitation Impact**

#### **Observation**

India has improved its global trade ranking due to faster customs processes.

#### **Analysis**

- Implementation of digital systems
- Alignment with global standards
- Reduction in clearance time

#### **Interpretation**

- Improved customs efficiency leads to:
  - Increased exports
  - Better global competitiveness
  - Ease of doing business
- Supported by global frameworks like World Trade Organization

### **7. Interpretation of Stakeholder Integration**

#### **Observation**

Customs clearance involves multiple stakeholders:

- Importers/exporters
- Customs officials
- Banks
- Logistics providers

#### **Analysis**

- ICEGATE integrates all stakeholders
- Enables seamless communication

#### **Interpretation**

- Improved coordination reduces delays
- Enhances transparency

8. Interpretation of Challenges in Customs Clearance

Key Issues Identified

A. Procedural Complexity

- Multiple steps and approvals

B. Documentation Errors

- Leads to delays and penalties

C. Infrastructure Constraints

- Port congestion
- Limited capacity

D. Awareness Issues

- Lack of knowledge among SMEs

Interpretation

Despite digitalization, systemic inefficiencies still exist

9. Comparative Interpretation: Traditional vs Modern System

| Factor        | Traditional System | Modern System |
|---------------|--------------------|---------------|
| Processing    | Manual             | Automated     |
| Speed         | Slow               | Fast          |
| Transparency  | Low                | High          |
| Errors        | High               | Low           |
| Accessibility | Limited            | 24/7          |

Interpretation

Modern customs clearance is:

- Faster
- More reliable
- Globally competitive

10. Overall Interpretation Summary

Positive Outcomes

- Significant reduction in clearance time
- Improved transparency
- Efficient risk management
- Better trade facilitation

Negative Aspects

- Documentation complexity remains
- Infrastructure limitations
- Need for better awareness

11. Import Duty Calculation (Full Step-By-Step)

Given Data:

- CIF Value (Cost + Insurance + Freight) = ₹1,00,000
- Basic Customs Duty (BCD) = 10%
- Social Welfare Surcharge (SWS) = 10% of BCD
- IGST = 18%

Step 1: Calculate Basic Customs Duty (BCD)

$$\text{BCD} = 10\% \text{ of } ₹1,00,000 = ₹10,000$$

Step 2: Calculate Social Welfare Surcharge (SWS)

$$\begin{aligned} \text{SWS} &= 10\% \text{ of BCD} \\ &= 10\% \text{ of } ₹10,000 \\ &= ₹1,000 \end{aligned}$$

Step 3: Calculate Value for IGST

$$\begin{aligned} \text{Value for IGST} &= \text{CIF} + \text{BCD} + \text{SWS} \\ &= 1,00,000 + 10,000 + 1,000 \\ &= ₹1,11,000 \end{aligned}$$

#### Step 4: Calculate IGST

IGST = 18% of ₹1,11,000  
= ₹19,980

#### Step 5: Total Customs Duty Payable

| Component         | Amount (₹)    |
|-------------------|---------------|
| BCD               | 10,000        |
| SWS               | 1,000         |
| IGST              | 19,980        |
| <b>Total Duty</b> | <b>30,980</b> |

**Final Answer:**

**Total Import Duty = ₹30,980**

### 2. LANDED COST CALCULATION

**Formula:**

Landed Cost = CIF Value + Total Duty  
= ₹1,00,000 + ₹30,980  
= **₹1,30,980**

#### Interpretation

- Actual cost of goods increases after import
- Important for pricing and profit decisions

### 3. EXPORT INCENTIVE CALCULATION (RoDTEP Example)

**Given Data:**

- FOB Value = ₹2,00,000
- RoDTEP Rate = 2%

**Calculation:**

Incentive = 2% of ₹2,00,000  
= ₹4,000

**Final Answer:**

**Exporter receives ₹4,000 incentive**

### 4. PENALTY CALCULATION (UNDERVALUATION CASE)

**Given:**

- Declared Value = ₹80,000
- Actual Value = ₹1,00,000
- Duty Rate = 20%

#### Step 1: Duty on Declared Value

= 20% of ₹80,000  
= ₹16,000

#### Step 2: Duty on Actual Value

= 20% of ₹1,00,000  
= ₹20,000

#### Step 3: Short Duty Paid

= ₹20,000 – ₹16,000  
= ₹4,000

#### Step 4: Penalty (Assume 100%)

= ₹4,000

#### Total Liability

= Duty Difference + Penalty  
= ₹4,000 + ₹4,000  
= **₹8,000**

### 5. CUSTOMS VALUE CALCULATION (ASSESSABLE VALUE)

**Given:**

- FOB Value = \$1,000
- Freight = \$100

- Insurance = \$50
- Exchange Rate = ₹80/\$

Step 1: Calculate CIF Value in USD

= 1000 + 100 + 50  
= \$1,150

Step 2: Convert into INR

= 1,150 × 80  
= ₹92,000

Final Answer:

