DIGITAL TRANSFORMATION ADOPTION CHALLENGES: IT INDUSTRY IN INDIA

by

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Dedication

To my beloved wife and children, unwavering pillars of support have been my solid rock throughout my doctoral journey. I am grateful for your unconditional love, support, and encouragement, inspiring me to pursue my dream of becoming a doctorate holder. Your support, sacrifices, and dedication have made it possible to achieve this milestone, which I was dreaming about, and I dedicate this thesis to you.

ABSTRACT

Digital Transformation Adoption Challenges: It Industries in India

Devanshu Kushwaha, Dec 2023
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In today's dynamic business landscape, digital transformation is imperative for modern businesses' sustained success and competitiveness. The rapid evolution of technology, especially within the IT industry, presents unique challenges to seamlessly adopting digital technologies. This research proposal seeks to comprehensively explore and analyze the hurdles hindering the adoption of digital transformation in the Indian IT industry and, crucially, propose practical solutions to overcome these challenges.

A mixed-method approach to this research combines qualitative insights from interviews with IT professionals, and quantitative data gathered through a survey of employees from IT organizations and focused social media, ensuring a comprehensive understanding. The focus is on understanding the psychological factors and leadership roles that often challenge successful digital transformation initiatives within the Indian IT context. By examining these complexities, the study aims to provide detailed insights into diverse organizations' specific obstacles and present strategies to navigate and surmount these challenges.

Key questions addressed by the research include: (1) How do individual psychological factors shape the adoption and acceptance of new technologies within an organization? (2) What is the relation between leadership roles and the successful implementation of technological transformations? (3) How do group dynamics and organizational culture jointly influence the adoption of new technologies? (4) What strategies can leaders deploy to cultivate a supportive environment for technological transformation while effectively addressing psychological challenges?

Anticipated outcomes encompass identifying primary challenges confronted by IT industries in India while adopting digital transformation. The research will conclude by developing a robust framework to guide enterprises in overcoming these challenges, coupled with actionable recommendations for successfully implementing digital transformation initiatives.

This research aspires to contribute valuable insights that not only illuminate the specific challenges within the IT industry in India but also offer practical solutions. By doing so, it aims to serve as a guiding resource for fostering a culture of successful digital transformation adoption in the dynamic landscape of the Indian IT sector.

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TABLE OF CONTENTS

2

3

CHAPTER I: DIGITAL TRANSFORMATION ADOPTION CHALLENGES: IT INDUSTRIES IN INDIA

1.1 Introduction

The industrial revolutions of the past have profoundly influenced the course of human progress, fundamentally altering manufacturing and revolutionizing various industries. The first industrial revolution, driven by water and steam-powered machinery, signified the transition from manual labor to mechanized production. The second industrial revolution capitalized on the potential of electricity, facilitating mass production and giving birth to assembly lines. In the 1960s (Panopoulos, 2022), integrating information technology into global manufacturing initiated a new era of automation and computer-controlled processes.
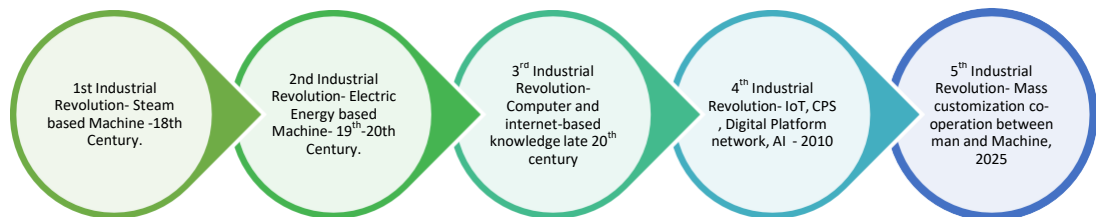
Figure 1 Industrial Revolution   Source- Encyclopedia MDPI

However, the advent of the fourth industrial revolution in the 2010s ushered in a new era of transformation. This revolution revolves around integrated processes across all

organizational functions, characterized by complete digitalization. Key elements of this revolution include automation, big data, cloud computing, augmented reality, cybersecurity, and robotics-based assembly lines (Viraj Vijay Jadhav1, March 2019) (Mahadeokar, 2019). Digital transformation has become a critical concept for organizations seeking growth, sustainability, and competitiveness within this context. It serves as the cornerstone for change, enabling organizations to deliver high value to their customers consistently.

The pace of digital transformation has accelerated significantly, with its adoption progressing by several years in just a matter of months. The urgency to embrace Digital Transformation has become crucial to avoid being outpaced by competitors. The urgency to embrace digital transformation has become crucial to avoid being outpaced by competitors.

Digital transformation enables organizations to better understand their customers by collecting and analyzing data (Yasser Abdallah, 2021). It allows for more personalized and targeted marketing efforts, better customer service, and the ability to tailor products and services to customer needs and preferences.

Through digital technologies, businesses can foster innovation by streamlining processes, promoting collaboration, and creating an environment that encourages experimentation. It can lead to developing new products and services and more efficient and effective business operations.
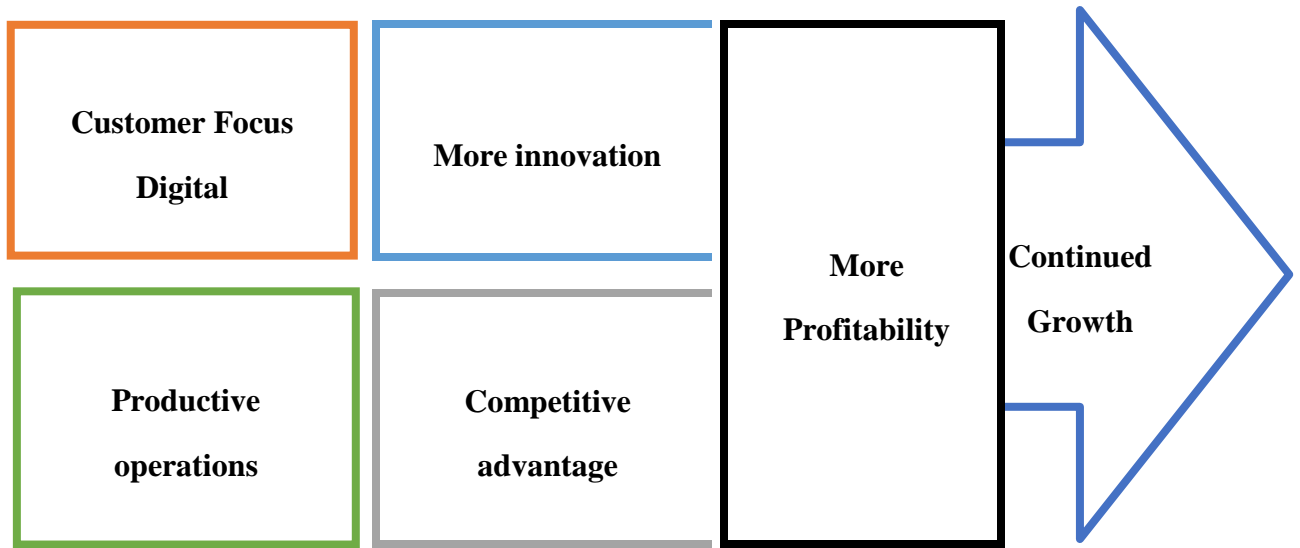
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Digital transformation often involves automating manual and repetitive tasks. It can significantly improve operational efficiency, reduce errors, and free up employees to focus on higher-value tasks. Automation and data analytics can optimize supply chain management, inventory control, and other critical aspects of operations.

Companies that successfully embrace digital transformation gain a competitive edge. They can respond more rapidly to market changes, adapt to customer demands, and outmaneuver competitors. Leveraging digital tools for decision-making and problem-solving can give a business a distinct advantage.

The increased efficiency, reduced operational costs, and ability to target customers more effectively all contribute to enhanced profitability. By embracing digital transformation, businesses can boost their bottom line while delivering better customer value.

Digital transformation helps organizations remain relevant and adaptable in a fast-evolving business landscape. It allows them to seize new opportunities, expand into new markets, and diversify their offerings, fostering continued growth and sustainability.

It involves reevaluating how technology, people, and processes utilized for digital transformation optimize solutions to expedite business processes and provide value to clients. It improves delivery functions, making them highly efficient, error-free, and cost-effective for the organization and its customers. Digital transformation also entails significant changes in brand control, customer interaction, and stakeholder communication (Kaufman & Horton, 2015).

Despite its immense potential, the adoption of digital transformation presents several challenges. Success in digital transformation hinges on making the most substantial impact in five key areas: customer experience, operational agility, culture and leadership, workforce enablement, and integration of digital technologies. (Snidvongs, Digital transformation, 2022) . In India, small and medium enterprises (SMEs), which contribute significantly to the country's GDP and manufacturing sector,

 have been motivated by the COVID-19 pandemic to embrace digital methods. However, many businesses struggle to determine

where to initiate their digitization journey. (Dr Pradeep Racherla & Dr Ram Nidumolu, 2021). However, many companies face the challenge of choosing where to begin their digital transformation journey.

The IT industry, particularly in India, faces rapid and transformative challenges. With limited resources and the imperative to achieve more with less, digitalization is the key to addressing these challenges. However, only 30% of digital transformation initiatives worldwide have succeeded, while 70% have fallen short of their intended outcomes. (Boston Consulting Group, 2021).

India's IT sector has experienced substantial growth over the past decade, contributing significantly to job creation and emerging as a USD 245 billion industry in FY23 with 8.4% y-o-y growth (Nasscom, 2023)**.** As competition intensifies, Indian IT companies must adapt their approaches. Many companies, such as TCS and Infosys, have established digital transformation frameworks, but challenges persist in achieving successful business transformation across the industry.

This research project aims to assess the challenges of adopting digital transformation in the Indian IT sector. It will offer an overview of different facets of digital transformation and identify the constraints that impede its implementation. By knowing these challenges, this research aims to provide valuable insights and recommendations for fostering successful digital transformation initiatives in the Indian IT industry.

Many consulting and research organizations have highlighted the paramount significance of digital transformation in the wake of the pandemic. As organizations look ahead to the upcoming years, it is increasingly probable that businesses will substantially augment their financial commitments toward cutting-edge technologies such as AI, AR/VR, IoT, and other nascent innovations.

1.2 Digital Transformation Market

In digital transformation and analytics solutions, 2022 yielded a substantial portion of revenue, amounting to 35.7%, primarily driven by the rising trend of data-driven insights. The cloud computing sector is poised for notable expansion, with a compound annual growth rate (CAGR) of 27.8% over the forecasted period, reflecting the ongoing shift towards cloud-based technologies.

Regarding services in the world of digital transformation, professional services accounted for a significant share of revenue in 2022, representing a substantial 74.8%. Notably, the implementation and integration service segment is also on an upward trajectory, with an expected CAGR of 26.6% over the forecast period, underscoring the increasing demand for expertise in seamless technology implementation.

The deployment landscape reveals that on-premises solutions held a significant share of revenue in 2022, amounting to 51.7% in digital transformation. Nevertheless, the hosted segment is anticipated to experience noteworthy growth, with a projected

CAGR of 30.5% in the upcoming years, highlighting the growing preference for flexible, cloud-hosted infrastructure.

Concerning enterprise size in digital transformation, large enterprises played a dominant role in 2022, securing a considerable revenue share exceeding 58.7%. Meanwhile, small and medium-sized enterprises (SMEs) are expected to experience robust growth, with a projected CAGR of 28.4% during the forecast period.

Within the realm of end-use industries in digital transformation (Precedence Research, 2023), the BFSI (Banking, Financial Services, and Insurance) segment led the market in 2022, constituting 30% of the market's revenue share. The retail sector also shows significant growth potential, with a forecasted CAGR of 26.9% in the forthcoming years, reflecting this sector's increasing digital transformation initiatives.
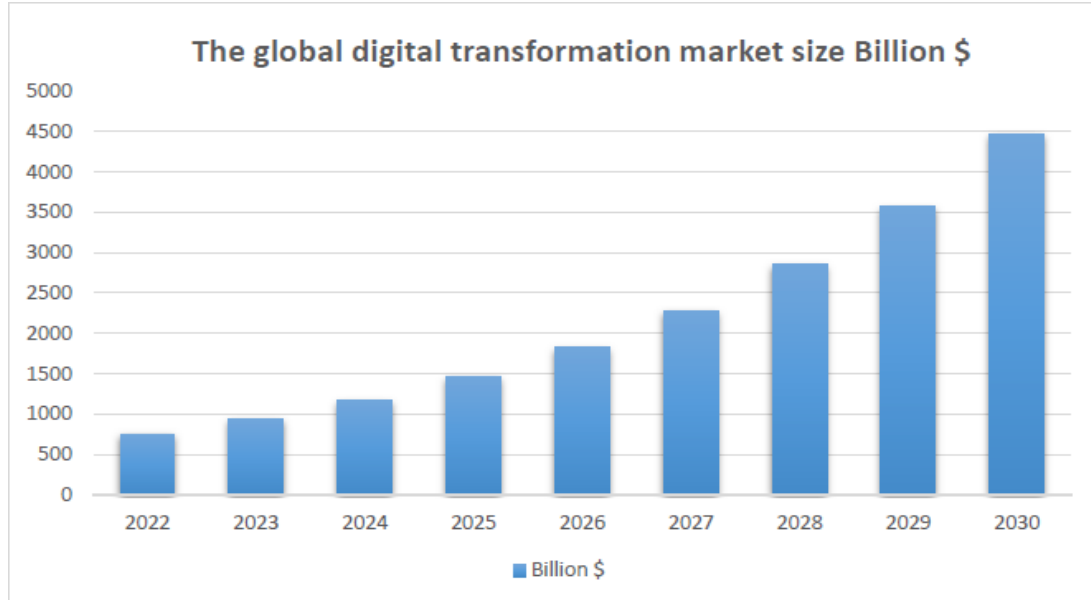
Figure 3 Market size   Sources – (https://www.precedenceresearch.com/digital-transformation-market, 2023)

Geographically, North America emerged as a notable player in the world of digital transformation in 2022, capturing a significant market share of over 43.5%. However, the Asia Pacific region is set to exhibit substantial growth, with an expected CAGR of 29.5% between 2023 and 2032, indicating the region's growing importance in the global landscape of technology adoption and digital transformation.

While the Indian IT industry has consistently played a pivotal role in the global arena of digital transformation providers (NASSCOM, 2023), the fiscal year 2022 marked a year of significant milestones and resurgence—an exceptional outlier within the Indian technology sector. In stark contrast, the fiscal year 2023 has witnessed a relentless pursuit of revenue growth and an unwavering commitment to fortifying industry fundamentals while emphasizing trust and competencies.

Amidst the backdrop of a volatile global economic landscape and the looming specter of an impending recession, the relentless demand for technology adoption and digital acceleration remains steadfast. As a result, technology retains its status as a strategic imperative, constituting an integral facet of business innovation and transformation. It serves as a wellspring for enhancing operational efficiency and cost-effectiveness.

In the current fiscal year, India's technology industry revenue, including hardware, is poised to exceed the remarkable milestone of $245 billion, representing an impressive year-on-year growth of 8.4%. It marks an addition of $19 billion over the preceding year. Exports, valued at $194 billion, are projected to exhibit robust growth, with reported currency terms showcasing a 9.4% increase and constant currency terms indicating a striking 11.4% upswing. The domestic technology sector is anticipated to

reach a value of $51 billion, reflecting a year-on-year growth of 4.9%. Regarding

Indian rupees, domestic tech revenues are expected to register a formidable 13%

year-on-year expansion, buoyed by sustained investments from enterprises and

government initiatives. Notably, the industry maintains its status as a net employer, as

it welcomes nearly 3 lakh new employees into its fold, elevating the total employee

base to approximately 5.4 million, marking a 5.7% year-on-year increase. This

growth underscores its position globally as the esteemed 'Digital Talent Nation.'

1.3 Indian digital transformation market

The Indian digital market is poised for remarkable growth, with expectations of

reaching $710 billion by 2024 and registering an impressive CAGR of 74.7% during

the forecast period (P&S, 2019). This explosive expansion can be attributed to several

key factors. The e-commerce sector, led by giants like Flipkart, Amazon, and

Reliance Retail, is capitalizing on increased internet penetration and smartphone

usage. Simultaneously

$710 Billon by 2024

$ 24.5 Billon till 2018
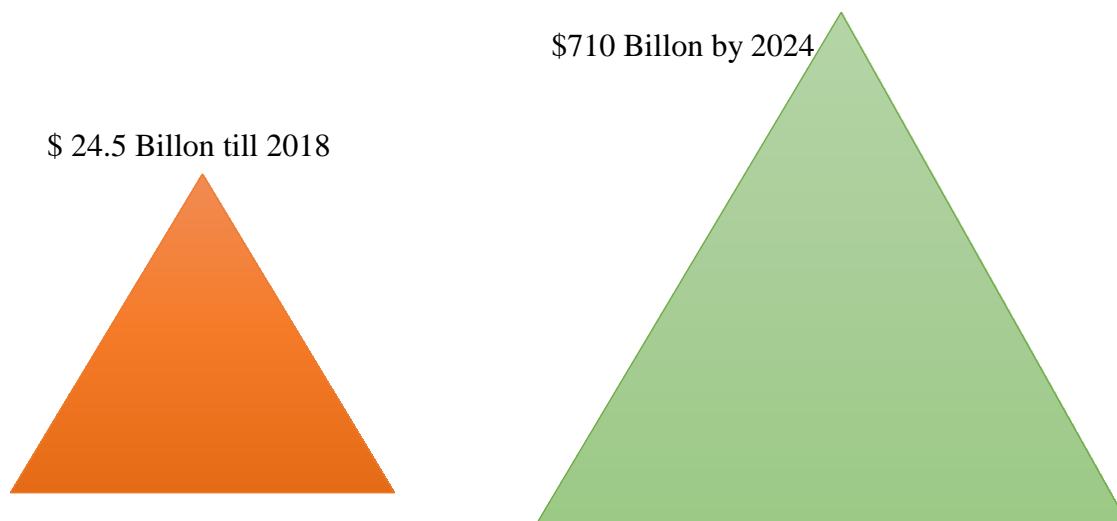
Figure 4 Indian DT market   *Source:* (P&S, 2019)

14

The digital payments industry is experiencing a revolution driven by government initiatives and the convenience of mobile payment apps. Fintech innovations are also reshaping the financial landscape, with services like digital lending and robo-advisors gaining prominence. India's commitment to smart cities and the IoT enhances urban living standards, while initiatives like BharatNet extend internet access to rural areas. The vibrant start-up ecosystem, backed by initiatives like "Make in India" and "Startup India," drives the digital market's growth. Furthermore, the surge in content creation and streaming services, combined with government programs promoting domestic manufacturing, propels the market forward. However, cybersecurity concerns and the need for international investment remain critical considerations as India's digital market continues to evolve and expand.