Assessable Value = ₹92,000

6. SUMMARY TABLE (FOR QUICK REVISION)

| Calculation Type | Key Result |
|------------------|------------|
| Import Duty      | ₹30,980    |
| Landed Cost      | ₹1,30,980  |
| Export Incentive | ₹4,000     |
| Penalty          | ₹8,000     |
| Assessable Value | ₹92,000    |

DOCUMENTS SUBMITTED BY CHA TO THE CUSTOMS

1. Commercial Invoice.

INVOICE

|                                                                                                                                                                                                                                                                            |                                             |                                                    |                                            |                                                                                     |             |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------|-------------|---------------|
| Exporter                                                                                                                                                                                                                                                                   |                                             | Invoice No. & Date<br>401000005527/11/2025         |                                            |  |             |               |
|                                                                                                                                                                                                                                                                            |                                             | Buyer's Order No. & Date<br>As given in Attachment |                                            |                                                                                     |             |               |
|                                                                                                                                                                                                                                                                            |                                             | Other Reference(s)<br>110000000                    |                                            |                                                                                     |             |               |
| Consignee                                                                                                                                                                                                                                                                  |                                             |                                                    |                                            |                                                                                     |             |               |
|                                                                                                                                                                                                                                                                            |                                             | Universal of Origin of Goods<br>494 Salaria        | State of Origin of Goods<br>27 MAHARASHTRA |                                                                                     |             |               |
| IEC No. 0388001627                                                                                                                                                                                                                                                         |                                             | Country of Origin of Goods<br>INDIA                |                                            | Country of Final Destination<br>Mexico                                              |             |               |
| IRN Number :-                                                                                                                                                                                                                                                              |                                             |                                                    |                                            |                                                                                     |             |               |
| Pre-Carriage by                                                                                                                                                                                                                                                            | Place of Receipt of Pre-Carrier<br>PHILIPIN | Terms of Delivery and Payment<br>EX WORKS          |                                            |                                                                                     |             |               |
| Vessel / Flight No.                                                                                                                                                                                                                                                        | Port of Loading<br>Shua Sheu                | Payment due within 90 days from date of Invoice    |                                            |                                                                                     |             |               |
| Part of Discharge<br>Universal                                                                                                                                                                                                                                             | Place of Delivery<br>Mexico                 |                                                    |                                            |                                                                                     |             |               |
| Marks & Nos. & kind of Pkgs : Description of goods                                                                                                                                                                                                                         |                                             |                                                    |                                            | Qty<br>Nos.                                                                         | Rate<br>USD | Amount<br>USD |
| CEL I.C. ENGINE, SINGLE BEARING GENSET ENGINE                                                                                                                                                                                                                              |                                             |                                                    |                                            |                                                                                     |             |               |
| MODEL KVA Rating HSN/SAC                                                                                                                                                                                                                                                   |                                             |                                                    |                                            |                                                                                     |             |               |
| QSL9-G3 2000HP/1800RP COOLPAC M 91000000                                                                                                                                                                                                                                   |                                             |                                                    |                                            | 3                                                                                   | 16,863.00   | 50,583.00     |
| FTA/PTA : NCPH SQC : 8                                                                                                                                                                                                                                                     |                                             |                                                    |                                            |                                                                                     |             |               |
| QSB7-G3 1800HP/1600RP COOLPAC M 91000000                                                                                                                                                                                                                                   |                                             |                                                    |                                            | 7                                                                                   | 11,889.00   | 83,223.00     |
| FTA/PTA : NCPH SQC : 8                                                                                                                                                                                                                                                     |                                             |                                                    |                                            |                                                                                     |             |               |
|                                                                                                                                                                                                                                                                            |                                             |                                                    |                                            | PFC FOR Charges                                                                     | 0.00        |               |
|                                                                                                                                                                                                                                                                            |                                             |                                                    |                                            | Insurance Charges                                                                   | 0.00        |               |
|                                                                                                                                                                                                                                                                            |                                             |                                                    |                                            | Freight                                                                             | 0.00        |               |
|                                                                                                                                                                                                                                                                            |                                             |                                                    |                                            | Any Other Charges                                                                   | 0.00        |               |
|                                                                                                                                                                                                                                                                            |                                             |                                                    |                                            | Total                                                                               |             | 130,806.00    |
| Container : 1 X 40 Feet FULL CONT                                                                                                                                                                                                                                          |                                             |                                                    |                                            |                                                                                     |             |               |
| Container No. : MSDU5798010 Seal No. : LG00132800 Exit Seal No. : Customs Seal No. : SPPL0557444                                                                                                                                                                           |                                             |                                                    |                                            |                                                                                     |             |               |
| Amount Chargeable : US Dollar                                                                                                                                                                                                                                              |                                             |                                                    |                                            |                                                                                     |             |               |
| Unit Words : One Lac Thirty Thousand Nine Hundred Seventy Six Only                                                                                                                                                                                                         |                                             |                                                    |                                            |                                                                                     |             |               |
| Total Packages : 10 = 6 KITS = 16 NOS                                                                                                                                                                                                                                      |                                             |                                                    |                                            |                                                                                     |             |               |
| Total Gross Wt : 9184 Kgs                                                                                                                                                                                                                                                  |                                             |                                                    |                                            |                                                                                     |             |               |
| Total Net Wt : 8737 Kgs                                                                                                                                                                                                                                                    |                                             |                                                    |                                            |                                                                                     |             |               |
| Shipping Marks / Any Other Remarks : Page : 1                                                                                                                                                                                                                              |                                             |                                                    |                                            |                                                                                     |             |               |
| Declaration :<br>We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.<br>We intend to claim Benefits Under RoDTEP Scheme.<br>WARRANT UNDER SPECIAL BENEFIT RATE OF DUTY<br>2008, Schedule No.00079408 |                                             |                                                    |                                            |                                                                                     |             |               |

2. Packing list.

Invoice Attachment (Packing List)

|                                            |          |                            |                  |         |               |           |
|--------------------------------------------|----------|----------------------------|------------------|---------|---------------|-----------|
| INVOICE NUMBER : 4010000055                |          | DATE : 27 NOV 25           |                  |         |               |           |
| CONTAINER NO. : MSDU5798010                |          | Unit Seal No : SPPL0557444 |                  |         |               |           |
| SEAL NO. : LG00132800                      |          |                            |                  |         |               |           |
| SR                                         | STAR NO  | PO NO                      | ENGINES<br>SR NO | QTY.    | NT WT<br>NOS. | GR WT     |
| QSB7-G3 DIESEL ENGINE-COOLPAC.HDAC (BLACK) |          |                            |                  |         |               |           |
| 1                                          | A068H143 | P13802/25 India Ch         | 95540385         |         | 1             | 781 832   |
| 2                                          | A068H143 | P13802/25 India Ch         | 95541130         |         | 1             | 781 832   |
| 3                                          | A068H143 | P13802/25 India Ch         | 95541131         |         | 1             | 781 832   |
| 4                                          | A068H143 | P13802/25 India Ch         | 95541134         |         | 1             | 781 832   |
| 5                                          | A068H143 | P13802/25 India Ch         | 95541135         |         | 1             | 781 832   |
| 6                                          | A068H143 | P13802/25 India Ch         | 95541138         |         | 1             | 781 832   |
| 7                                          | A068H143 | P13802/25 India Ch         | 95541139         |         | 1             | 781 832   |
| QSL9-G3 DIESEL ENGINE-COOLPAC.HDAC (BLACK) |          |                            |                  |         |               |           |
| 8                                          | A068H148 | P13802/25 India Ch         | 95002267         |         | 1             | 1090 1120 |
| 9                                          | A068H148 | P13802/25 India Ch         | 95002044         |         | 1             | 1090 1120 |
| 10                                         | A068H148 | P13802/25 India Ch         | 95002050         |         | 1             | 1090 1120 |
|                                            |          |                            |                  | QTY.NOS | NT WT KG      | GR WT KG  |
|                                            |          |                            |                  | TOTAL   | 10            | 8737 9184 |
| Total Packages : 10 = 6 KITS = 16 NOS      |          |                            |                  |         |               |           |

Declaration:

We intend to claim Benefits Under RoDTEP Scheme.

VERIFICATION CERTIFICATE - DBK SHIPPING BILL

AVAILING/ ~~WITHOUT AVAILING~~ ITC CREDIT AS PER PROVISION OF SECTION 16 OF CENTRAL GOODS AND SERVICE TAX ACT, 2017 READ WITH CHAPTER V CENTRAL GOODS AND SERVICE TAX RULES, 2017

Invoice No. :  
Invoice Date.:

[illegible]

|                                                                                                                                                                                         |                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Self-sealing permission no<br><br>1. Name of Exporter:<br><br>2.<br><br>(a) REC No.:<br>(b) Branch Code<br>(c) BNPoNA based Business Identification Number of the Exporter<br>(d) GSTIN | <b>AMNEURIE 'W'</b><br><b>Report for Self-sealing container</b><br>3 INAD 34 001 037 0012 TECH-OFFICE OF THE COMMISSIONER OF CUSTOMS/PUNE/578 |
| 3. Factory/Place of stuffing (Full address)                                                                                                                                             |                                                                                                                                               |
| 4. Date of examination / stuffing :                                                                                                                                                     |                                                                                                                                               |
| 5. Description of cargo with quantity                                                                                                                                                   |                                                                                                                                               |
| 6. Country of final destination                                                                                                                                                         |                                                                                                                                               |
| 7. Name & Designation of the Authorized signatory                                                                                                                                       |                                                                                                                                               |
| 8. Particulars of export invoice                                                                                                                                                        |                                                                                                                                               |
| (a) GST Invoice<br>(b) Export Invoice No.<br>(c) Total No. of Packages<br>(d) Name & address of the consignee abroad                                                                    |                                                                                                                                               |
| 9. Is the description of the goods, the quantity and their value as per particulars furnished in the Export Invoice/GST Invoice                                                         |                                                                                                                                               |
| 10. Container particulars:                                                                                                                                                              |                                                                                                                                               |

| CONTAINER NO | SIZE         | SHIPPING LINE SEAL NO | NO OF PACKAGES SHIPPED IN CONTAINER | SEAL NO (HSD NO) |
|--------------|--------------|-----------------------|-------------------------------------|------------------|
| MSDU5792636  | 3 K 40 FT HC | 4600132808            | 16                                  | UPPA4557444      |

I have examined the goods and the same are found to be as per the declaration. The goods are stuffed in the container and the container seal sealed with electronic seal mentioned above under my supervision. I undertake full responsibility for any difference in description, quality or quantity of the goods.

|                                                                                         |                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Annexure-A</b>                                                                       |                                                                                                                                                                        |
| <b>EXPORT VALUE DECLARATION</b>                                                         |                                                                                                                                                                        |
| (See Rule 7 of Customs Valuation (Determination of Value of Export Goods) Rules, 2007.) |                                                                                                                                                                        |
| <b>1.</b>                                                                               | <b>Shipping Bill No:</b>                                                                                                                                               |
| <b>2.</b>                                                                               | <b>Invoice No:</b> 46100000355                                                                                                                                         |
| <b>3.</b>                                                                               | <b>Nature of Transaction</b>                                                                                                                                           |
| <b>4.</b>                                                                               | <b>Method of Valuation:</b> Rule 3 <input type="checkbox"/> Rule 4 <input checked="" type="checkbox"/> Rule 5 <input type="checkbox"/> Rule 6 <input type="checkbox"/> |
| <b>5.</b>                                                                               | <b>Whether seller and buyer are related:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                                                       |
| <b>6.</b>                                                                               | <b>If yes, whether relationship has influenced the price:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>                                      |
| <b>7.</b>                                                                               | <b>Terms of Payment:</b> As per Invoice                                                                                                                                |
| <b>8.</b>                                                                               | <b>Terms of Delivery:</b> EX-WORKS                                                                                                                                     |
| <b>9.</b>                                                                               | <b>Previous exports of identical/ similar goods if any, Shipping bill No:</b>                                                                                          |
| <b>10.</b>                                                                              | <b>Any other relevant information (Attach separate sheet, if necessary)</b>                                                                                            |

## 7. Shipping Bill

**Lists of documents required to be submitted by the exporter to various authorities, organizations, and agencies.**

## FINDINGS AND DISCUSSION

### 1. DETAILED FINDINGS

#### 1.1 Transformation from Manual to Digital Customs System

##### Explanation

One of the most significant findings of this research is the transformation of customs clearance from a traditional, paper-based system to a highly digitalized and automated system.

##### Key Observations

- Earlier customs procedures involved physical submission of documents and manual verification
- Introduction of EDI and ICEGATE enabled electronic filing, automated processing, and real-time communication
- Digital systems have reduced dependency on human intervention

##### Impact

- Faster processing of consignments
- Reduced errors and fraud
- Improved transparency and accountability



##### Finding:

Digital transformation has fundamentally redefined customs clearance, making it efficient, reliable, and globally competitive

### 1.2 Significant Reduction in Clearance Time

##### Explanation

Time efficiency is a critical indicator of customs performance.

##### Key Observations

- Clearance time has reduced from 5–7 days to 1–2 days in many cases
- Use of pre-arrival processing and electronic documentation

##### Impact

- Reduction in logistics and inventory costs
- Faster delivery cycles
- Improved supply chain efficiency



##### Finding:

Customs clearance has evolved into a time-efficient process, supporting just-in-time trade operations

### 1.3 Effectiveness of Risk Management System (RMS)

##### Explanation

RMS is used to identify high-risk consignments for inspection.