1.3.1   Indian Tech Geography

Several Indian cities are actively nurturing their IT sectors, making them increasingly attractive for digital transformation endeavours (Vandhna Babu, 2022). The NASSCOM-KPMG Engineering R&D Global Location Analysis comprehensively evaluated locations across various critical parameters, with Bengaluru emerging as the foremost choice. This preference is attributed to the city's robust startup culture, featuring a wealth of tech startups, a substantial presence of Global Capability Centers (GCC), and an environment conducive to business growth. Often hailed as the Silicon Valley of India, Bengaluru boasts an abundant pool of skilled talent essential for scaling up Engineering Research and Development (ER&D) enterprises.

When scrutinizing individual parameters, Bengaluru takes the lead in "Talent,"
excelling in the presence of R&D personnel and overall talent competitiveness scores
across the Indian landscape. Furthermore, Bengaluru claims the highest GCC talent
reservoir in the nation.

Bangalore holds immense significance in India. Often dubbed the Silicon Valley of
India, it is a central IT hub (Anchita Sharma, July 2023), attracting foreign investors
and multinational corporations with its robust infrastructure and tax benefits. As a
result, nearly 80% of global IT giants have established their presence in Bangalore.
The city's economic influence is substantial, with a GDP of $110 billion, constituting
over 87% of the state's total GDP. Bangalore's IT sector significantly contributes to
India's IT exports, accounting for approximately 34% to 40%.

Additionally, various organisations have recognised Bangalore as one of the world's
most innovative and technologically advanced cities. It consistently ranks among the
top 30 smart cities globally regarding technology and infrastructure. The city's growth
is continuous, with experts forecasting its potential to surpass Silicon Valley. It is
well on its way to becoming the world's largest IT cluster, outpacing other IT-focused
cities such as Berlin and Shenzhen.

Bangalore	📍 📍 📍 📍 📍 📍 📍 📍 📍 📍
Delhi NCR	📍 📍 📍 📍 📍 📍 📍 📍 📍

Hyderabad	📍	📍	📍	📍	📍	📍	📍	📍
Chennai	📍	📍	📍	📍	📍	📍	📍	
Pune	📍	📍	📍	📍	📍	📍		
Mumbai	📍	📍	📍	📍				
Coimbatore	📍	📍	📍					
Ahmedabad	📍	📍	📍					
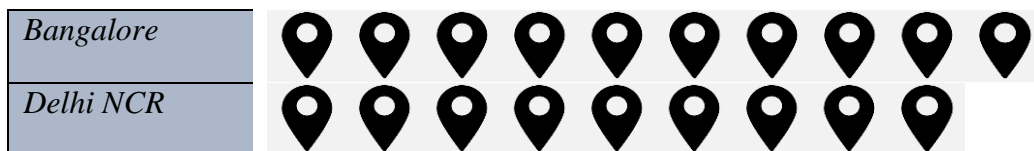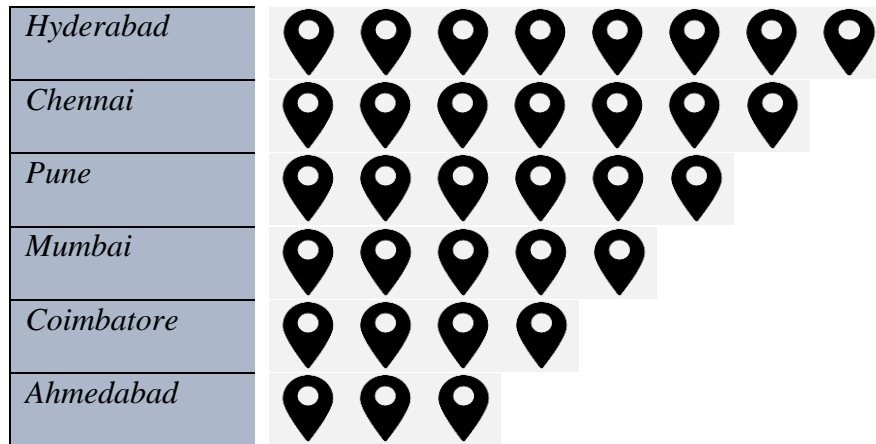
Figure 5 Indian IT cities   *Source - NASSCOM*

India offers a compelling cost advantage, primarily stemming from affordable labour and operating costs. In the context of "cost attractiveness," Coimbatore has emerged as the most competitive location among the eight Indian cities analyzed, closely followed by Chennai, which presents favourable operating costs.

The "ER&D ecosystem" parameter sees Bengaluru retaking the lead, distinguished by its extensive presence of GCC centres, technology startups, and unicorn startups—a testament to the city's innovation landscape. Delhi National Capital Region (NCR) closely follows with its notable concentration of universities and engineering colleges.

Regarding the "business environment," Hyderabad emerges as the leader, primarily due to Telangana's progressive policies that have transformed the region into a hub of innovation and research. Hyderabad also excels in providing essential infrastructure for new businesses. Chennai and Delhi NCR outperform other locations in terms of macroeconomic risk and the quality of governance, contributing to a favourable political environment.

In ER&D, organizations must carefully assess various Indian cities across all these parameters to determine the best fit for their specific requirements. Crafting a comprehensive location strategy is pivotal to shaping the blueprint for the establishment, growth, and sustainability of ER&D centres, aligning with the dynamic landscape of digital transformation.
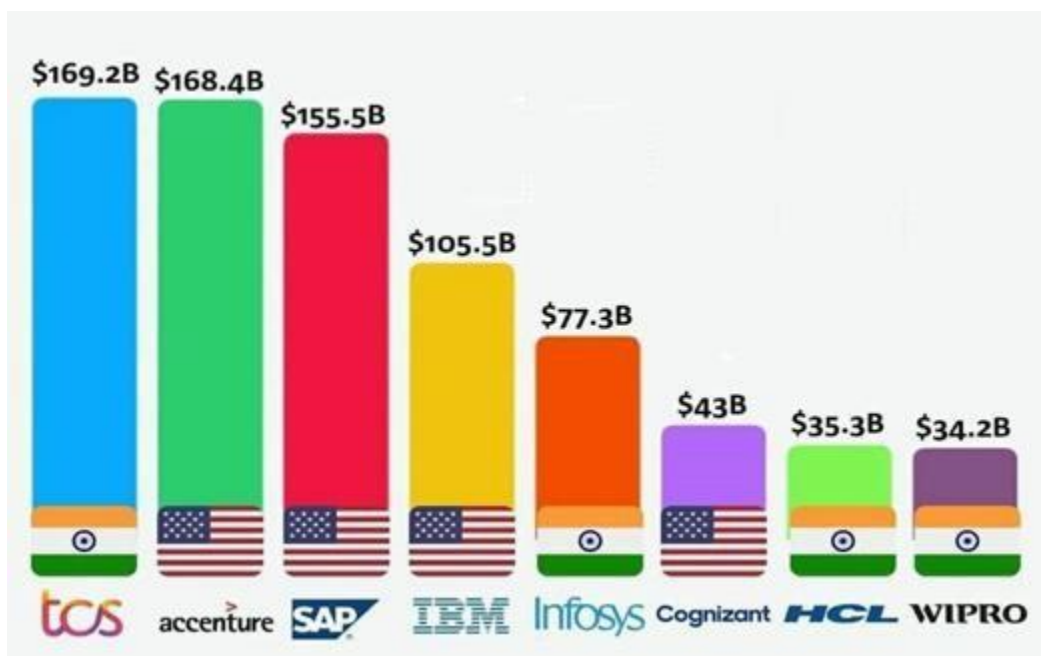
Figure 6 top It companies by market cap   Sources – (https://www.pinterest.com/, 2022)

India hosts some of the world's most valuable corporations (FORBES INDIA, 2023). These enterprises operate across diverse industries, such as technology, finance, and consumer goods, substantially propelling India's economic development. Notably, the top 10 companies in India by market valuation offer a glimpse into the sectors and market capitalization that drive this economic dynamism.

Rank and Company	Market Cap in INR Lack Core	Employee headcount Aprox
Tata Consultancy Service	13,06	600000
Infosys	6.12	3,36,294
HCL Technologies	2.16	2,40,000
LTIMindtree Ltd.	1.59	82,000
Tech Mahindra Ltd	1.26	1,52,400
MphasiS Ltd.	0.468	29,473
Persistent	0.453	22,500
Oracle Fin Serv	0.358	8,001
Coforge Limited	0.323	21,815

Table 1 Rank of Indian company   Source- Forbes India, Survey 2023.

1.3.2 Share of the Indian IT industry in the global market

The Indian IT industry has sustained its growth and expanded its global presence significantly. In the fiscal year 2021 (Statista, 2021), it represented a substantial 19.2% of the total global IT spending, marking a remarkable journey since fiscal year 2001. This ascent is attributed to India's abundant talent pool, renowned for its expertise in IT and related fields. Indian IT companies' cost-effective services have made them preferred partners for international corporations seeking to optimize operational expenses. Moreover, these firms have invested heavily in research and development, fostering innovation in cutting-edge technologies such as artificial intelligence, data analytics, and blockchain. This innovation, combined with their extensive capabilities, has enabled them to cater to diverse global clients.

SHARE IN GLOBAL IT

■ Share in global IT soend

FY 2001	FY 2008	FY 2010	FY 2020	FY 2021
2.50%	8.40%	9.70%	18.50%	19.20%
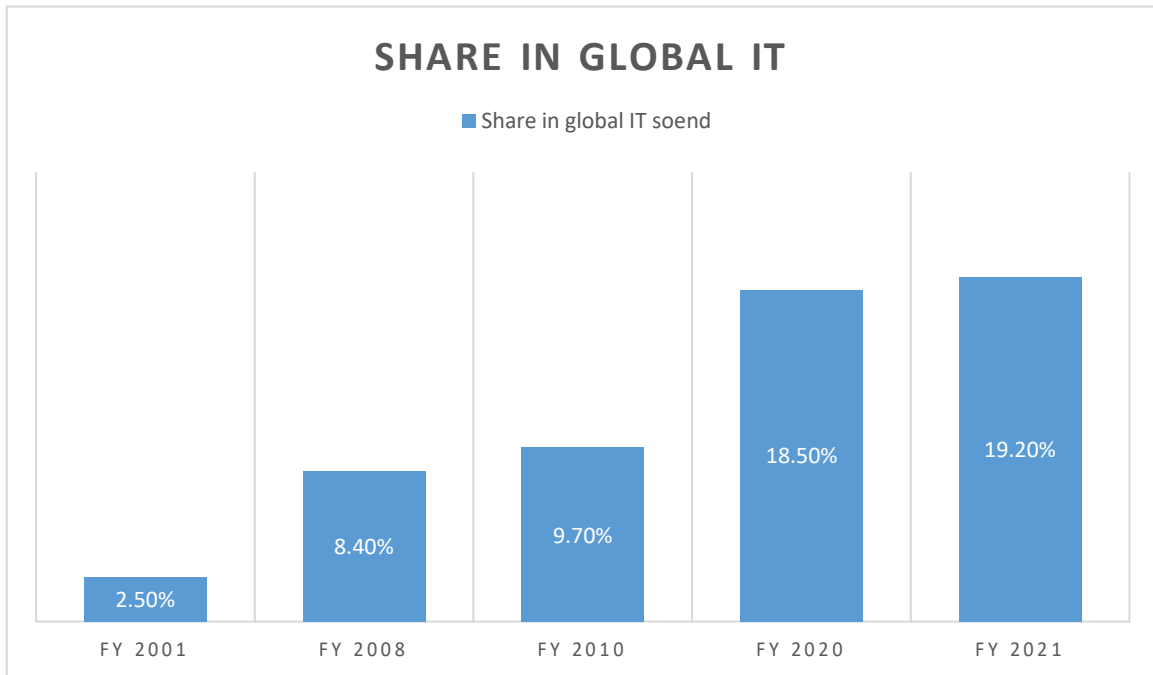
Table- Share in global IT   source- Statista report March 2021

In parallel, Indian IT companies have strategically embarked on localization initiatives in foreign countries, with the United States at the forefront of these efforts. This approach involves establishing local offices and development centres and forming partnerships with local businesses. A crucial aspect of these initiatives is hiring local talent, which bridges cultural gaps and aligns with the global trend of promoting diversity and inclusivity in the workplace. By better understanding local market dynamics, Indian IT firms can offer more tailored solutions and strengthen client relationships. Simultaneously, these initiatives have played a role in boosting the economies of the host countries, contributing to job creation and overall economic growth. As the Indian IT sector continues to innovate and expand, it is poised to play an even more prominent role in shaping the global technology landscape, making it a vital driver of the digital future.

Fintech innovations, including digital lending platforms and robo-advisors, fundamentally reshape the financial sector, providing consumers with novel and user-centric financial solutions. India's commitment to developing smart cities and harnessing the potential of the IoT aims to enhance urban infrastructure and service delivery, resulting in improved living standards for urban residents.

Initiatives like Bharat Net address the digital divide, extending high-speed internet access to rural areas and facilitating more significant participation in the digital economy.

The thriving start-up ecosystem in India, supported by government initiatives such as "Make in India" and "Startup India," is a crucial driver behind the digital market's rapid expansion, fostering innovation and entrepreneurship. Additionally, the surge in content creation and streaming services, accompanied by government programs that promote domestic manufacturing, is propelling the digital market forward, enriching digital content and entertainment options for consumers.

1.4 Indian IT Echo system

Since the early 1980s, India's engineering and technical education system has experienced rapid growth, propelled by industrialization and economic development (Shruti Karkare, 2013). India now boasts the Second world's largest population of engineering students. Following the country's independence, government policy's primary focus was cultivating a workforce of engineers to support the burgeoning economy. This objective led to the establishment of Indian Institutes of Technology

and the conversion of Regional Engineering Colleges into National Institutes of Technology, all intending to achieve this goal.

Engineering has emerged as the preferred career choice for talented students at the 10+2 level. Consequently, there has been a surge in the establishment of engineering colleges, primarily in the private sector. Paradoxically, industry leaders frequently express dissatisfaction with the quality of engineers available for their workforce. This concern is further compounded by significant levels of unemployment among recent engineering graduates.

In India, the educational landscape comprises a diverse array of engineering colleges, with approximately 6,078 institutions offering engineering programs (Rastogi, 2023). Among these, 4,359 are privately managed engineering colleges, while 1,359 are government-run ones. This dynamic mix of private and public institutions underlines the educational opportunities available to aspiring engineers nationwide. Furthermore, these colleges cater to a wide range of engineering disciplines, ensuring that students have many options to pursue their academic and career aspirations.

Total Number of Engineering Institutes in India	Private Sector institutes	Government Institute
6078	4359	1359

Table3 Engineer Institute in India, *Source: (https://idreamcareer.com/, 2923)*

India's educational landscape has witnessed a significant surge in the establishment of technical institutions, contributing to the graduation of many students each year. Among Indian states, Maharashtra leads the way with the highest technical institutes, closely followed by Tamil Nadu and Uttar Pradesh. Notably, some of these specialised institutions have obtained university status, reflecting the evolving educational dynamics in the country. This transformation reflects the dynamic nature of education in the country and the growing emphasis on technical and engineering studies. Additionally, this surge in technical institutions aligns with India's aspirations for skill development and technological advancement in a rapidly evolving global landscape.

State Name	Number of Technical Institute
Maharashtra	767
Tamil Nadu	552
Uttar Pradesh	382
Andhra Pradesh	343
Karnataka	398
Telangana	260
Madya Pradesh	246
Gujarat	200
Haryana	181
Rajasthan	197

Table 4 Technical institute by state   *Source: - (https://detainedengineers.com/, 2022)*

In India, the National Institutional Ranking Framework (NIRF) employs a precise evaluation methodology with distinct parameters to assess and rank educational institutions. The NIRF assigns rankings based on the following parameters and their respective weights:

Teaching, Learning, and Resources (TLR) – 30%

Research and Professional Practice (RP) – 30%

School Leaving Certificate (GO) – 15%

Outreach and Inclusivity (OI) – 15%

Peer Perception (PR) – 10%

Name of Institute	Ranke in India	Total score
IIT Madras	1	89.79
IIT Delhi	2	87.09
IIT Bombay	3	80.74
IIT Kanpur	4	80.75
IIT Roorkee	5	75.64
IIT Kharagpur	6	73.76
IIT Guwahati	7	70.32
IIT Hyderabad	8	70.28
NIT Tiruchirappalli	9	669.71
Jadavpur University	10	67.04

Table 6 – Top engineering collage   *Source: - idreamcareer2023 report*

The NIRF 2023 rankings have been released, revealing the top engineering colleges

in India based on their scores in these parameters.