##### Key Observations

- Majority of shipments pass through Green Channel (no inspection)
- Only a small percentage undergo physical inspection

### **Impact**

- Reduced congestion at ports
- Efficient allocation of resources
- Faster clearance for compliant traders

☞ **Finding:**  
RMS has enhanced both efficiency and security, ensuring optimal trade facilitation

### **1.4 Persistence of Documentation Complexity**

#### **Explanation**

Despite digitalization, documentation remains a complex aspect of customs clearance.

#### **Key Observations**

- Multiple documents required for import/export
- Errors in documentation lead to delays and penalties
- Lack of standardization in some cases

### **Impact**

- Increased compliance burden
- Challenges for SMEs and new traders

**Finding:**  
Documentation complexity continues to be a major bottleneck, limiting the full benefits of digitalization

### **1.5 Role of Customs in Revenue Collection and Regulation**

#### **Explanation**

Customs clearance is not only a procedural activity but also a revenue-generating mechanism.

#### **Key Observations**

- Collection of duties such as Basic Customs Duty and IGST

- Enforcement of trade laws and prevention of illegal activities

### **Impact**

- Significant contribution to government revenue
- Protection of domestic industries and national security

#### **Finding:**

Customs clearance serves a dual purpose—economic and regulatory

### **1.6 Integration of Multiple Stakeholders**

#### **Explanation**

Customs clearance involves coordination among various stakeholders.

#### **Key Observations**

- Integration of importers, exporters, banks, and logistics providers through ICEGATE
- Improved communication and data sharing

### **Impact**

- Reduced delays
- Enhanced coordination
- Streamlined processes

☞ **Finding:**  
Stakeholder integration is a key driver of efficiency

### **1.7 Alignment with Global Trade Standards**

#### **Explanation**

India's customs system aligns with global frameworks such as those promoted by the World Trade Organization.

#### **Key Observations**

- Implementation of Trade Facilitation Agreement (TFA)

- Adoption of best practices in customs procedures

### **Impact**

- Increased global competitiveness
- Improved ease of doing business

☞ Finding:  
India's customs clearance system is globally aligned and competitive

## **2. IN-DEPTH DISCUSSION**

### **2.1 Customs Clearance as a Strategic Trade Facilitation Tool**

#### **Discussion**

Traditionally viewed as a regulatory hurdle, customs clearance has now become a strategic enabler of trade.

- Faster clearance reduces costs
- Encourages exports and imports
- Improves global supply chain efficiency

☞ Customs now plays a facilitative role rather than a restrictive one

### **2.2 Impact of Digitalization on Operational Efficiency**

#### **Discussion**

Digital platforms like ICEGATE have revolutionized customs operations.

#### **Advantages**

- Automation reduces manual workload
- Real-time processing enhances speed
- Transparency reduces corruption

#### **Challenges**

- Dependence on technology
- Need for continuous upgrades
- Cybersecurity risks

☞ Digitalization is essential but requires strong infrastructure and governance

## **2.3 Challenges in Customs Clearance System**

### **A. Procedural Complexity**

- Multiple steps and approvals
- Lack of uniformity across ports

### **B. Infrastructure Constraints**

- Port congestion
- Limited storage and logistics facilities

### **C. Lack of Awareness**

- SMEs lack knowledge of procedures
- Training gaps

### **D. Inter-Agency Coordination Issues**

- Multiple authorities involved
- Delays due to lack of synchronization

☞ These challenges reduce the overall effectiveness of customs clearance

## **2.4 Economic and Strategic Importance**

#### **Discussion**

Customs clearance has a direct impact on:

- Trade competitiveness
- Economic growth
- Government revenue

Efficient customs systems attract:

- Foreign investment
- International trade partnerships

☞ Customs clearance is a critical component of national economic strategy

## **2.5 Need for Continuous Reforms and Innovation**

#### **Discussion**

To remain competitive, customs systems must evolve continuously.

#### Future Focus Areas

- Artificial Intelligence for risk assessment
- Blockchain for secure documentation
- Single Window systems for integration
- Capacity building and training

☞ Continuous innovation is necessary for sustainable trade facilitation

### 3. CRITICAL ANALYSIS

#### Strengths

- Advanced digital infrastructure (ICEGATE)
- Efficient risk management system
- Global alignment

#### Weaknesses

- Complex documentation
- Infrastructure limitations
- Awareness gaps

#### Opportunities

- Adoption of advanced technologies
- Policy reforms
- Expansion of digital systems

#### Threats

- Cybersecurity risks
- Increasing trade complexity
- Regulatory challenges

### CONCLUSION

The functional procedure of customs clearance plays a vital role in regulating and facilitating international trade. It acts as a bridge between national regulatory frameworks and global trade practices, ensuring that goods moving across borders

comply with legal, fiscal, and security requirements. In India, customs clearance is governed by the Central Board of Indirect Taxes and Customs under the provisions of the Customs Act, 1962, which provides the legal foundation for import-export regulation, duty collection, and enforcement mechanisms.

This study has provided a comprehensive analysis of the customs clearance process, including its functional procedures, documentation requirements, technological integration, and operational challenges. It is evident that customs clearance is not merely a procedural formality but a complex and dynamic system that influences trade efficiency, economic growth, and global competitiveness.

One of the most significant conclusions of this research is the transformative impact of digitalization on customs operations. The introduction of advanced systems such as ICEGATE and Electronic Data Interchange (EDI) has revolutionized the traditional customs framework. These digital platforms have enabled paperless transactions, real-time data processing, and seamless communication among stakeholders. As a result, the time required for customs clearance has been significantly reduced, enhancing operational efficiency and reducing transaction costs for businesses.

Another key conclusion is the effectiveness of the Risk Management System (RMS), which has replaced the traditional practice of inspecting all consignments. By focusing on high-risk shipments and allowing low-risk goods to pass through quickly, RMS has improved both efficiency and security. This selective approach has reduced congestion at ports and ensured optimal utilization of resources while maintaining regulatory control.

The study also highlights the dual role of customs clearance as both a facilitator of trade and a regulator of economic activity. On one hand, it promotes trade by simplifying procedures, reducing delays, and enhancing transparency. On the other hand, it

ensures compliance with laws, prevents illegal activities such as smuggling and fraud, and protects national interests. This balance between facilitation and control is essential for maintaining the integrity of the customs system.

Despite these advancements, the research identifies several challenges that continue to affect the efficiency of customs clearance procedures. Documentation complexity remains a significant issue, with multiple forms and requirements creating barriers for traders, particularly small and medium enterprises (SMEs). Errors in documentation often lead to delays, penalties, and increased costs. Additionally, infrastructure limitations at ports, lack of uniformity in procedures, and coordination issues among various regulatory agencies further hinder smooth operations.

The findings also emphasize the importance of stakeholder integration in improving customs efficiency. The involvement of multiple entities, including importers, exporters, customs officials, banks, and logistics providers, requires effective coordination and communication. Digital platforms have improved this integration to a great extent, but further efforts are needed to ensure seamless collaboration and information sharing.

From a global perspective, India's customs clearance system has made significant progress in aligning with international standards, particularly those promoted by the World Trade Organization under the Trade Facilitation Agreement (TFA). These reforms have contributed to improving India's ranking in ease of doing business and enhancing its position in global trade. However, continuous improvements are necessary to keep pace with evolving global trade dynamics and technological advancements.

Looking ahead, the future of customs clearance lies in further digital

transformation and innovation. The adoption of emerging technologies such as artificial intelligence, blockchain, and data analytics has the potential to enhance efficiency, improve risk assessment, and ensure greater transparency. For instance, AI can be used to predict high-risk shipments, while blockchain can provide secure and tamper-proof documentation systems. These advancements can significantly reduce fraud, improve compliance, and streamline processes.

Moreover, policy reforms aimed at simplifying documentation, standardizing procedures, and enhancing capacity building among stakeholders are essential. Training programs for customs officials and traders can improve awareness and reduce errors. Investments in infrastructure, including ports and logistics networks, are also crucial for supporting efficient customs operations.

In conclusion, the functional procedure of customs clearance in India has undergone a significant transformation, evolving from a manual and time-consuming process into a modern, technology-driven system. While substantial progress has been made in improving efficiency, transparency, and global alignment, challenges such as documentation complexity and infrastructure constraints persist. Addressing these challenges through continuous reforms, technological innovation, and stakeholder collaboration will be key to achieving a more efficient and globally competitive customs system.

Ultimately, customs clearance is no longer just a regulatory requirement—it is a strategic tool that facilitates trade, supports economic growth, and enhances a nation's integration into the global economy. A well-functioning customs system is essential for achieving sustainable development and maintaining a competitive edge in international trade.

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### 3. ADDITIONAL SOURCES (FOR HIGHER MARKS)

You can include these to make your project **more professional and research-heavy**:

- Journals on international trade and logistics
- Research papers on customs automation
- Government circulars and notifications
- Export-import policy documents

### ANNEXURE

The annexure section provides supporting documents, formats, tables, and supplementary information that strengthen the research study. It includes practical formats, procedural diagrams, and reference data related to customs clearance operations in India. This section enhances the credibility and practical applicability of the research.