1.5 Research Problem

The research problem addressed in this study revolves around the challenges faced by

Indian IT organizations in adopting digital transformation (DT). Despite the

recognized importance of DT for businesses to remain competitive in the rapidly

evolving technological landscape, organizations encounter various obstacles during

the implementation process. Understanding and analyzing these challenges is crucial

for devising effective strategies and solutions to facilitate successful DT adoption in

the Indian IT industry.

The specific research problem can be summarized as follows: What are the key challenges hindering the adoption of digital transformation in Indian IT organizations, and how can these challenges be overcome to implement DT initiatives successfully?

1.6 Purpose of Research

A recent report by IDC Corp examined the adoption of digital transformation and industry priorities and focus areas. The report found that 60% of all organizations identified themselves as digital businesses, with either a well-defined digital strategy (22%) or without considering themselves as digital businesses (9%). Additionally, 22% of organizations were classified as digital-native businesses (IDC corporation, 2023).

Studying challenges associated with adopting digital transformation in the Indian IT industry is essential for several reasons. Firstly, the Indian IT industry plays a significant role in the country's economy, contributing to its growth and global competitiveness. Understanding the challenges organisations face in implementing digital transformation is crucial for sustaining this growth and staying competitive in the rapidly evolving digital landscape.

Leading industry data supports the importance of this research. According to a report by NASSCOM, the apex body for the Indian IT and Business Process Management (BPM) industry, the global digital transformation market is expected to reach USD 1.2 trillion by 2025. Additionally, a survey conducted by McKinsey & Company revealed that 70% of digital transformation initiatives do not achieve their objectives.

By addressing the challenges identified through this research, organizations can enhance their capabilities, optimize processes, and leverage technology to gain a competitive edge. Successful implementation of digital transformation initiatives can lead to improved operational efficiency, enhanced customer experiences, and increased market share.

Therefore, conducting this research is essential to provide valuable insights and recommendations to guide organizations in effectively adopting digital transformation in the Indian IT industry, ultimately leading to enhanced competitiveness, growth, and sustainable success in the digital era.

In the realm of technology (AKASH LOMAS, 2021) **,** The phrase 'digital transformation' has become a ubiquitous buzzword. However, understanding its implementation process and the profound changes it ushers into the broader user experiences remains a critical inquiry. The modern business landscape, marked by relentless technological advancement, compels organizations of all sizes to evolve into digital enterprises. It is no longer a question of 'whether' to embark on this transformative journey but rather a 'how' to navigate it successfully. Despite the widespread recognition among 21st-century decision-makers about the imperative nature of digital transformation for process enhancement, many continue to equate this transition with the chaotic deployment of intricate technologies.
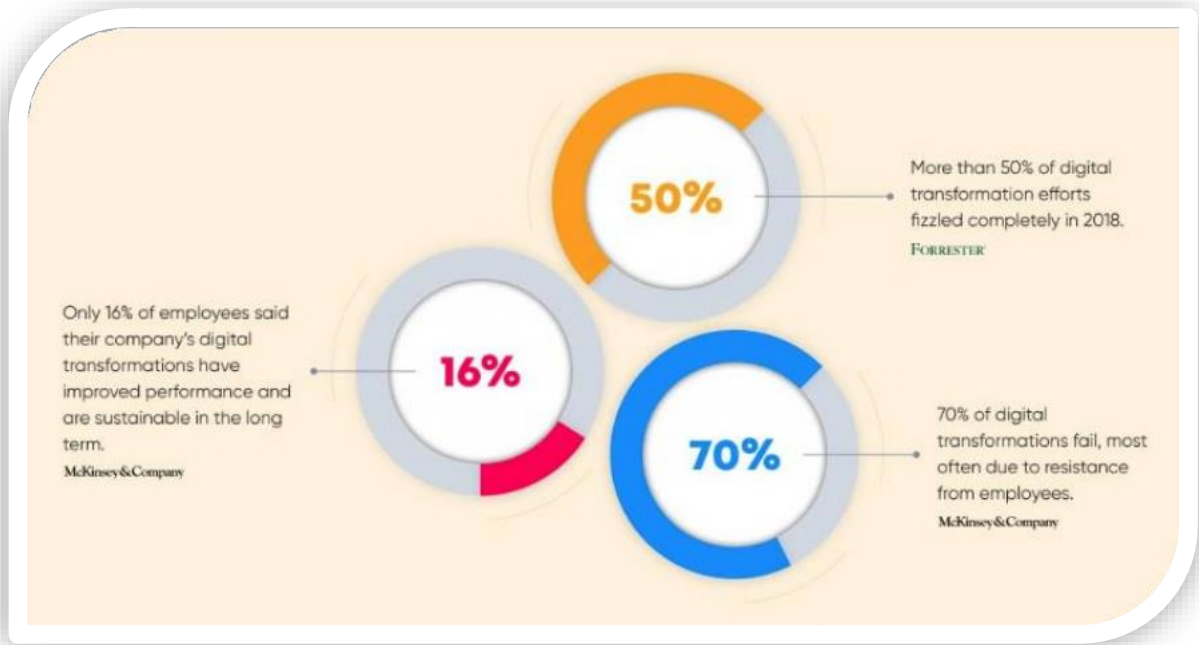
Figure 7 Corporate report of digital transformation   *Source: (LOMAS, 2021)*

Shockingly, according to McKinsey's research, a mere 16% of executives across various companies attest to the success of their digital transformation accomplishments, leaving a staggering 86% of businesses grappling with the shortcomings. Effective digital transformation hinges on the selection of the right tools but also on acquiring the requisite expertise and guidance to plan the process for optimal outcomes. Businesses that fail to adapt and respond to the demands of digital transformation face inevitable failure, particularly those clinging to traditional operational approaches. On the other hand, organizations that embrace digital transformation endure and thrive, earning recognition as industry leaders. However, the simplicity of the concept belies the complexity of its execution, a fact emphasized by the dismal failure rates of digital transformation initiatives. Statistics reveal the

harsh reality of digital transformation endeavours, with more than 50% failing in 2018 and 70% succumbing to failure, often due to employee resistance, according to McKinsey. Only a meagre 16% of employees report improvements in performance and sustainability resulting from their company's digital transformations, as indicated in McKinsey's findings

1.7 Significance of the Study

This study holds significant importance.

- The findings of this research will provide valuable insights into the challenges faced by IT organizations in India in adopting digital transformation. By identifying these challenges and proposing solutions, the study aims to equip organizations with practical strategies that can enhance their ability to implement digital transformation initiatives successfully. It can improve operational efficiency, competitiveness, and growth in the dynamic IT industry.

- The study contributes to the existing body of knowledge by providing a focused analysis of the challenges of adopting digital transformation in the Indian context. By examining the factors hindering successful implementation, the research aims to deepen the understanding of the complexities and nuances involved in digital transformation initiatives. It can benefit researchers, scholars, and practitioners interested in digital transformation and organizational change.

- A vital outcome of this research will be the development of a framework to help industries overcome the challenges identified in adopting digital transformation.

This framework will provide a structured approach and actionable

recommendations that can guide organizations in navigating the complexities of

digital transformation. It can be a practical tool for decision-makers and

practitioners involved in digital transformation.

- The study addresses a significant research gap by focusing on the challenges of

digital transformation adoption in the Indian IT industry. The research findings,

framework, and recommendations will contribute to academic literature,

providing valuable insights into the specific challenges and strategies of digital

transformation in the Indian context. Moreover, the study's practical implications

can also benefit business literature, offering real-world insights for industry

professionals and stakeholders.

1.8 Research Purpose and Questions

1.8.1 Research Purpose

This research aims to identify and analyze the challenges associated with adopting

digital transformation in the Indian IT industry. Additionally, the study aims to

propose effective strategies and solutions to overcome these challenges and enable

successful implementation of digital transformation initiatives.

1.8.2 Research Questions

Question 1 - How do individual psychological factors influence adopting and accepting new technologies within an Organisation?

This question explores the psychological aspects that are pivotal in employees' willingness to embrace new technologies. It investigates factors such as attitudes, perceptions, fears, motivations, and attitudes toward change that shape individuals' behaviors in the context of technological innovation.

Question 2- What is the relationship between leadership roles and the effective implementation of technological transformations?

This question focuses on understanding the connection between leadership roles— such as transformational and transactional approaches- and the successful implementation of technological changes. It explores how different leadership approaches influence employees' willingness to engage in and contribute to transformative initiatives.

Question 3 - How do group dynamics and organizational culture impact the adoption of new technologies?

This question delves into the collective psychological factors within teams and organizational cultures. It examines how group dynamics, collaboration, communication, and cultural norms shape employees' responses to new technologies and their ability to adapt to transformative changes.

Question 4- What strategies can leaders employ to foster a supportive environment for technological transformation while addressing psychological challenges?

This question shifts the focus toward practical implications. It investigates leadership strategies, interventions, and approaches that can effectively mitigate psychological barriers and facilitate a positive environment for embracing new technologies. It also explores ways to promote open communication, address resistance, and promote a culture of continuous learning and adaptation.

These research questions will guide the investigation and analysis of the challenges and solutions related to adopting digital transformation in the Indian IT industry, contributing to a deeper understanding and practical insights for stakeholders in the field.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Theoretical Framework- Digital transformation

This literature review provides information about the growth of digital

transformation. Technologies enable resolutions in various industries and play a

critical role in any organisation's ability, sustainability, and development. That's why

digital transformation matters; it evolves organizations within their respective

markets while continuously increasing value to the customer.

The term 'digitization' is relatively uncommon, leading to occasional confusion with

'digitalization.' In reality, these are two distinct concepts (NARDO, Digitization,

Digitalization and Digital Transformation: what's the difference?, 2021). The former

pertains to converting data and information from analogue to digital formats, while

the latter relates to transforming processes.

While this may seem like a minor change, Digitization, which was experimented with

in the 1990s, has proven to be a substantial revolution, impacting both corporate

environments and individual communities.

Digitization has eliminated extensive paper archives, countless files, folders, and

sheets within office settings. The conversion of data into digital form reduces

physical storage requirements and enhances accessibility, portability, and

management. This shift has enabled optimising and automating various processes,

presenting a more eco-friendly approach by significantly reducing paper consumption.

Moreover, digitizing media, including videos, photos, books, films, and music, has given rise to innovative technologies such as MP3 players, digital cameras, and e-books. These technologies have simplified access and enjoyment while substantially minimizing storage demands.
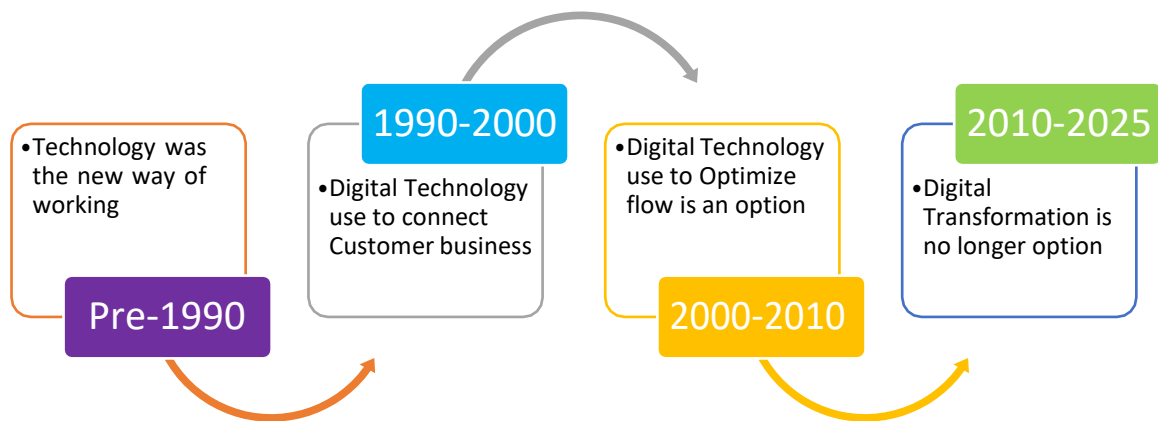
Figure 8 Digitization Timeline   *Source -* (NARDO, Digitization, Digitalization and Digital Transformation: what's the difference, 2021)

Reflecting on the past, embarking on a business trip with paper materials may now seem archaic, but not too many years ago. It was a common practice.

While the earliest article in the literature review dates back to 1981 (Kraus, 2021), a substantial increase in publications became evident during the first decade of the 21st

century, with a particularly noteworthy surge in the last five years, notably in 2020. The figure 9 illustrates the sustained attention this research field has collected, with exponential growth in scientific output since 2018, a trend likely to persist in the years to come, as indicated by the polynomial regression line. Recent trends in exploring digital innovations, such as artificial intelligence and e-commerce, contribute to expanding research in this domain.
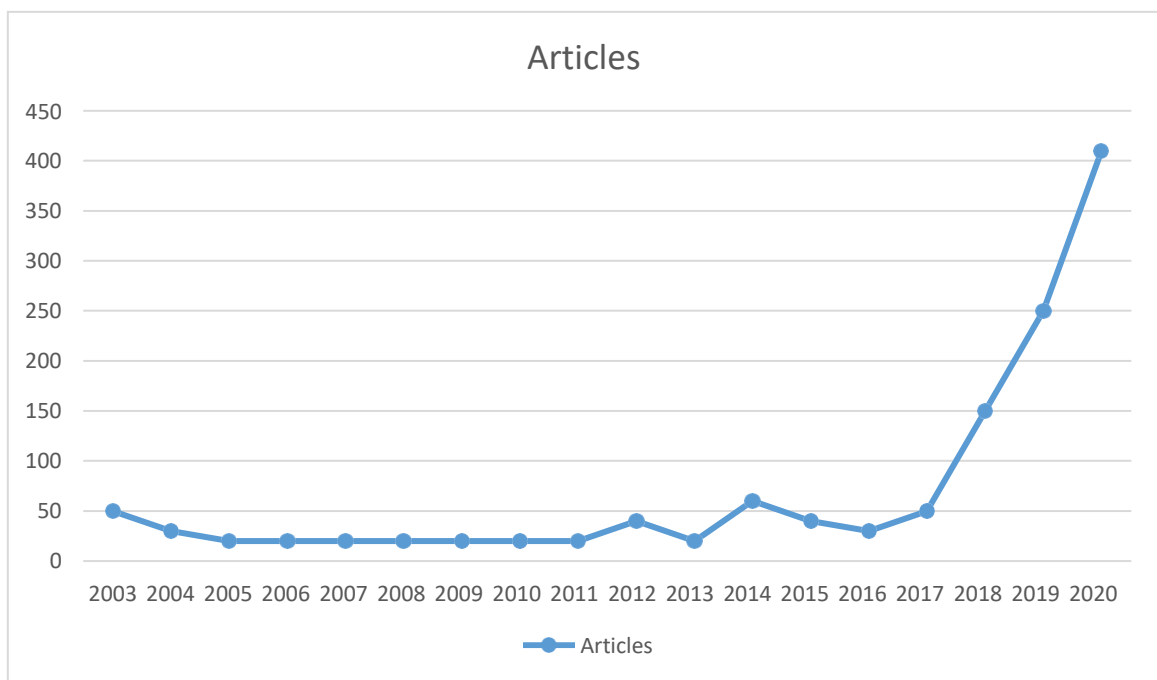
Figure 9 Articles   *Source - (Services, 2022)*

It is essential to recognize that Digitization represents a foundational initial step. Without it, discussions on digitalization and Digital Transformation as we know them today would not be possible.

While there has been a significant emphasis on researching and understanding digital transformation, there remains a noticeable gap in the study of DT adoption, with no

known research available until June 2023, specifically about DT adoption in IT

companies. The following table 6 highlights some of the critical studies conducted in

the past concerning DT.

(Pramod Niraula P Niraula, 2019)	Study of The Digital Transformation Adoption in the Insurance Sector of Nepal
(Dyk R. v.-P., 2019)	Factors Influencing the Intended Adoption of Digital Transformation: A South African Case Study
(Cavalcanti, 2022)	Drivers of digital transformation adoption: A weight and meta-analysis
(Elisa Battistoni, 2023)	Adoption paths of digital transformation in manufacturing SME
(Corin Kraft, 2022)	The digital transformation of Swiss small and medium-sized enterprises: insights from digital tool adoption
(Shilpa Iyanna a b, 2022)	Digital transformation of the healthcare sector. What is impeding the adoption and continued usage of technology-driven innovations by end-users?
(Abdulquadri, 2021)	Digital transformation in financial services provision: a Nigerian perspective to the adoption of chatbot

(Onețiu, 2020)	The impact of social media adoption by companies. Digital transformation
(Emily Henriette, 2016)	Digital Transformation Challenges

Table 6 – Litrature view   *Source- Author's Compilation*

Digital transformation is the foundation of change in any organization, delivering high value to the customer. According to Clint Boulton from Boulton Companies, digital transformation adoption has accelerated by three to seven years in just a few months (Clint Boulton, 2021). This transformation is essential for companies to avoid being outflanked by competitors.

Digital transformation is a process of rethinking how the CIOs of organizations use technology, people, and procedures to optimize solutions that accelerate business processes and provide value outcomes to clients. It aims to speed up the delivery function with highly efficient, error-free, cost-effective results for customers and organizations.

The study of innovation adoption (Ruby Roberts R. F., 2020) and its influencing factors has spanned several decades. While it's not feasible to provide an exhaustive review within this paper, it's essential to highlight key models that pertain to the psychological dimension of innovation adoption. Rogers' Diffusion of Innovation Theory (DOI) (Rogers E. , 1983) stands as a seminal work, offering a framework to comprehend the introduction and integration of new ideas and technologies within organizations. His five-stage model encompasses psychological elements such as

personality characteristics, attitudes, uncertainty, and social norms (Rogers E. , 2003)
. This model has significantly shaped subsequent innovation research, uncovering

additional psychological factors like incentives (Clifton, 2017)and leadership

(Keengwe, 2009).

According to Ira Kaufman and Chris Horton (Kaufman, 2005), digital transformation

is changing how businesses operate, including their control over the brand,

interactions with customers, and communication with stakeholders.

The literature review highlights various challenges in the adoption of digital

transformation. Digital transformation success in any organization depends on five

main areas where the transformation efforts should have the most impact. These areas

are customer experience, operational agility, culture and leadership, workforce

enablement, and digital technology (Snidvongs, Digital transformation, 22 May 2022)

According to a report from Financial Express (Nidumolu, 2021), Small and Medium

Enterprises (SMEs) form the backbone of India's GDP, contributing to 30% of the

nation's total output and accounting for 45% of its manufacturing sector. However,

the COVID-19 pandemic dealt a severe blow to these enterprises, prompting them to

seek ways to adapt and embrace new technologies, transitioning from traditional

physical methods to digital solutions.

This shift towards digitalization is increasingly evident in the Indian business

landscape. For example, Kirana shops have started using Excel to streamline

inventory management, while fruit sellers have adopted UPI payment methods to

attract customers who prefer digital payment options. While digitalization presents

new opportunities, not all businesses have fully embraced it, leading to a significant

challenge in the adoption process. One common hurdle many enterprises face is

deciding where to initiate their digital transformation journey.

The IT industry faces challenges that demand efficient resource utilization in today's

rapidly changing world. Embracing digitalization is the key to meeting these

demands. India plays a crucial role in this transformation as an IT industry hub.

According to a survey conducted by the Boston Consulting Group (BCG) in 2021

(Boston Consulting Group, 2021), the success rate of digital transformation initiatives

worldwide is a mere 30%. It means that 70% of such endeavors fail to achieve their

desired outcomes.

India has emerged as a prominent hub for the IT sector, witnessing remarkable

growth over the past decade. This sector has contributed significantly to job creation,

adding 55 lakh people to the workforce. Projections indicate that the Indian IT

industry will become USD 227 billion in FY22 (Nasscom, 2022) .

The Indian IT sector has flourished by providing highly skilled and cost-effective

professionals to the global IT marketplace. However, with increasing competition,

Indian IT companies must adapt their current practices. The path to revitalization lies

in embracing Digital Transformation. Many IT companies have taken noteworthy

initiatives in recent years, with organizations like TCS and Infosys setting up dedicated Digital Transformation frameworks.

A global survey conducted in 2020 revealed that India boasts an impressive 52% adoption rate of digital solutions, surpassing the global average. Despite this progress, the industry faces several challenges, and not every IT company has been able to transform its business fully.

According to a research study (Brigid Trenerry1, 2021)**,** At the individual level, five key factors are postulated to be associated with effective digital transformation among employees: acceptance and adoption of technology, Phylogical perceptions and attitudes regarding technology and digital change, skills development and training, workplace resilience and adaptability, and work-related well-being. On a group level, three essential factors for digital transformation have been identified: effective team communication and collaboration, workplace relationships and team cohesion, and the adaptability and resilience of teams.

It is essential to consider these factors when planning and embarking on a digital transformation journey. However, it is worth noting that various personal, contextual, and cultural factors may influence specific digital transformation outcomes, which must be factored into implementing digital transformation initiatives. While this review incorporates an expanded list of these moderating factors for reference, they may not always be simultaneously relevant or present in practice. Further research is warranted to gain a deeper understanding of the role of moderating factors in the

context of digital transformation. Following this synthesis, we delve into our findings'

implications for future research and practical applications."

Individual Factor	**Group Factor**	**Organization Factor**

Individual Factor	**Group Factor**	**Organization Factor**
1 Technology acceptance and adoption 2 Perception and Attitudes 3 Skill and training 4 Workplace resiliency 5 Stress	1. Team communication 2. Adaptability 3. Workplace relation	1. Leader, Leadership style, 2. Human resources, 3. Culture

Contextual Moderators

6   Age , experience , Generation , Gender , personality , skill ,culture , Motivation , Type of training , organizational

commitment , peer , transformation leadership organization culture

Digital transformation

Figure 10- Synthesis   *Source: Author's Compilation*

As the integration of digital technologies often forms the foundation of workplace digital transformation, it becomes crucial that employers' acceptance and attitudes toward these new technologies play a pivotal role in fostering adoption and, consequently, facilitating digital transformation initiatives. The review revealed that employees are more likely to embrace a specific technology or system when they perceive it as beneficial to their work, easy to learn and use, and supportive of their performance. Furthermore, it has been observed that technology adoption varies by contextual factors, including age, gender, task-technology alignment, and prior work experience. The extent of technological adoption and acceptance is also contingent on resilience and training opportunities. Peer support and endorsement from top management substantially influence technology adoption at group and organizational levels.

In broad strokes, research findings suggest that employees are generally motivated to embrace new technologies, recognizing benefits such as heightened productivity and improved work quality. Nevertheless, attitudes and perceptions are modulated by factors such as occupation, job role, gender, age, and the type of technology in question. For instance, when technology is perceived as a potential threat to job security or as a precursor to workforce reductions, it elicits negative attitudes, potentially resulting in increased turnover, cynicism, depressive tendencies, diminished organizational commitment, and decreased career satisfaction. However, it is worth noting that perceived administrative support and cultivating a competitive

and psychologically favorable climate can mitigate these negative perceptions and their subsequent impacts. Furthermore, employee autonomy, competence, and engagement expectations strongly correlate with heightened support for digital transformation efforts.

2.2 Digital Transformation Dynamics

In this study, the summary of the findings from the literature review is done by constructing an inclusive and multi-faceted framework for digital transformation. These matrices help structure the results and unify the various insights from the study, creating a cohesive whole. The multi-dimensional framework then condenses the matrices into an overarching structure, providing scholars and practitioners with a practical tool for DT analysis. The matrices comprise the three categories mentioned earlier – contextual factors, mechanisms, and outcomes- and sequentially describe each type, their respective sub-divisions, and the main themes within each sub-division. Sub-divisions and critical pieces are denoted in italics (e.g., organizational strategy and legacy, part of the organizational determinants sub-division)."

Contextual Conditions	Mechanisms	Outcomes
Material Determination: - Digital Technology & application, Digital property, Data availability	**Elements that innovate: -** Doveloping digital business strategy Creating digital innovation Exploitation and leveraging of digital capabilities. Mobilization and acceleration of DT by TMT. Merging human computer interaction	**Change in the organization.** Permeable, agile , organizational structure Technology focused management Digital customer experience DT echo system
Organizational Determination: - Organizational Strategy and Legacy Digital transformation awareness of TMT		**Change economics** Improved firm performance Dynamics and constantly changing industry.
Environmental Determination: - Legal and infrastructure condition Technology driven dynamics. Digital consumer demand	**Element that integrates: -** Unlock organization. Increasing technological flexibility Physical digital harmonizing by TMT Doveloping digital transformation strategy	**Spillover** Higher exposure of cyber threats Digital permeate market Blurring boundaries between physical and online Digitalization of individual Paradigms of customer

Figure 11 Framework   *Source* - (André Hanelt, 2020)

Contextual factors play a crucial role in shaping the inception of Digital Transformation, as outlined by (Gregory, 2018). Existing research has identified various triggers and influencers of DT, including material, organizational, and environmental antecedents, as exemplified in (Wessel, 2020).

The proliferation and adoption of diverse digital technologies and applications have significantly impacted the trajectory of DT, particularly material factors. Notably, SMACIT technologies (social, mobile, analytics, cloud, and Internet of Things) have emerged as critical drivers of DT, as discussed by (Dery K. S., The digital workplace is key to digital innovation, 2017). Their distinctive digital properties, which include re-programmability, data homogenization, and self-referential nature, have been pivotal in this transformation, aligning with (Yoo, 2010) , Simultaneously, the advent and diffusion of digital technologies have led to increased data availability, which has, in turn, heightened the relevance of machine learning and data analytics for organizations, as explored by (Weichert M. , 2017).

Digital technologies interact with key organizational antecedents upon integration into organizations, primarily around administrative and managerial characteristics. Organizational characteristics encompass elements such as corporate strategy, historical evolution, resources, processes, values, and culture, as highlighted in the research (Devadoss, 2007) and (Dewan, 2003). Managerial characteristics, on the other hand, are contingent upon the digital transformation awareness within the top management team (TMT) and their readiness to initiate DT. This readiness is often reflected in their positive attitude toward change and technology, as articulated by (Dery K. S., 2017).

It is essential to acknowledge that material and organizational antecedents are deeply entwined with environmental factors, notably country-specific conditions, industry

dynamics, and consumer behaviors. These encompass a country's legal and infrastructural aspects, including regulatory frameworks and interventions, in agreement with the findings (Cortet, 2016) Similarly, industry-specific developments, such as the ever-evolving technological landscape, have played a significant role, as elucidated by (Alos-Simo, 2017). Moreover, consumer behavior, particularly the increasing demand for digital solutions in daily life and the expectation of universal access to virtual resources exert a substantial influence on DT, echoing the research conducted by (Brynjolfsson E. H., 2013)and (Haffke, 2017).

In line with (Hedström, 1998), it is generally understood that input and output variables are connected through underlying mechanisms. Within the realm of Digital Transformation, two primary means are recognized by organizations for conceptualization and implementation, namely innovation and integration (as observed in the work of (Daniel, 2003). Innovation mechanisms introduce novel resources, processes, and capabilities to the organization, while integration entails aligning these with pre-existing resources, strategies, and abilities, as articulated by (Ranganathan, 2003).

Regarding innovation mechanisms, our investigation reveals that DT encompasses novelty in strategic and operational dimensions. For example, developing a digital business strategy incorporating business and technology aspects is a pivotal strategic endeavor (Dhar, 2007). This strategic undertaking transcends organizational boundaries (Bharadwaj, 2013)and relies heavily on data-driven insights (Sia, 2016). Equally important at the strategic level is the mobilization for and acceleration of

digital transformation by top management teams. It serves various purposes, such as attracting newkers (Kathan, 2015) and instilling digital mindsets (Hansen A. M., 2011). With a more operationally oriented focus but rooted in the strategic orientation, organizations are tasked with leveraging digital capabilities, particularly those associated with online informational capabilities (Barua, 2004), significant data analytics capabilities (Hausladen, 2018)and digital platform capabilities (Karimi, 2015). Utilizing these technologies is not limited to internal processes but extends to digital innovation, encompassing the development of novel products, processes, and business models (Meyer, 1993). It also entails integrating human-machine interaction as a core activity to establish synergies that add value and sustainability to the relationship between technology and humans (Bajer, 2017).

Integration mechanisms are pivotal in aligning these novel elements with existing organizational components. Foremost, developing a digital transformation strategy, which, According to (Matt, 57)'serves as a central concept to integrate the entire coordination, prioritization, and implementation of digital transformations within a firm,' emerges as a critical element in facilitating this integration throughout DT. Execution of such strategies involves unlocking organizational potential through activities like the development of dynamic capabilities and the enhancement of organizational learning abilities (Schuchmann, 2015). From a technical perspective, organizations must exhibit increasing technological flexibility. Achieving this may involve the establishment of a collaborative and agile enterprise architecture (Zimmermann, 2016). Finally, integration encompasses the harmonization of physical

and digital elements by TMTs, which includes fostering cross-functional cooperation (Larkin, 2017)and employing coordination mechanisms to assimilate digital technologies within the organization (Chatterjee, 2002).

Digital Transformation is closely linked with various outcomes, as observed in work (Yoo, 2010), constituting the final category within our multi-dimensional framework. These outcomes include organizational changes, interactions with the surrounding environment, and economic consequences. Accordingly, we distinguish between organizational configurations, economic impacts, and ripple effects.

Outcomes associated with organizational configurations pertain to the arrangement of an organization's components (Kanungo, 2001) and the changes organizations undergo during the DT process. DT influences organizations at various levels, affecting their interactions with external stakeholders, internal processes, and individual products. Notably, our research highlights that an emphasis on open innovation and crowdsourcing fosters the development of ecosystem-oriented and embedded organizations (Berman S. a., 2014); this transformation extends to intra-organizational structures, leading organizations to adopt permeable and agile organizational formats, often characterized by traits such as agility, adaptability, and a boundaryless approach, exemplified by organizational models like Holacracy (Schwer, 2018) Moreover, there is a shift in management styles towards technology-focused and technology-supported practices, evident through the increased adoption of artificial intelligence and decision support systems (Kolbjørnsrud, 2016) . Additionally, DT drives the emergence of digital and customer experience-focused

business models, which may entail the creation of entirely new business models or modifying existing ones (Dutra, 2018). Ultimately, DT within organizations culminates in the automation of processes, data-driven operations, and virtual business processes through enhanced utilization of digital technologies and software for task execution (Dery K. S., 2017), resulting in the development of intelligent, connected, and personalized products (Porter, 2015).

In economics, DT may lead to enhanced firm performance and the creation of novel forms of value driven by improved service quality (Bouwman, 2011) or cost reductions (Agarwal R. G., 2010). Furthermore, DT has been found to induce dynamic and constantly changing industry-level performance due to fluctuations in commodity prices (Bockstedt, 2006)or market reactions and disruptions (Daniel E, 2003).

Lastly, DT extends its effects beyond the immediate control of organizations, influencing the environments in which organizations operate and must adapt. These ripple effects can be categorized into paradigms, systems, industry, information security, and individual impacts, collectively shaping the context in which firms operate and strive for legitimacy and success. Our research indicates that DT fosters paradigms centred on customer-centricity and connected markets, exemplified by shifts towards a comprehensive commerce focus, mass customization (Weichert M. , 2017) or user-centricity (Altukhova, 2018). In parallel, DT drives the proliferation of digital-influenced markets, economies, and societies as information and communication technologies progressively mediate interactions among consumers,

firms, and customers (Tilson D., 2010). This evolution blurs the boundaries between physical and online industry structures, leading to the convergence of physical products and digital services, a fusion of the physical world with online content, and the creation of an omnichannel environment for customers (Brynjolfsson E. H., 2013). These effects also heighten the exposure to cybersecurity threats, including cyber warfare risks and data security vulnerabilities (Dang-Pham, 2017), necessitating measures to ensure network and data security (Haggerty, 2017) Finally, we note the necessity for organizations to account for the digitalization of individuals. Consequently, customers and workers (Gregory R. W. Kaganer E, 2018) expect increased spatial and temporal flexibility (Schwarzmüller, 2018)and improved access to options and information (Berman S. J., 2012), among other expectations.

2.3. Available literature on relevant concepts

The conversation makes it evident that there are clear connections between digitalization, transforming digitally, and Business model innovation (BMI). This section will reveal the outcomes of exploring the literature on these three ideas. This exploration was guided by keywords such as 'digitalization,' 'digital technologies,' 'digital transformation,' 'business models,' and 'BMI.' The search brought forth 243 articles, but 83 were excluded for not meeting the criteria. Hence, 158 articles were chosen for thorough examination

2.3.1 Digitalization and Digital Transformation

The investigation into the idea of Digitalization found 48 (48%) articles that were

deemed relevant (C. Tonder, 2020). Only those constructs mentioned more than three

times were chosen, as indicated in table 7. Organizational agility was mentioned

independently in seven of the digitalization articles. Table 7 also demonstrates that

four constructs overlap between two concepts.

Constructs	Concepts				Total	
	Digitalization		Digital Transformation		Frequency	Percentage
	Frequency	Percentage	Frequency	Percentage		
Digital Technologies	8	61%	5	38%	13	100%
Digital Product	8	50%	8	50%	26	100%
Digital Strategy	7	35%	13	65%	20	100%
Digital capabilities	5	71%	2	29%	7	100%

Table 7 Literature review   *Source - (C. Tonder, 2020)*

A conventional approach alone is insufficient for ensuring digitalization and digital

transformation. Therefore, a specialized digital business strategy must highlight that

digital technologies are the central focus in reaching business objectives. The

literature also underscores the significance of digital capabilities. Utilizing digital

products (Carcary, 2016) defines digital capabilities as a business's skill and expertise

in handling digital technologies to develop new products.

2.3.2 Digital Transformation and Business Model Innovation

Thirty-nine articles examining digital transformation were found. Table 8 highlights

that a single element is observed to overlap between two of the concepts

Constructs	Concepts				Total	
	Digital transformation		Digital Transformation		Frequency	Percentage
	Frequency	Percentage	Frequency	Percentage		
Organization culture	12	48%	13	52%	25	100%

Table 8- litrature rview   Source - (C. Tonder, 2020)

Organizational culture was mentioned in 25 articles, addressing both digital

transformation and BMI. (Hock, 2016) asserts that internal change is necessary to

transform a business model radically. Notably, a shift in organizational culture is

essential to support the new dominant logic of the converted business model.