#### ANNEXURE – A

##### Import Customs Clearance Process (Detailed Stepwise Format)

###### Step 1: Arrival of Goods

Goods arrive at port/airport

Carrier files Import General Manifest (IGM)

###### Step 2: Filing of Bill of Entry

Importer/customs broker files Bill of Entry through ICEGATE

Types:

Home Consumption

Warehousing

Ex-bond

###### Step 3: Document Submission

Commercial Invoice

Packing List

Bill of Lading / Airway Bill

Insurance Certificate

Import License (if applicable)

IEC Code

###### Step 4: Assessment of Duty

Classification under HS Code

Valuation of goods

Duty calculation

Step 5: Duty Payment

Online payment through ICEGATE

Includes BCD, IGST, Social Welfare Surcharge

Step 6: Examination of Goods

Based on RMS:

Green Channel

Yellow Channel

Red Channel

Step 7: Out of Charge (Final Clearance)

Goods released for delivery

## ANNEXURE – B

Export Customs Clearance Process (Detailed Stepwise Format)

Step 1: Obtain IEC

Mandatory registration from DGFT

Step 2: Filing of Shipping Bill

Filed electronically via ICEGATE

Step 3: Documentation

Invoice

Packing List

Export License (if required)

Certificate of Origin

Step 4: Customs Examination

Verification of goods

Step 5: Let Export Order (LEO)

Final approval for export

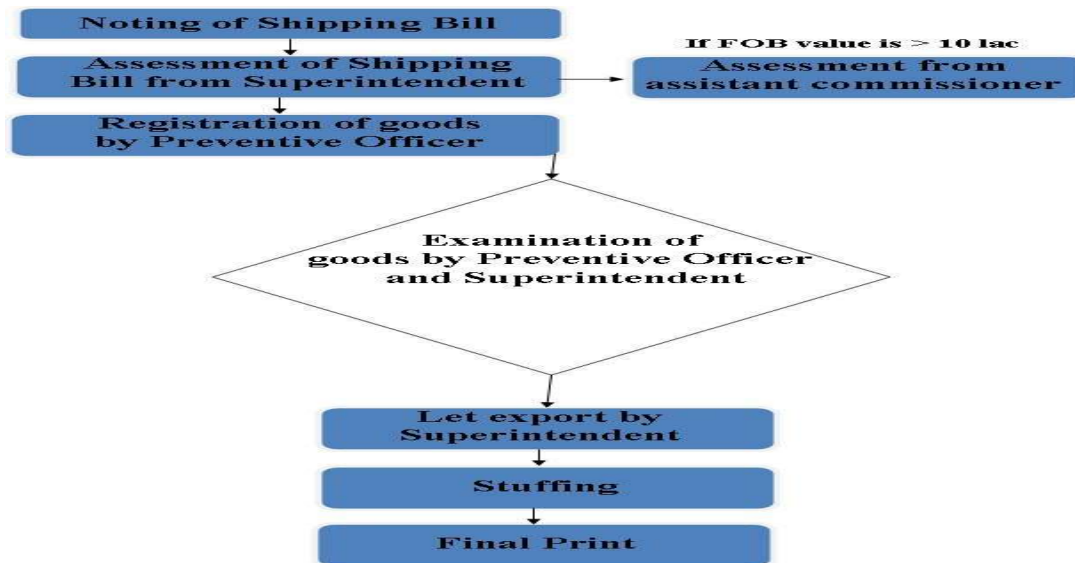
Step 6: Shipment of Goods

Goods loaded and exported

## ANNEXURE – C

List of Key Documents in Customs Clearance

| Document                 | Purpose                 |
|--------------------------|-------------------------|
| Bill of Entry            | Declaration for import  |
| Shipping Bill            | Declaration for export  |
| Commercial Invoice       | Value of goods          |
| Packing List             | Details of packaging    |
| Bill of Lading           | Proof of shipment       |
| Insurance Certificate    | Risk coverage           |
| Import Export Code (IEC) | Authorization for trade |



#### ANNEXURE – D

##### Customs Duty Structure (India)

| Type of Duty             | Description               |
|--------------------------|---------------------------|
| Basic Customs Duty (BCD) | Primary import duty       |
| IGST                     | Integrated GST on imports |
| Social Welfare Surcharge | Additional charge         |

|                   |                                 |
|-------------------|---------------------------------|
| Anti-Dumping Duty | Protection against unfair trade |
|-------------------|---------------------------------|

#### ANNEXURE – E

##### Role of ICEGATE in Customs Clearance

| Function        | Description                   |
|-----------------|-------------------------------|
| E-Filing        | Bill of Entry & Shipping Bill |
| Duty Payment    | Online payment system         |
| Tracking        | Real-time status updates      |
| Document Upload | Paperless processing          |
| Integration     | Connects banks, DGFT, customs |