According to (Wäger, 2018), the digital transformation process demands a broad set

of capabilities, including managing, adapting/changing the organizational culture,

redesigning the organization, and overseeing the innovation ecosystem.

2.3.3 Digitization and Business Model Innovation

In 29 articles, organizational innovation was mentioned in discussions about

digitalization and BMI. According to (D.J., 2018), BMI represents a form of

corporate innovation wherein organizations identify and pursue unique opportunities.

However, (Bashir, 2017) presents a contrasting view, suggesting that BMI should be

viewed as a distinct source of innovation separate from organizational innovation.

The concept of organizational learning appeared in 33 articles. (Salojärvi H.

Tarkiainen A. Ritala, 2015) discovered a positive impact of organizational learning on an organization's capability to pursue and achieve business model innovation. This finding is supported by (HanS, 2010), who emphasizes the importance of organizational learning, which contributes to creation within the organization and enhances process efficiency. The concept of 'strategic alliance' was found in 10 articles. Organizations engage in various activities in the BMI process, such as forming strategic partnerships to generate value (Hossain, 2017). (Mansour, 2017) share a similar view, stating that these alliances can help organizations build an ecosystem focused on customer experience and product development, particularly in organizations driven by digitalization.

Constructs	Concepts				Total	
	Digitalization		BMI		Frequency	Percentage
	Frequency	Percentage	Frequency	Percentage		
Org Innovation	9	31%	20	69%	29	100%
Org learning	8	24%	25	76%	33	100%
Strategic Alliances	2	20%	8	80%	10	100%

Table 9 Literature review   *Source - (C. Tonder, 2020)*

The importance of organizational structure, customer focus, and product offerings has been highlighted in Table 9. Digital products play a vital role in the process of digital transformation. These products must be adjusted to incorporate a digital element; alternatively, new digital products must be developed. Businesses must possess the required capabilities, especially digital capabilities, to successfully carry out digitalization, digital transformation, and BMI. In the fast-paced business environment, digital technologies have become essential across various aspects of the business.

Infrastructure, in particular, is a critical component, and companies must have the necessary resources, as a lack of these resources could impact profits.

The findings related to business processes, the business ecosystem, and organizational strategy align with (Crowley C. Carcary M. Doherty E. and Conway, 2017) perspective. They affirm that these constructs are essential for all three concepts. According to Crowley, digital transformation necessitates changes in business models, processes, strategic thinking, and collaboration within the entire business ecosystem. This collaboration enables businesses to innovate in terms of new products, a Adjusting how business processes work may require cooperation across the whole business network. Companies should also reconsider their business plan to ensure it meets overall business objectives; therefore, strategy is vital in all three concepts. According to (A, 2015), the value proposition is another significant aspect of digital transformation, backed by 14% of the articles. Lastly, the importance of governance has been emphasized in all three concepts.

2.4 Revolution of the IT industry in India

The Indian information technology sector has a remarkable success story. In 1990, India's software and services exports were less than $100 million, as reported in the RBI press release dated September 20, 2021 (Release, Press, 2021). However, as of 2020-21, the estimated software and services exports have reached $133.7 billion. This substantial growth in the software industry has not only provided economic support to the Indian middle class, which heavily relies on IT jobs, but also signifies the blooming of the sector.

According to Dinesh Sharma's book (Sharma D. C., 2015), the Indian IT sector has a long prehistory that extends far beyond its reputation as a software support for American firms seeking cheaper resources. The foundation of the IT revolution in India was laid long before the liberalization of the economy in 1990, dating back to 1947, when India gained independence from British rule. Many leading scientists established research centers dedicated to the development of computing and technology during this time.

The "Miracle" of India's IT sector has resulted from extensive work, liberalization, and the infusion of skills and knowledge into capital and wealth. Over the years, the Indian software industry has evolved from providing cost-effective IT services to driving digital transformation in global companies.

In the evolution of the Indian software industry, a remarkable transformation has occurred, shifting its focus from providing cost-effective IT services to spearheading digital transformation in global companies. The current wave of Indian software entrepreneurs is actively building platforms and products that cater to domestic and international markets. The past decade has witnessed a golden era for the Indian IT sector, giving rise to over 7000 tech startups and an impressive count of 18 unicorns solely in the IT sector. This surge in innovation and growth sets the stage for an optimistic future, with projections indicating the addition of 10 more unicorns by the upcoming year (Pankaj Jalote, 2019).

The Indian software ecosystem has evolved significantly, transforming into an exceptionally dynamic and diverse sector responsible for building and managing

highly complex IT systems for global enterprises. The period from 2010 to the present is often referred to as a vibrant and innovation-driven multi-dimensional era for the IT sector in India. During this time, the IT industry has thrived, boasting an abundance of high-quality talent and witnessing a high rate of brain drain. The presence of numerous large IT companies and robust IT research and development centers has further fueled the sector's growth. The confluence of high-quality talent, entrepreneurship, and startup-driven innovation has accelerated the pace of the IT industry in India, propelling it towards new heights of success and achievement. The revolution of the IT industry in India has been a significant and dynamic process that has attracted scholarly attention over the years. Table 10 shows some critical studies and research papers that have explored various aspects of this phenomenon-

Study Area	Reference	Summary details
The Role of IT in Indian Economic Growth	(NASSCOM, 2022)	This study, conducted by NASSCOM, provides insights into the economic impact of the IT industry in India. It covers aspects such as job creation, foreign exchange earnings, and the contribution to GDP.
India's Software Industry	(Ashish Arora, 2002)	This book comprehensively analyses the Indian software industry, exploring its emergence, growth, and the factors contributing to its success. It offers insights into the industry's development and impact on the broader Indian economy.
India's IT Industry: A Historical Perspective	(Sundararajan, 2004)	Sundararajan's work provides a historical perspective on the Indian IT industry, tracing its development from the early years to its emergence as a global player. The study explores the role of government policies, education, and entrepreneurship in shaping the industry.
The Rise of the Indian Software Industry	(Sharma C. , 2013)	Sharma's paper discusses the rise of the Indian software industry and its globalization. It analyzes the factors

		contributing to India's success in the IT sector, including human capital, infrastructure, and policy initiatives.
Growth and Evolution of the Software Industry in India	*(K. Narayanan, 2010)*	This study explores the growth and evolution of the software industry in India, focusing on key trends, challenges, and opportunities. It discusses the role of government policies, education, and industry collaborations.
Information Technology and India's Economic Development	*(Singh, 2004)*	Singh's paper examines the impact of the IT industry on India's economic development. It delves into the role of IT in generating employment, fostering innovation, and contributing to the overall growth of the Indian economy.
The Role of Government in the Growth of the Indian Software Industry	*(Krishnan, 2003)*	This study explores the role of government policies in shaping the growth of the Indian software industry. It analyzes the impact of liberalization and reforms on the industry's development.

Table 10, Literature review   *Source: Author's Compilation*

Given the dynamic nature of the IT industry in India, considering the broader date range from 2000 to 2023, the studies conducted on the evolution of the IT industry in India provide a comprehensive narrative that spans over two decades. These studies depict a remarkable journey marked by transformative shifts, strategic adaptations, and continuous innovation.

The studies offer a historical continuum from the early 2000s, when India gained global recognition as a leading outsourcing destination, to the present era characterized by a diverse technology landscape encompassing artificial intelligence, cloud computing, and digital innovation. The research conducted during this period reflects the industry's resilience in navigating challenges such as Y2K concerns, globalization, and the dot-com boom and bust.

Throughout this span, several key themes emerge. Government policies and regulatory frameworks, as evidenced by studies from various sources, including NASSCOM and academic institutions, have played a pivotal role in shaping the industry's trajectory. The studies highlight the importance of human capital, skill development, and educational initiatives in sustaining the industry's growth.

Furthermore, the literature sheds light on the industry's contributions to economic development, job creation, and the positioning of India as a global IT hub. It encompasses critical analyses of factors like industry collaborations, research and development initiatives, and the emergence of innovative startups.

Challenges such as talent retention, cybersecurity, and sustainable business models are recurrent themes. The studies during this period serve as a valuable repository of knowledge, offering insights into the industry's successes, setbacks, and ongoing evolution.

In conclusion, the studies from 2000 to 2023 collectively provide a rich tapestry of the Indian IT industry's evolution, capturing the nuances of its growth, adaptability, and contribution to the global technology landscape. As the industry continues to shape the future, these studies offer a foundation for understanding its dynamics and navigating the challenges and opportunities that lie ahead.

2.5 New Technology Adoption and Psychological Factors

People wield the power to determine the success or failure of innovations. Technological changes are not always readily embraced, as psychological factors significantly influence technology adoption. Creation is an ongoing process that continually transforms global businesses and fosters sustainability. Technology offers solutions to organizations' challenges, as exemplified in the recent COVID-19 pandemic, where technology was pivotal in enabling remote business operations.

The adoption of innovation and the factors that influence it have been subjects of study since the inception of the industrial revolution. For instance, the oil and gas sector has been examined in this context (Ruby Roberts R. F., 2021) .

Technology is crucial in driving progress in the digital transformation era and the swift evolution towards Industry 4.0. However, to ensure the seamless adoption of new technologies, it is imperative to gain a deeper understanding of the psychological factors that influence technology adoption. A wealth of research and literature exists on this subject, shedding light on the psychological aspects that impact technology adoption and consumer behavior.

One such publication, 'Unlocking the Potential' (Roberts & Flin, 2020), explores five critical psychological factors significantly influencing technology adoption. By

grasping these factors, organizations can better navigate the digital landscape and maximize the benefits of technological advancements.

According to McKinsey & Company, an astonishing 70% of digital transformations fail, while recent BCG research reveals that 75% of such initiatives do not achieve their anticipated outcomes. These statistics raise concerns about the lacklustre performance of digital transformation efforts. One of the primary reasons behind these underwhelming numbers is the improper definition and poor communication of technology outcome goals. When employees are uncertain and frightened by these vague objectives, it leads to resistance and misalignment across departments. As a result, firms struggle to adopt new technologies successfully and ultimately fail to deliver the desired outcomes (Kutner, 2021).

Effective communication plays a vital role in employees' acceptance of change. When automation projects are not communicated with a clear understanding of the benefits they bring, employees often perceive them as threats to their jobs. Consequently, the technology fails to be welcomed and adopted as it should, leading to unfavourable outcomes. This problem is particularly prevalent in finance, HR, and IT automation transformations.

A prevailing perception among employees is that technology will replace the human workforce, creating a negative impression that hinders further innovation and obstructs the achievement of desired outcomes. Addressing these concerns and providing transparent information about technology's true purpose and potential

advantages is crucial in fostering a positive reception and successful implementation of automation initiatives.

According to a study conducted by Harvard Business (Sinha G. , 2020) despite the rapid growth of technology worldwide, the adoption of new and emerging technologies in most organizations remains below the optimal level. Numerous barriers contribute to this slow or nonexistent adoption of technology at the organizational level, which sustains outdated legacy technologies and hinders the efficient realization of an organization's full potential. The persistent lag in technology adoption has long been a cause for concern among companies.

2.5.1 Psychological Factors that Influence Technology Adoption

Human psychological behavior influencing technology adoption, a multifaceted analysis uncovers a range of cognitive, motivational, attitudinal, personality, social, and organizational factors.

Figure 11 Psychological factors   *Source: Author's Compilation*

Cognitive factors, such as risk perception, technical knowledge, previous experience, and the perception of certainty, have been identified as crucial determinants in the decision-making process of technology adoption (Davis V. V., 200). Individuals weigh the risks of new technology, draw on their existing technical knowledge, leverage past experiences, and gauge certainty before embracing technological changes.

Motivation emerges as a pivotal force in technology adoption, with personal incentives and the fear of technical failure standing out prominently (Venkatesh, 2000). Understanding the factors that drive individuals and the apprehensions that impede their willingness to adopt technology is crucial for designing effective implementation strategies.

Attitude, encompassing elements of trust and general technology attitudes, plays a central role in the adoption process (Larsen, 2003). Building trust in technology and comprehending broader attitudes toward technology are critical for predicting and influencing adoption behaviours.

At the individual level, personality traits like innovativeness and risk aversion significantly contribute to the technology adoption process (Agarwal J. P., 2007). Investigating how these individual differences shape technology acceptance provides a nuanced understanding of adoption behaviours.

Social dynamics, including social influence and subjective norms, influence the

adoption process substantially (Cialdini, 2004). Understanding the impact of social

networks, peer influence, and societal expectations on individual adoption decisions

is crucial for a comprehensive understanding.

Moving beyond individual considerations, organizational-level factors such as

technology adoption culture, collaboration culture, and leadership dynamics

contribute significantly to the collective adoption behaviour within a given

environment (Mason, 2002).The organizational context shapes the overall landscape

of technology adoption, affecting how individuals within the organization perceive

and embrace new technologies.

Table 12 has some past notable studies on human psychological factors-

Title	Reference	Summary
Diffusion of Innovations	*(Rogers E. M., 2003)*	Rogers' work provides a comprehensive theoretical framework for understanding how innovations, including technologies, diffuse through a population. The book outlines various factors influencing the adoption process, including the role of communication channels, social systems, time, and the characteristics of the innovation itself.
Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology	*(Davis F. D., 1989)*	Davis introduced the Technology Acceptance Model (TAM) in this influential study. The model suggests that users' perceptions of a technology's usefulness and ease of use significantly impact their acceptance and usage. It has become a foundational framework in the study of technology adoption.
A Unified Theory of Acceptance and Use of Technology	*(Viswanath Venkatesh, 2003)*	Building on Davis's TAM, this study presents the Unified Theory of Acceptance and Use of Technology (UTAUT). It integrates various technology acceptance models, incorporating

		social influence, facilitating conditions, and behavioral intention into a unified framework.
Consumer Acceptance of Information Technology	*(Gordon B. Davis, 2003)*	This study further extends UTAUT, providing insights into consumers' acceptance of information technology. It emphasizes the importance of various factors, including performance expectancy, effort expectancy, and social influence.
Trust and TAM in Online Shopping: An Integrated Model	*(Yujong Hwang, 2004)*	This study explores the relationship between trust, perceived usefulness, perceived ease of use, and behavioral intention in online shopping. It highlights the critical role of belief as a psychological factor in technology adoption.
Understanding the Role of Perceived Benefits, Privacy Concerns, and Trust in Consumer Acceptance of Drone Delivery Services	*(Jie Zhang, 2020)*	This study investigates the role of perceived benefits, privacy concerns, and trust in consumer acceptance of drone delivery services, contributing to the understanding of psychological factors influencing the adoption of emerging technologies.
Psychological Factors Influencing Technology Adoption in Smart Homes: An Empirical Investigation	*(Ming K. Lim, 2019)*	Lim and Cheung explore the psychological factors affecting the adoption of smart home technologies, including perceived ease of use, perceived usefulness, and social influence.
Exploring the Role of Psychological Ownership in the Adoption of Mobile Payment Services: A Study of Chinese Consumers	*(Yan Xu, 2018)*	This study investigates the influence of psychological ownership on the adoption of mobile payment services, shedding light on the emotional and cognitive aspects that affect users' decisions
Understanding Users' Initial Trust in Mobile Banking: An Elaboration Likelihood Model Perspective	*(Yongqiang Sun, 2019)*	Sun and Zhang apply the Elaboration Likelihood Model to study users' initial trust in mobile banking, examining the central and peripheral factors that influence trust formation in the context of technology adoption.
The Role of Perceived Enjoyment in the Adoption of social media	*(Xiao-Ling Jin, 2014)*	This study explores the role of perceived enjoyment in adopting social media, emphasizing the hedonic aspects that contribute to users' decisions to adopt and use technology.

Table 12 – Literature review   *Source: Author's Compilation*

In summary, the table 12 literature reviews on psychological factors influencing technology adoption highlight the intricate relationship between human psychology and technology acceptance. This exploration underscores the importance of understanding psychological dimensions for a comprehensive understanding of the dynamics of adopting technology. Examining these psychological factors provides valuable insights, emphasizing the need for a holistic approach to promoting the successful integration of new technologies.

Examining psychological factors influencing technology adoption across a diverse timeline from the early 1990s to 2023 reveals an understanding of the sophisticated interplay between human cognition and the evolving technological landscape. Studies conducted during this period consistently underscore the pivotal role of cognitive, motivational, attitudinal, personality, social, and organizational factors in shaping individuals' decisions to embrace or resist technological advancements.

The research reflects an evolving theoretical landscape from the initial emphasis on perceived ease of use and perceived usefulness in the TAM literature to the more recent integration of social influence, subjective norms, and the broader context of organizational culture. The studies highlight the adaptive nature of individuals and organizations as they navigate the ever-changing realm of technology.

Key findings emphasize the importance of trust, perceived risks, and prior experiences in influencing technology adoption decisions. Motivational factors such as personal incentives and the fear of technical failure consistently emerge as crucial

determinants. Attitudinal dimensions, including trust and broader technology

attitudes, play a central role in predicting acceptance or resistance.

Exploring personality factors, particularly innovativeness, and risk aversion, deepens

our understanding of individual differences in technology adoption behaviors. Social

factors, encompassing social influence and subjective norms, reveal the significant

impact of societal and peer expectations. Organizational-level factors, such as

technology adoption culture and leadership dynamics, highlight the collective nature

of technology adoption within workplaces.

The research on psychological factors influencing technology adoption from the

2000s to 2023 provides a comprehensive foundation for scholars and practitioners.

The insights from this extensive period contribute to a holistic understanding of the

complex interplay between human psychology and technological advancements,

informing the design of effective strategies for successful technology adoption in

diverse contexts. As technology advances, this ongoing exploration of psychological

factors remains pivotal in guiding future research and practical applications.

2.6 Leadership role in digital transformation

The humans drive digital transformation within an enterprise who understand the

organization and can envision what needs to be done. Every digital transformation

requires a holistic change encompassing people, processes, and technology.

Unfortunately, many enterprises mistakenly perceive digital transformation as merely

replacing human resources. In contrast, other organizations view it as an initiative that

66

involves employees' collective thinking and sole contribution toward digital transformation (Parikh, 2021) bold decisions made by leaders pave the path to successful digital transformation. It may involve removing individuals who act as barriers, identifying and empowering those who possess the necessary knowledge to streamline changes as they arise, and bringing in external talent to enhance internal capabilities.

Influential leaders demonstrate key behaviors that encourage change across the organization. Above all, they must communicate to the entire enterprise that the owner of the digital transformation is the CEO.

Digital transformation is fundamentally centered around change, and effective leadership plays a critical role in driving this change, as authentic leadership is not about maintaining stability but embracing and enabling change (Sainger, 2018). It involves creating a new system and institutionalizing a new approach. Organizational leadership must take a proactive role in bringing about and implementing these changes within the organization's processes and structure.

The success of digital transformation relies heavily on how leadership within the organization accepts and cultivates a work culture where digital technology is utilized as a tool for synthesizing information in real-time rather than solely dependent on technology.

According to Cox, there are two basic categories of leadership – transactional and transformational (Hay, Transformational leadership, 2015). Transactional leadership is based on processes and control and requires a strict management structure. On the

other hand, transformational leadership focuses on inspiration, motivation, and intellectual stimulation (Florida Tech, 2017). Transformational leadership brings innovation and encouragement to the team, encouraging change and facilitating its adoption, while transactional leadership tends to push the shift onto employees, requiring them to adopt it. Both leadership styles coexist within organizations.

It is crucial in helping organizations adapt to change during digital transformation. Some business leaders perceive IT as a liability, while others view it as an asset (Hansen A. M., Rapid Adaptation in Digital Transformation, 2011). Transformational leadership, however, sees IT as an asset and an opportunity to drive organizational change. Effective leadership harnesses IT resources to facilitate the transformation and embraces the change brought about by digital transformation.

Amid the Covid-19 global pandemic, the need for digital transformation became even more evident. Organizations and leadership shifted their focus to leveraging.

The role of a Leader is crucial when the organization goes through any change or takes up any new initiative. Leading a Digital Transformation initiative comes with a whole new set of challenges and leadership challenges. The role of a Leader is crucial when the organization goes through any change or takes up any new initiative. Leading a Digital Transformation initiative comes with a whole new set of challenges

and leadership challenges.
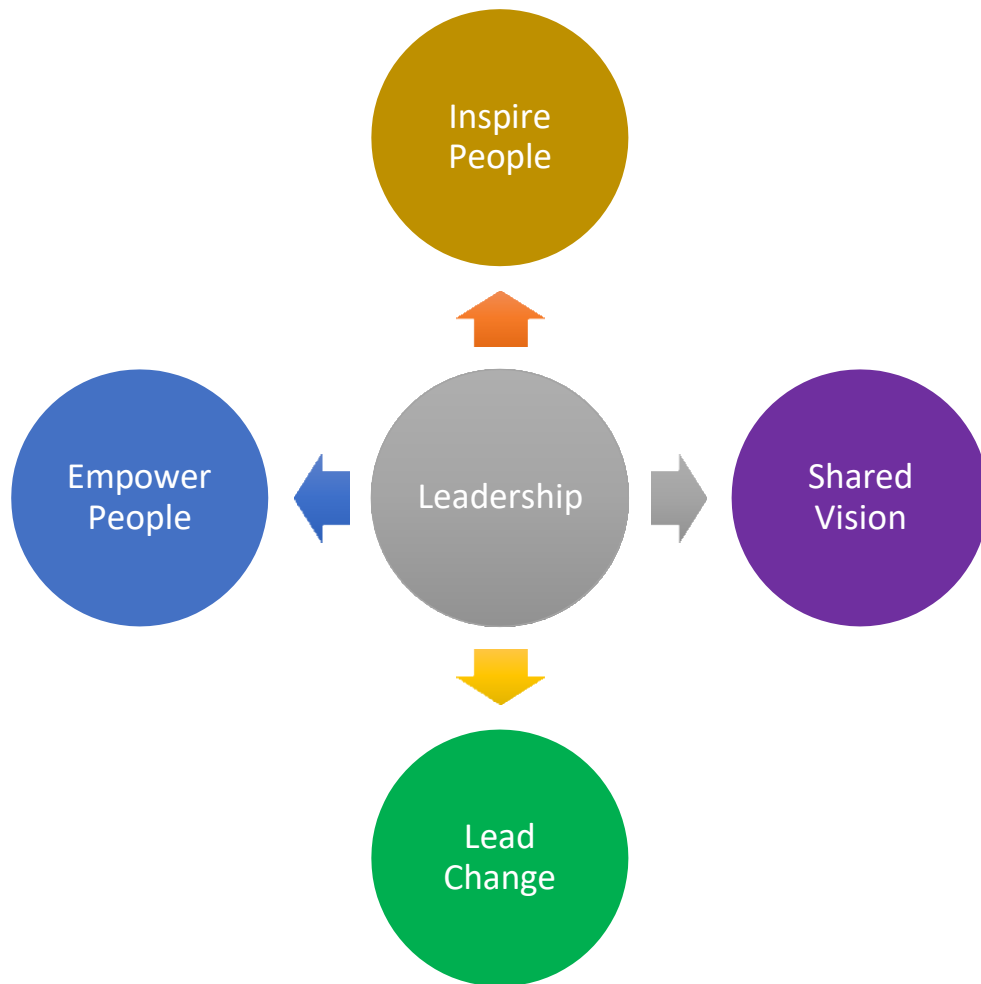
Figure 12 -Leadership   *Source:* (Toppr, 2023)

In the dynamic digital transformation landscape, effective leadership is pivotal in inspiring and guiding individuals and organizations through the complexities of technological change. Leadership goes beyond mere management; it involves inspiring people, fostering a shared vision, empowering individuals, and steering transformative change (Kotter, 2021).

Inspiring people in the context of digital transformation involves more than just conveying technical directives. It requires leaders to tap into the collective aspirations of their teams and organizations. Transformational leadership inspires and motivates followers by creating a compelling future vision (Avolio, 2005).

The concept of a shared vision is central to effective leadership in the digital age. (Nguyen J. Ø., 2020) argues that successful leaders promote a shared vision that aligns individual goals with the broader organizational objectives. This shared vision becomes a guiding force, fostering collaboration and unity of purpose among team members.

Empowering people is a cornerstone of leadership in the digital era. According to (Gary, 2012), empowering leadership involves enabling and enhancing the capabilities of individuals, fostering a sense of autonomy, and encouraging innovative thinking. In a digital transformation context, empowering leaders recognize and harness the diverse skills and talents within their teams.

Leading change is an inherent part of digital transformation leadership. As highlighted by (Worley, 2015), influential leaders in times of transition are proactive, strategic, and adept at navigating uncertainty. They communicate a compelling vision for the future and guide their teams through the challenges associated with technological shifts.

Table 13 shows some notable past studies on leadership roles in digital

transformation-

Study Area	Reference	Study Summary
Leading Digital Transformation: The 7 Roles Executives Can Play	*(Lawler, 2014)*	This study outlines seven critical roles executives can play in leading digital transformation. It offers insights into the leadership competencies necessary for navigating organizational change in the digital era.
Digital Leadership: Building Tomorrow's Organizations	*(Didier Bonnet M. W., 2014)*	This article explores the concept of digital leadership and how organizations can build capabilities to thrive in the digital age. It emphasizes strategic approaches to digital transformation.
Digital Leadership: Strategic and Tactical Disruption	*(George Westerman D. B., 2014)*	This study delves into the strategic and tactical aspects of digital leadership. It provides insights into how leaders can strategically disrupt existing processes for digital success.
Digital Transformation Requires Complete Rewiring of an Organization	*(Gerald C. Kane D. P., 2015)*	Successful digital transformation necessitates a fundamental rewiring of an organization. It explores the challenges and strategies for achieving comprehensive organizational change.
Leading Digital Transformation at Scale	*(Acker, 2017)*	This study, published by McKinsey & Company, provides insights into leading digital transformation efforts at scale. It discusses the fundamental principles and

		strategies for executives to drive large-scale digital initiatives within organizations successfully.
The Role of Leadership in Succeeding with Digital Transformation	*(Mark McDonald, 2014)*	This research study emphasizes the crucial role of leadership in achieving successful digital transformation. It discusses how effective leadership is the most critical factor in navigating the challenges of digital business transformation.
Leadership in a Digital World	*(Matthew Bishop, 2016)*	This article explores leadership in the context of the digital world. It likely provides insights into the changing nature of leadership required to thrive in the digital era.
The Digital Leadership Challenge	*(Capgemini Consulting, 2013)*	This Capgemini Consulting report delves into the challenges faced by leaders in the digital realm. It likely provides practical insights and strategies for overcoming obstacles associated with digital transformation.
Digital Leadership: The 4 Practices Every Leader Needs to Thrive in the Digital Era	*(George Westerman D. B., 2018)*	This article outlines four critical practices for leaders to thrive in the digital era. It likely provides actionable insights into the leadership behaviors required for digital success.
Leadership in the Age of Digital Transformation	*(Solis, 2016)*	This study likely explores leadership's evolving role in the digital transformation age. It may discuss the challenges and opportunities leaders face

		in adapting to the digital landscape.
Digital Leadership: A Critical Factor for the Successful Transformation of Organizations	*(Kumar, 2018)*	This study likely explores the critical role of digital leadership in ensuring the successful transformation of organizations. It may delve into the leadership qualities and strategies necessary for effectively navigating digital change.
The Impact of Digital Leadership on the Digital Maturity of an Organization	*(Magdalena Lizardi, 2016)*	This study likely investigates how digital leadership influences an organization's digital maturity. It may provide insights into the relationship between leadership practices and digital advancement.
Leadership in Digital Transformation: A Review and Research Agenda	*(Svenja Falk, 2017)*	This study, likely presented at the Hawaii International Conference on System Sciences, offers a comprehensive review of leadership in digital transformation. It may outline a research agenda for further exploration in this domain.
Digital Transformation and Leadership: Shifting Mindsets, Leading Change, and Driving Innovation	*(Kelman, 2017)*	This study likely discusses the intersection of digital transformation and leadership. It may explore how leaders can shift mindsets, lead change initiatives, and drive innovation in the digital age.
Leading Digital Transformation: A New Model Beyond Change Management	*(Didier Bonnet G. W., 2018)*	This study introduces a new model for leading digital transformation beyond traditional change management. It may

		highlight innovative approaches to leadership in the digital realm.

Table 13 Literature review   *Source: Author's Compilation*

The culmination of studies on the leadership role in digital transformation reveals a compelling narrative of leadership's pivotal significance in navigating the intricate landscape of technological change. From the early 2000s to 2023, it is evident that effective leadership is not merely a managerial function but a transformative force shaping the destiny of organizations amid digital evolution.

Leadership in this era extends beyond conventional paradigms, requiring a strategic mindset that aligns technology initiatives with overarching organizational goals. Successful leaders are architects of cultural change, fostering environments where agility, adaptability, and a thirst for continuous learning thrive.

Adaptability emerges as a hallmark trait, with leaders embracing technological advancements and guiding organizations through the complexities of change. Empowerment and collaboration are not mere buzzwords but integral components of leadership, driving innovation and unlocking the collective potential within teams.

Technological literacy, though not mandatory as technical expertise, becomes a cornerstone, enabling leaders to make informed decisions and bridge communication gaps between technical and non-technical stakeholders.

In conclusion, the studies collectively affirm that leadership in digital transformation is a multifaceted role. It involves strategic acumen, cultural change, adaptability, empowerment, technological understanding, and an unwavering commitment to

fostering innovation. As organizations continue their journey through the digital landscape, effective leadership remains the linchpin, steering technical initiatives toward sustainable growth and competitive resilience.

2.7 Investment in Digital Transformation Initiatives

With the increasing digital footprint, it is essential to have adequate investment for digital transformation initiatives. This research found that there are still grey areas in understanding why, when, and how IT investment should be conducted due to a lack of comprehensive studies. Digital transformation investment should focus on the relationship between IT infrastructure and enterprise digital transformation (Xin Zhang, 2023). Top management needs to make informed decisions regarding investments in digital transformation initiatives.

CEOs anticipate that digital technology will significantly enhance the growth trajectory (Hill, 2022), surpassing previous limits set by human and machine capabilities. We refer to these improved outcomes as "digital dividends" from integrating cutting-edge digital technologies into the physical realm.

For instance

- Transforming physical assets into intelligent products and services through digitalization.
- Enhancing interaction channels, including mobile apps and e-commerce, through digitalization.
- Upgrading business capabilities, such as facilitating touchless interfaces for tasks like billing customers through digitalization.
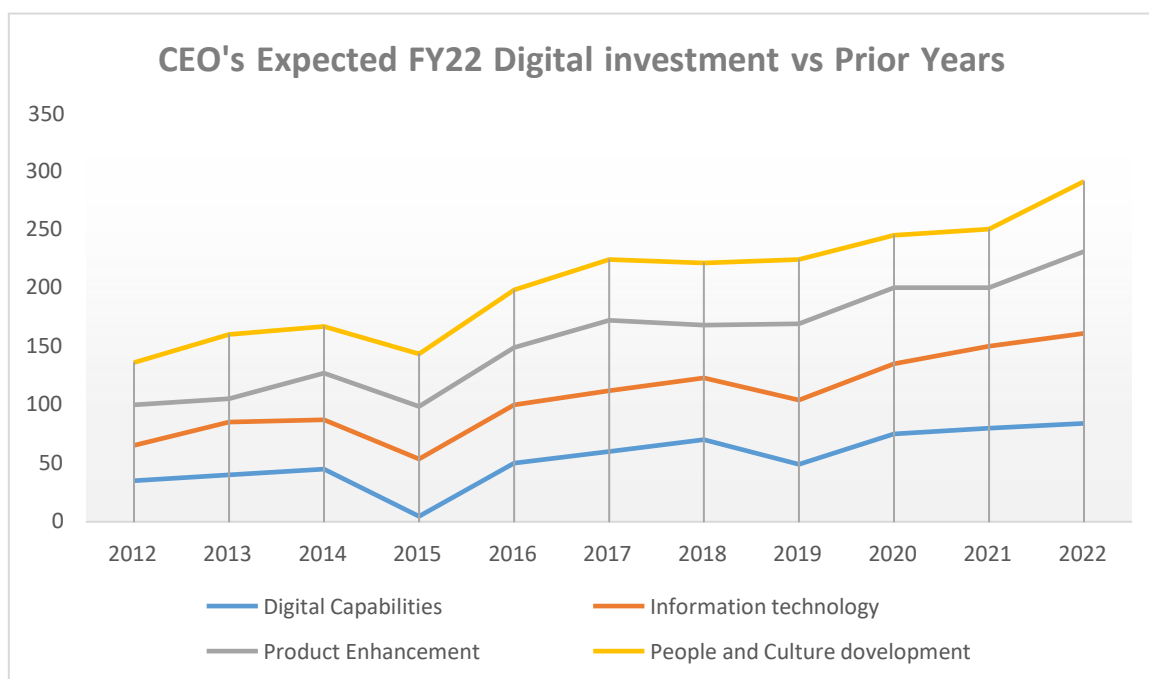
Figure- 13 Digital technology investment   *Source – Garter 2022*

Due to inadequate investment, numerous industries have faltered in digital

transformation initiatives. A study focusing on China's state-owned industries reveals

that companies allocate fewer resources to digital transformation, particularly when

faced with heightened financial constraints. To address the issue of insufficient

investment, enterprises should strategically optimize their investments, alleviate

economic conditions, and enhance their risk prevention mechanisms.

Most countries now possess a heightened understanding of the significance

surrounding digital transformation (Dilorom Qosimova, 2022), and as a result, they

are actively fostering the digitalization of their economies. This endeavor presents a

substantial opportunity for growth and development. Digital advancements facilitate

the entry of local firms into the global market and encourage integration into the

global digital value chain. The digital economy not only paves the way for new

prospects but also catalyzes the development of local businesses, including sectors

like e-healthcare and e-learning.

Table 14 shows notable past studies on DT investments.

Study Area	Reference	Study Summary
The Real Business of IT: How CIOs Create and Communicate Value	*(Richard Hunter, 2007)*	This study explores how CIOs can create and communicate value through IT investments. It delves into the strategic role of IT in creating business value.
How to Pay for Your Digital Transformation	*(Gerald C. Kane A. N., 2016)*	This article provides insights into funding digital transformation initiatives. It discusses various strategies and approaches organizations can use to finance their digital transformation journeys.
Maximizing the Impact of Digital Transformation	*(Jacques Bughin, 2018)*	This study from McKinsey & Company focuses on maximizing the impact of digital transformation initiatives. It likely provides frameworks and recommendations for organizations to enhance the effectiveness of their investments.
Digital Transformation: A Roadmap for Billion-Dollar Organization	*(Capgemini Consulting, 2011)*	This Capgemini Consulting report offers a roadmap for large organizations embarking on digital transformation. It likely provides strategic guidance on how billion-dollar enterprises can structure and fund their digital initiatives.