#### ANNEXURE – F

##### Risk Management System (RMS) Channels

| Channel | Description         | Impact         |
|---------|---------------------|----------------|
| Green   | No inspection       | Fast clearance |
| Yellow  | Document check      | Moderate delay |
| Red     | Physical inspection | High control   |

#### ANNEXURE – G

##### Flowchart – Import Customs Clearance (Visual Explanation)

Process Flow:

Arrival of Goods

↓

Filing of IGM

↓

Bill of Entry Filing

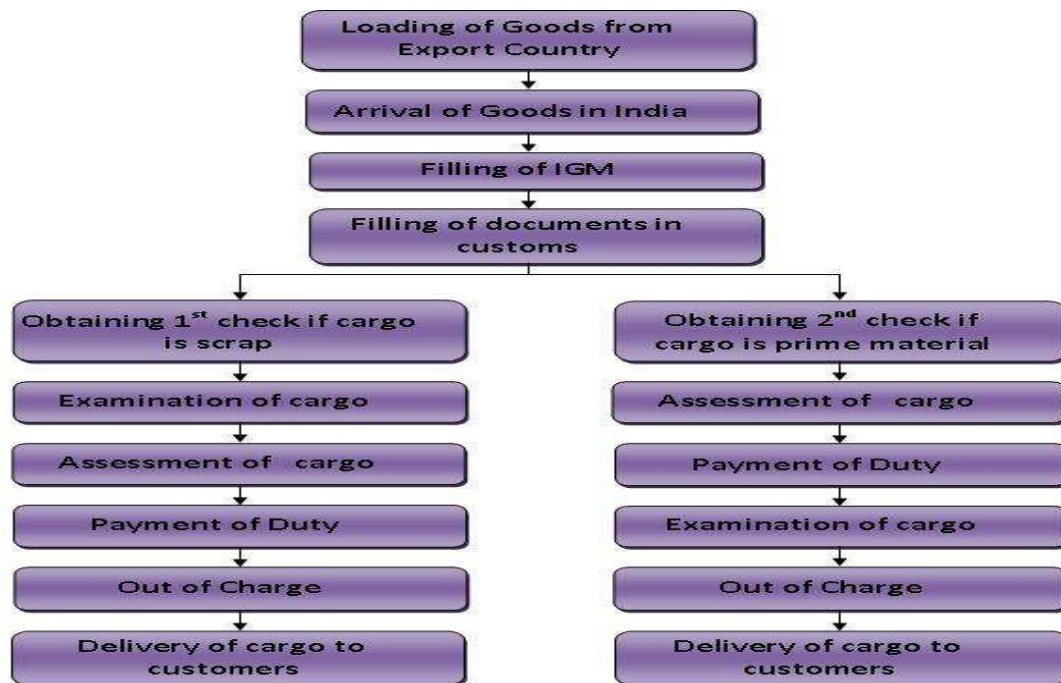
↓

Document Verification

↓

Duty Payment

↓  
Inspection (RMS)  
↓  
Out of Charge (Release)



## ANNEXURE – H

### Flowchart – Export Customs Clearance

Process Flow:

Obtain IEC  
↓  
Shipping Bill Filing  
↓  
Documentation  
↓  
Inspection  
↓  
Let Export Order  
↓  
Shipment

## ANNEXURE – I

### Comparative Analysis: Traditional vs Modern Customs System

| Aspect | Tradition<br>al<br>System | Modern<br>System |
|--------|---------------------------|------------------|
|        |                           |                  |

|                     |                 |                |
|---------------------|-----------------|----------------|
| Docume<br>ntation   | Paper-<br>based | Digital        |
| Processi<br>ng Time | High            | Low            |
| Transpar<br>ency    | Low             | High           |
| Efficienc<br>y      | Limited         | High           |
| Accessib<br>ility   | Restrict<br>ed  | 24/7<br>Online |

## ANNEXURE – J

### Abbreviations Used

| Abbreviation | Full Form                                   |
|--------------|---------------------------------------------|
| CBIC         | Central Board of Indirect Taxes and Customs |
| ICEGATE      | Indian Customs EDI Gateway                  |
| EDI          | Electronic Data Interchange                 |
| RMS          | Risk Management System                      |
| IEC          | Import Export Code                          |
| IGST         | Integrated Goods and Services Tax           |
| WTO          | World Trade Organization                    |

## ANNEXURE – K

### Key Stakeholders in Customs Clearance

Importers

Exporters

Customs Authorities

Logistics Providers

Banks/ Government Agencies

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