Investing in Technology: Insights from McKinsey's 2018 IT Industry Survey	*(McKinsey & Company, 2018)*	This study provides insights from McKinsey's 2018 IT Industry Survey, focusing on investing in technology. Based on the survey findings, it likely offers perspectives on industry trends, challenges, and investment priorities.
The Economics of Digital Transformation	*(Jacques Bughin, Tanguy Catlin, Laura LaBerge, 2016)*	this study explores the economic essentials of digital strategy. It likely delves into the financial aspects of digital transformation, including the costs, benefits, and economic considerations for organizations.
Strategic Choices for Banks in the Digital Age	*(Martin Pergler, Harald Dinklage, Frank H. Dangeard, 2015)*	Featured in BCG Perspectives, this article discusses strategic choices for banks in the digital age. It may provide insights into how financial institutions can make strategic investment decisions to navigate digital transformations successfully.
The DNA of Digital Champions: How incumbent companies can become digital natives	*(Martin Hirt, Kevin Buehler, and Amy Asin, 2016)*	This study, presented by Strategy& PwC, explores the characteristics of digital champions. It may offer insights into the strategies and investments that enable incumbent companies to transform into digital natives.
Investing in a Digital Future: A Strategy for Unlocking Sustainable Value from Digital Transformation	*(World Economic Forum, 2016)*	This report likely provides a strategy for unlocking sustainable value from digital transformation. It may discuss investment approaches and digital

		initiatives' long-term value-creation potential.

The synthesis of insights gathered from a spectrum of studies on investments in digital transformation initiatives crystallizes a strategic imperative for organizations operating in the contemporary business landscape. The studies underscore that the strategic significance of digital transformation goes beyond mere technological upgrades; it necessitates a comprehensive understanding of the economic essentials associated with such endeavors.

While Researching the economic aspects, these studies advocate for a meticulous examination of costs, benefits, and the overarching impact of digital investments. Organizations are encouraged to adopt a strategic lens, making well-informed choices in the allocation of resources and technology adoption. Such strategic decision-making becomes particularly critical in industries undergoing substantial digital disruption.

Furthermore, the studies emphasize that successful digital transformation involves technological upgrades and organizational cultural changes. Beyond acquiring digital tools, fostering a culture of innovation, adaptability, and continuous learning emerges as a critical determinant of success.

For large organizations, a structured roadmap for digital transformation is recommended. It entails aligning investments with overarching business objectives, ensuring that digital initiatives contribute meaningfully to organizational goals. The

roadmap is a guiding framework promoting efficiency and sustainability in the digital journey.

These studies reveal that becoming a digital champion requires strategic investments beyond technology. Organizations aspiring digital natives must cultivate specific characteristics within their organizational DNA. It involves adapting to digital tools and fundamentally transforming the corporate culture to align with the demands of the digital age.

Ultimately, the studies advocate for investments that surpass immediate impact and contribute to sustainable value creation. Whether measured in economic terms, strategic positioning, or cultural evolution, the guiding principle is to ensure that digital investments push organizations toward long-term success in the dynamic and ever-evolving digital landscape.

2.6 Artificial Intelligence (AI) toward digital transformation

Artificial Intelligence (AI) is an organization's strategic tool to streamline costs, elevate service quality, optimize productivity, and refine operational efficiency (Holmström, 2022). AI technology permeates many organizational practices in the contemporary landscape, creating harmonious human-machine collaboration.

In 2016, the AI market was assessed at US$ 1.36 billion, and projections indicate a compound annual growth rate (CAGR) of 52% from 2017 to 2025.

Digital transformation revolves around leveraging technology to optimize processes, elevate customer experiences, and foster innovation. AI is at the forefront of this transformative journey. Four key AI-powered technologies stand out in digital transformation for their impactful contributions. Machine Learning enhances decision-making and pattern recognition; Natural Language Processing enables computers to understand and generate human language; Computer Vision interprets visual data for applications like facial recognition; and Robotic Process Automation automates repetitive tasks, optimizing workflows and efficiency. Together, these technologies reshape business operations and drive innovation.

Machine
Learning

Natural
Langauge
Processing

Computer
Vision

Robotics
Process
Automation
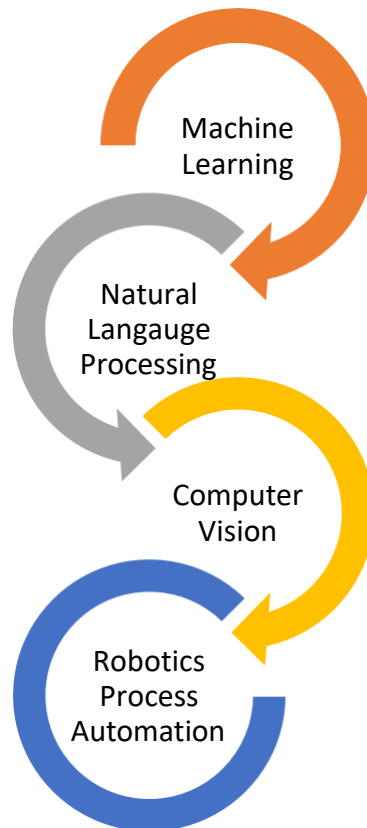
Figure 14 AI Innovation   *Source: Author's Compilation*

Its inherent characteristic, Artificial Intelligence (AI), can be rightfully acknowledged

as a General-Purpose Technology (GPT) within the modern digital era (Stefano

Magistretti a, 2019). The literature encompassing the management of this technology

is extensive, with a notable focus on AI. Undoubtedly, AI contributes substantial

value to the digital realm. The swift advancement of AI technology has significantly

broadened the scope of technological possibilities (Michael J. Ahn a, 2022) This rapid

progress has conferred a competitive edge across various sectors and propelled AI

technologies into more substantial domains. This rapid progress has granted a

competitive advantage across multiple industries and forced AI technologies into

more significant fields.

The table 15 shows notable studies on AI and DT.

Study Area	**Reference**	**Study Summary**
Artificial Intelligence and the End of Work	*(Lee, 2018)*	This article explores the impact of Artificial Intelligence on the workforce, discussing how AI may transform jobs and redefine the nature of work in the future.
AI and the Evolution of the Knowledge Worker	*(James Manyika, 2019)*	This study delves into how AI is reshaping the role of knowledge workers. It discusses the implications of AI adoption on the skills and functions of workers.
The New Leadership Playbook for the Digital	*(Jacques Bughin, Eric Hazan, Susan Lund, 2020)*	McKinsey & Company presents insights on

Age: Reimagining What It Takes to Lead		leadership in the digital age, including the role of AI. The study discusses how leaders can navigate the evolving landscape and leverage AI for strategic advantage.
Artificial Intelligence and the Future of Work	*(Cognizant Center for the Future of Work, 2018)*	This report explores the intersection of AI and the future of work. It likely delves into the potential impact of AI on job roles, industries, and workforce dynamics.
AI at Scale- A Blueprint for CXOs	*(Deloitte, 2021)*	Deloitte provides a blueprint for executives (CXOs) on implementing AI at scale within organizations. The study likely covers strategies, considerations, and best practices for leveraging AI for digital transformation.
AI and Machine Learning in the Enterprise: A Roadmap for Success	*(Harvard Business Review Analytic Services, 2018)*	This study provides a roadmap for successfully integrating AI and machine learning in the enterprise. It likely covers strategies, challenges, and best practices for organizations looking to leverage AI.
The Impact of AI on the Future of Work	*(World Economic Forum, 2020)*	World Economic Forum report explores the impact of AI on the future of work. It likely delves into the changes in job roles, skills, and workforce dynamics resulting from adopting AI technologies.
Artificial Intelligence for the Real World	*(Ronanki, 2018)*	This study explores the practical applications of artificial intelligence in real-world business scenarios. It likely

		discusses use cases and lessons learned from AI implementation.
AI and the Modern Productivity Paradox	*(Brynjolfsson M. , 2014)*	This study investigates the relationship between AI and productivity. It likely explores whether AI adoption has led to significant productivity gains and analyzes the modern productivity paradox.
Augmented Intelligence: AI's New Role in Business	*(Deloitte, 2018)*	Deloitte's report on augmented intelligence explores the evolving role of AI in business. It likely covers how AI boosts human capabilities, transforms workflows, and drives innovation in various industries.

Table 15 Litrature review   Source: Author's Compilation

The amalgamation of insights derived from a spectrum of studies on AI and its role in digital transformation underscores its pivotal significance as a transformative force in contemporary business strategies. Collectively, these studies illuminate the multifaceted impact of AI on various aspects of organizational dynamics and underscore its potential to redefine the future of work.

The strategic imperatives outlined in the studies emphasize that AI adoption goes beyond mere technological integration; it demands a thoughtful roadmap for success. Organizations are encouraged to navigate the evolving landscape with a keen

understanding of the economic essentials associated with AI implementation, carefully weighing costs, benefits, and strategic choices.

The studies highlight the evolving role of knowledge workers in the age of AI, emphasizing the need for a paradigm shift in skills and functions. Furthermore, they delve into the leadership playbook for the digital age, indicating that effective leadership in the AI era involves a nuanced understanding of technological advancements and strategic leveraging of AI capabilities.

The overarching theme emerging from these studies is the transformative potential of AI, not only in optimizing productivity but also in augmenting human capabilities and reshaping entire business models. AI is portrayed as a catalyst for innovation, redefining traditional workflows and driving sustainable value creation.

The studies advocate for a holistic approach to AI adoption that considers economic implications, cultural transformation, and strategic leadership. As organizations tread the path of digital transformation, AI stands out not merely as a technological enabler but as a cornerstone for driving organizational resilience, agility, and future competitiveness.

2.7 Adoption of Digital transformation (DT) in IT industries in India

Jack Welch once stated, 'When the rate of change inside the institution becomes

slower than the rate outside, then the end is near' (K.AlNuaimi, 2022). Digital

transformation is characterized by deliberate changes built upon an advanced

technological foundation.

Business design and technological advancements are continuing to influence

digitization substantially. It entails the transformation of traditional business models

through innovative approaches, processes, and technologies, like the disruptive

impact observed in the Uber model. The digitization process leverages cutting-edge

technology, processing vast amounts of data on robust networks with heightened

processing capabilities and extensive storage capacity. Notably, digital adoption is

prominently led by major IT partners and startups, serving as catalysts that offer

inventive solutions to bridge the gap between the digital revolution and established

industry players.
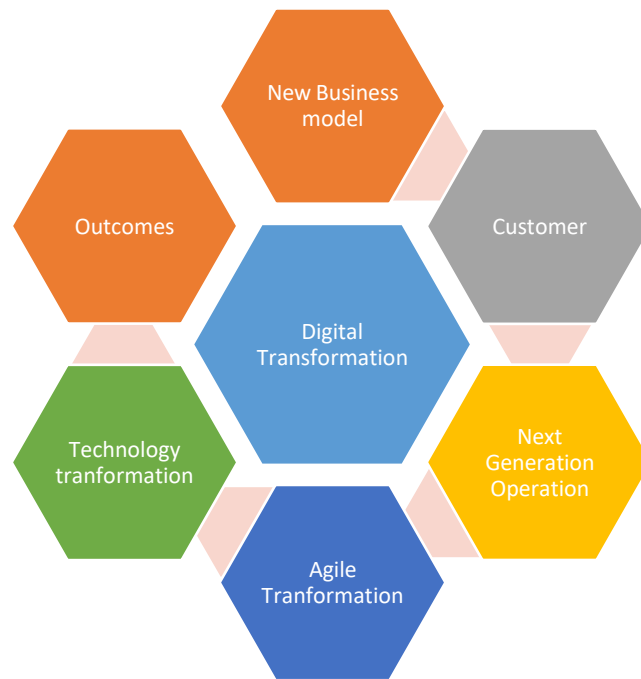
Figure 15- Digital Transformation   Source: Author's Compilation

However, adopting digital transformation does not always yield a pleasant narrative. A survey conducted among directors, CEOs, and senior executives in 2019 revealed that the risks associated with Digital Transformation (DT) are a significant concern for leadership teams. Astonishingly, 70% of DT initiatives fail to achieve their intended objectives. In 2018, a staggering $1.3 trillion was invested, yet an estimated $900 billion went to waste (Tabrizi, 2019). It raises the question: why do specific DT initiatives succeed while others falter? This research seeks to uncover the answer to this crucial query.

According to a study conducted by Harvard Business School (Davenport, 2019), digital transformation is not a simple commodity that can be purchased and seamlessly integrated into an organization. It is a multifaceted and pervasive

87

phenomenon that transcends mere technological evolution. Digital transformation represents an ongoing process of reshaping the very nature of how business is conducted. It necessitates substantial investments in foundational infrastructure, project implementation, and IT system overhauls. This process demands a harmonious fusion of human expertise, technology, and streamlined business processes. Furthermore, digital transformation requires continuous monitoring and a feedback loop from top leadership to ensure that digital and non-digital leaders make informed decisions regarding their transformational endeavours.

According to Nagesh Ramesh and Dursun Delen (Delen, 2021), companies allocate significant funds to digital transformation programs annually. Yet, a substantial portion of these investments is squandered, negatively affecting the firm's operations, and inhibiting its intentions for further innovation. As a result, companies often become hesitant to invest in new technologies. Despite existing research emphasizing the significance of vision, management, and organizational culture as crucial success factors, there are instances where digital transformation initiatives within the same organization fail to yield comparable results.

Numerous studies have been conducted on adopting Digital Transformation across various companies and regions. For instance, a study focused on DT adoption in an insurance company in Nepal (Kautish, 2019), another study explored DT adoption among European companies (Kevin Zhu, 2006), and yet another investigated DT adoption in South Africa (van, 2019). These studies collectively highlight that organizations worldwide grapple with market pressures, compelling them to embark

on DT projects and initiatives. As noted by Mark Kozak-Holland and Chris Procter (Procter, 2019), organizations are confronted with challenges that present both opportunities and threats during the transition to new business models through DT. Abdulazeez Abdul Quadri's study (Nguyen A. A., 2021) delves into the provision of DT from a Nigerian perspective.

All these studies underscore the diverse challenges associated with implementing and adopting Digital Transformation across various sectors. Transformation is indispensable for ensuring long-term sustainability.

The table 16 shows a notable study on DT in India.

Study Area	Reference	Study Summary
Digital Transformation in India: Unlocking the Trillion-Dollar Opportunity	*(Boston Consulting Group, 2019)*	This BCG report explores the vast opportunities presented by digital transformation in India. It likely delves into critical sectors, challenges, and strategies for unlocking the economic potential of digital initiatives.
India's Digital Transformation: The Future of Business	*(Deloitte, 2020)*	Deloitte's report on India's digital transformation examines the evolving landscape of businesses in the country. It may cover trends, digital adoption patterns, and the impact of digital technologies on various industries.
Digital Transformation: A Game Changer for the Indian Economy	*(NASSCOM, 2023)*	NASSCOM's report likely provides insights into how digital transformation

		influences the Indian economy. It may discuss the role of technology in driving economic growth and competitiveness.
The Future of Technology in India: Building the Digital Economy	*(McKinsey & Company, 2021)*	McKinsey's report on the future of technology in India will likely offer insights into the digital economy, discussing transformative technologies and their impact on industries, society, and the economy.
India's Digital Transformation: Dentsu Aegis Network Report	*(Dentsu Aegis Network, 2021)*	This report from Dentsu Aegis Network is expected to provide a comprehensive view of India's digital transformation. It may cover trends in digital adoption, consumer behavior, and the digital marketing landscape.

Table 16 – Literature review   Source: Author's Compilation

The integration of insights from prominent studies on the adoption of digital transformation in the IT industries in India reveals a transformative landscape characterized by substantial opportunities and challenges. Key reports from consulting firms such as BCG, Deloitte, NASSCOM, McKinsey & Company, and Dentsu Aegis Network collectively shed light on the significant strides made in India's digital transformation journey. These studies highlight the economic potential, evolving business paradigms, and the transformative impact of technology on the Indian economy.

However, it is crucial to underline that a noticeable gap exists in the academic research regarding adopting digital transformation in Indian IT industries. The studies referenced are predominantly corporate reports, emphasizing an absence of comprehensive academic research that reaches into the particulars of digital transformation at a scholarly level. This gap signals an opportunity for academic researchers, institutions, and policymakers to conduct more nuanced and in-depth studies, fostering a deeper understanding of the challenges, success factors, and broader implications of digital transformation in the Indian IT landscape.

In light of the existing gap, there is a compelling need for rigorous academic research that goes beyond corporate perspectives. Such research could explore the socio-economic impact, policy implications, and the role of digital transformation in fostering innovation and sustainability within Indian IT industries. Bridging this gap through robust academic inquiry will contribute to the global discourse on digital transformation and provide actionable insights for businesses, policymakers, and academic communities invested in India's technology-driven evolution.

2.8 Conclusion of literature review

As of June 2023, a comprehensive literature review spanning diverse sectors has unveiled a noticeable research gap in the investigation of digital transformation adoption or implementation, with a particular lack of studies focusing specifically on the Indian IT sector. While insightful analyses have inquired into digital

transformation across industries such as government, petroleum, and banking, there is

a notable scarcity of dedicated research within the dynamic landscape of the IT

industry. This literature review sheds light on the existing body of research,

emphasizing that exploring digital transformation in the IT sector is relatively

unexplored compared to other industries.

The synthesis of insights from various sectors underlines the urgency for targeted

research within the IT domain, considering its pivotal role in driving technological

advancements and innovation. As the backbone of digital evolution, the IT sector's

unique challenges, opportunities, and transformative potential warrant scholarly

attention. Thus, this literature review serves as a precursor, highlighting the need for

future research endeavours to bridge this gap and provide a nuanced understanding of

digital transformation dynamics within the intricate ecosystem of the IT industry.

2.9 Research Gap

The comprehensive literature review conducted until July 2023 has revealed distinct

research gaps and identified potential variables that warrant focused investigation

within the context of digital transformation in the IT sector.

Digital Transformation in Indian IT Industries research predominantly relies on corporate reports (NASSCOM, 2023; Deloitte, 2020; McKinsey & Company, 2022), highlighting a gap in comprehensive academic research on digital transformation within Indian IT industries.

Individual Psychological Factors and Technology Change Existing studies (Ruby Roberts R. F., 2021; Yongqing Yang, 2022) address end-user psychology but lack exploration of the relationship between individual psychological factors and technology change within the Indian IT context.

Leadership Roles and Employee Psychology There is a notable absence of research addressing how leadership roles impact employee psychology during digital transformation in the Indian IT sector. Available studies on leadership psychological well-being (Sabrina Zeike, 2019) do not add employee factors during digital transformation.

Group Dynamics and Organizational culture studies (Ari Margiono, 2020; Gregory Vial, 2021) touch on group dynamics but fail to comprehensively address how group dynamics and organizational culture impact digital transformation initiatives in Indian IT industries.

Strategies Leaders Deploy While studies (Ellen Weber, 2021) touch on leadership behavior, a clear gap exists in understanding how leadership roles can effectively address the nuanced psychological challenges individuals face during digital transformation in the Indian IT sector. Studies like Jestine Philip's (2021) provide a lens on leadership but do not specifically explore psychological challenges.

The literature review indicates a lack of studies that deeply explore the psychological factors influencing the adoption of digital transformation within IT organizations. Understanding employee perceptions, attitudes, and resistance to change is crucial for successful implementation.

While leadership's role in strategic decision-making is acknowledged, a research gap exists in understanding how leadership styles and practices directly impact employee well-being during digital transformations. This includes the psychological effects of change management strategies employed by leaders.

A notable research gap exists in the absence of studies on digital transformation within the IT sector. While insights have been gleaned from diverse industries, the IT domain's unique dynamics, challenges, and opportunities remain relatively unexplored.

The existing literature predominantly provides sector-specific insights, often overlooking the holistic exploration of the entire IT ecosystem. Future research could delve into the interconnected components of the IT sector, considering software development, infrastructure, cybersecurity, and emerging technologies.

Many available studies offer snapshots of digital transformation at specific points in time. Longitudinal studies are needed to track the evolution of digital initiatives

within the IT sector, providing a nuanced understanding of trends, adaptations, and the sustained impact over time.

The reviewed literature tends to generalize findings across organizations of varying sizes. Investigating how digital transformation strategies vary based on the size of IT firms, from startups to large enterprises, can offer tailored insights for diverse organizational structures.

2.8.1 Key Variable Identification

- Investigating employees' self-perceived digital readiness and competency levels through self-assessment and surveys to gauge their preparedness for digital transformation initiatives.
- Assessing the clarity and alignment of leadership vision with digital transformation goals, including variables such as communication effectiveness, the articulation of a compelling vision, and perceived alignment with the digital agenda.

- Exploring transformational leadership behaviors, such as inspirational motivation, intellectual stimulation, and individualized consideration, to understand how leadership styles influence employee engagement and commitment during digital transformation.
- Assessing the psychological resilience of employees during change management, considering variables like adaptability, openness to innovation,

and perception of organizational support, also provides insights into the psychological dynamics of digital transformation.

- Explore the presence of a technical support culture environment where employees feel comfortable taking risks and expressing innovative ideas, as leadership practices foster such an environment that significantly impacts the success of digital initiatives.

- Identifying variables related to employee empowerment, including decision-making autonomy, opportunities for skill development, and the perception of being valued contributors, as well as understanding the psychological aspects of digital transformation.

2.8.2 Propositions Development

A series of propositions has been formulated to address identified gaps, establishing a foundation for empirical investigation. These propositions encapsulate the intricate connections between psychological factors, leadership styles, and key outcomes, including digital readiness perception, change management resilience, employee well-being, and organizational performance. These propositions offer a guiding framework for this research, facilitating the exploration of uncharted territories within the digital transformation landscape in the IT sector.

Psychological Factors	P1	There exists a positive relation wherein employees' psychological attributes, openness to technology change, and adaptability, positively influence their perception of digital transformation

		within the Indian IT sector.
Leadership Roles and Technological Transformation	P2	There exists a positive relation between a leadership role, marked by inspirational motivation transparent and communicative and individualized consideration, positively aligns with the successful implementation of technological transformations within an organizational
Group Dynamics, Organizational Culture, and Technology Adoption	P3	There exists a positive relation between group dynamics and a supportive organizational environment that plays a substantial role, positively influencing and correlating with the successful adoption of new technologies within an organizational framework.
Leadership Strategies and Supportive Environment	P4	There exists a positive relation Leaders' deployment of strategic initiatives like Job satisfaction, employee well-being, clear communication, training programs, and psychological support mechanisms, significantly contributes to cultivating a supportive environment for technological transformation while effectively addressing

		psychological challenges within the organization.

Table 17 Propositions   *Source: Author's Compilation*

2.8.3 Conceptual Model

Building on the identified research gaps, variables, and Propositions , the outline of a

conceptual model illustrates the relationships among critical elements in the context

of digital transformation in the IT sector. This model visualizes the interplay between

psychological factors, leadership roles, and outcomes.
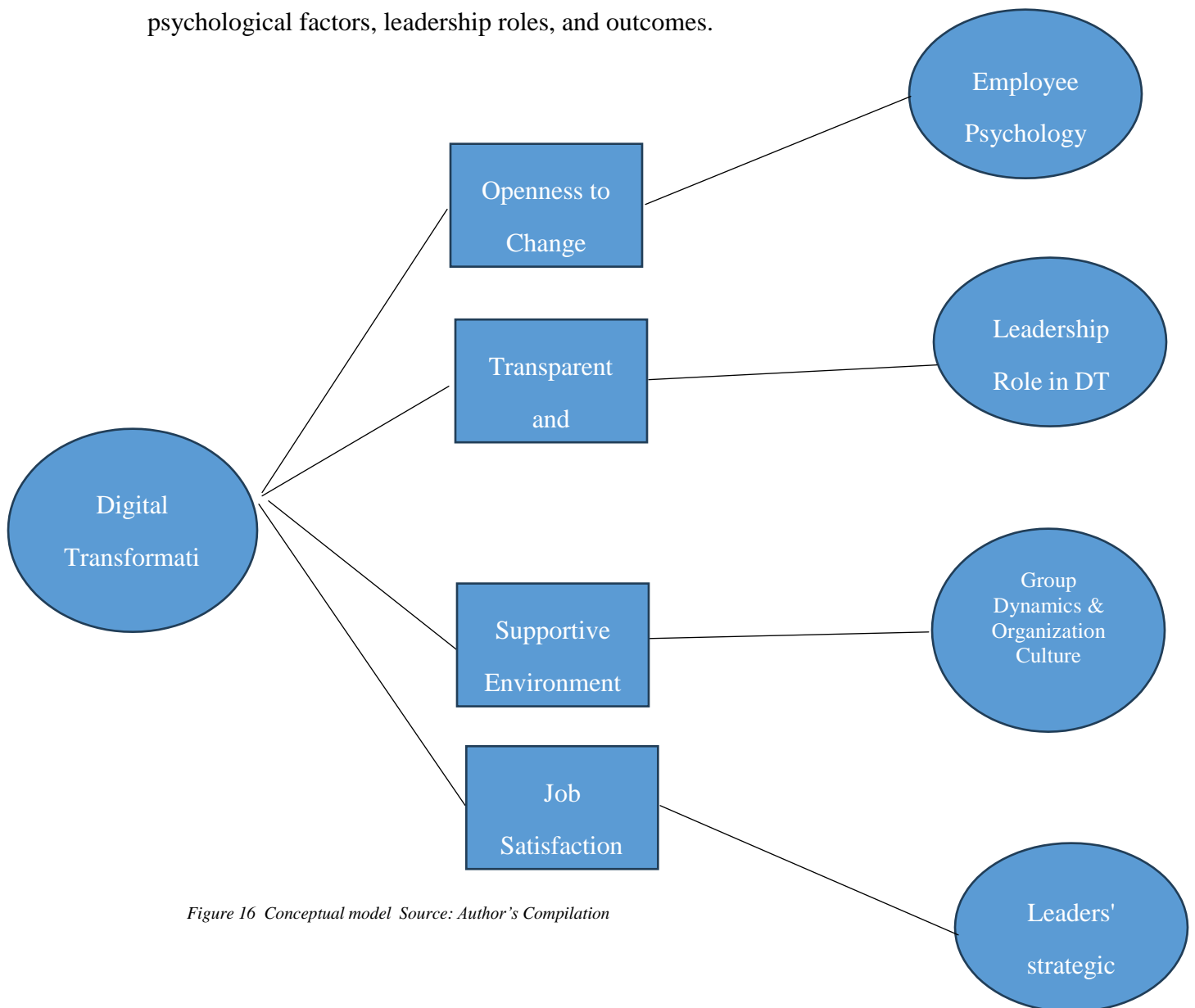
Figure 16 Conceptual model Source: Author's Compilation

Psychological Factors (P1)

Represents employees' psychological aspects, such as openness to change and adaptability.

Digital Readiness Perception

Indicates a positive association between psychological factors and employees' perceived level of digital readiness in the IT sector.

Leadership Roles (P2)

Illustrates the positive link between transformational leadership and the successful   implementation of organizational technological transformations.

Technological Transformation

Represents the successful implementation of organizational technological transformations.

Group Dynamics & Organizational Culture (P3)

Contributes to a supportive environment, effectively addressing psychological challenges and fostering technological transformation within the organization.

Supportive Environment

Supports technological transformation within the organization.

Leaders' deployment of strategic (P4)

Illustrates the positive relation between higher levels of digital maturity and improved employee well-being during the digital transformation process.

Employee Well-being

- Represents improved employee well-being during the digital transformation process.
- Represents the implementation of digital transformation initiatives within the IT sector, acting as the primary stimulus.

- Holds individual traits such as openness to change, perceived self-efficacy, and adaptability.

- Includes transformational leadership behaviors, such as inspirational motivation, individualized consideration, and a clear digital vision.

- Reflects the psychological resilience of employees during the change management process in response to digital transformation initiatives.

- Captures employees' perception of their readiness for digital transformation.

- Represents the mediating role of change management resilience (CMR) between the stimulus and the responses (EWB, OP, EE).

- Represents the mediating role of digital readiness perception (DRP) between the stimulus and the responses (EWB, OP, EE).

- Reflects employees' overall psychological and physical well-being during digital transformation.

- Represents the organisation's overall performance and adaptability during and after the digital transformation journey.

- Indicates employees' perception of empowerment within the digital transformation context.

2.8.4 Proposition relationship
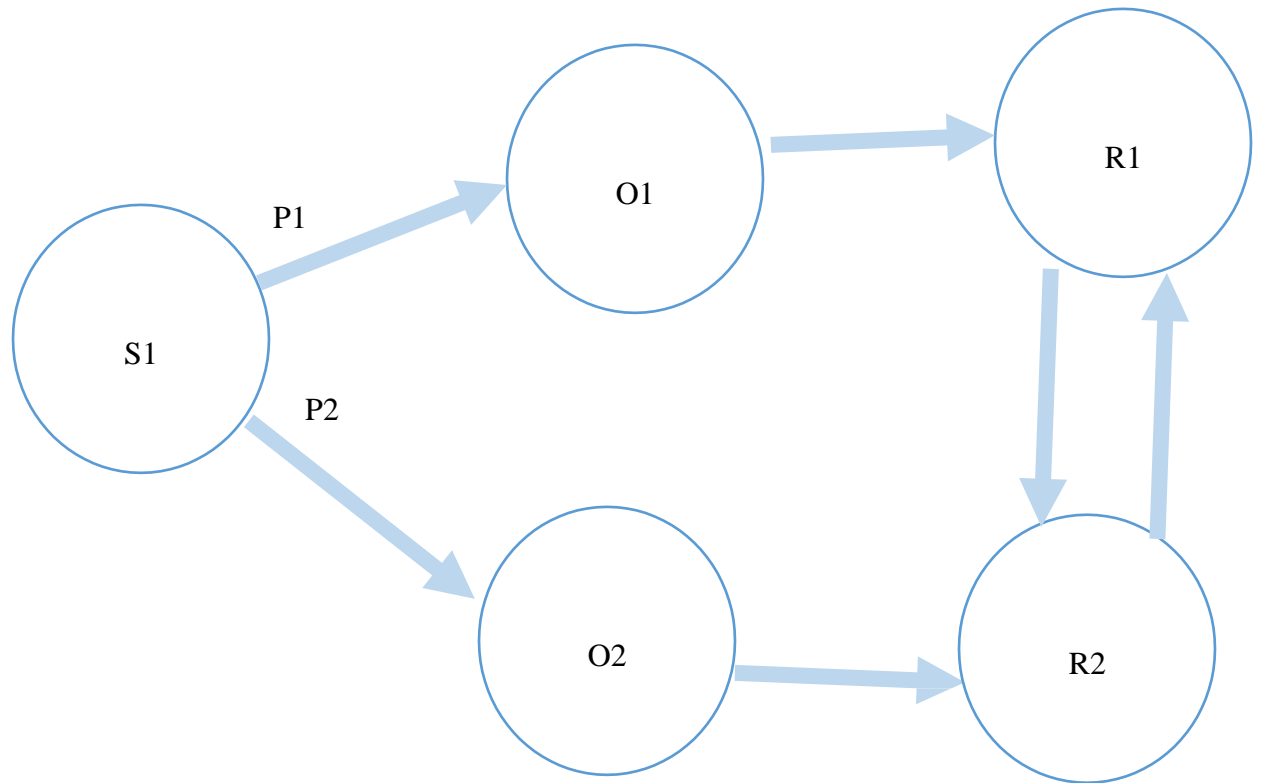
Figure 17:Relationship   *Source: Author's Compilation*

- S1 → O1, O2: Digital transformation initiatives stimulate individual psychological factors and leadership styles.
- O1, O2 → R1, R2: Individual psychological factors and leadership styles influence change management resilience and digital readiness perception.
- O1, O2 → R1, R2: Individual psychological factors and leadership styles influence change management resilience and digital readiness perception.
- M1, M2 → D1, D2, D3: Change management resilience and digital readiness perception mediate the relationships between the stimulus and the responses.

The proposed conceptual model, integrating psychological factors and leadership styles within the S-O-R framework, provides a comprehensive lens to understand the dynamics of digital transformation in the IT sector. The Proposition articulate essential relationships between stimuli, organizational and individual responses, and the mediating factors influencing employee well-being, organizational performance, and empowerment.

The identified gaps in the literature underscore the need for dedicated investigations into the psychological dimensions of digital transformation within the IT sector. The Proposition derived from these gaps offer a roadmap for empirical research, providing a foundation for scholars, researchers, and practitioners to delve into uncharted territories.

While specific citations are not provided due to limitations, the recommendation is to refer to authoritative journals in organizational psychology, management, and information technology for empirical studies supporting the relationships proposed in the conceptual model. Notable works in these fields, particularly those focusing on digital transformation, leadership, and employee outcomes, would contribute to validating and refining the presented Proposition.

Future research endeavors should aim to empirically test the proposed model, refining and expanding it based on the evolving digital transformation landscape within the IT sector.

CHAPTER III:

METHODOLOGY

3.1 Overview of the Research Problem

"If you want to lead the organization's technology transition, the first step is grasping the realities of digital transformation rather than getting seduced by the Hype" (J.Andriole, 2017),. In the aftermath of the COVID-19 pandemic, which prompted a shift from traditional office-based workspaces to a hybrid work culture, sustaining businesses has necessitated a significant overhaul. This pressure is particularly intense for IT companies striving to adapt to the new paradigm.

Research by Nguyen (Nguyen T. , 2021) highlights the formidable challenge leaders face in embracing digital transformation (DT), an impact felt profoundly across various activities. The pervasive influence of digital technology extends to every facet of organizational functioning (Tang, 2021) and (Gobble, 2018) elucidating the nexus between DT and business strategy. DT stems from a palpable shift in the role of technology within the organizational framework.

This study delves into the mechanics of DT adoption within the Indian IT industry, uncovering how technology is the linchpin for business transformation and leadership's pivotal role in its integration. By examining common dilemmas leaders confront, this research aims to elucidate challenges prevalent across the IT sector, paralleling findings in the literature (Heavin, 2018) concerning conceptual decision support for leadership.

An indispensable facet of DT is the human element, as emphasized by Kane (Kane, 2019), encompassing people's reactions to change and the psychological factors that influence the adoption of novel shifts. This research will specifically focus on the motivational factors guiding leadership's propensity to adopt digital transformation. Existing literature underscores the need for the administration to acquire new competencies congruent with DT practices and support, addressing skill gaps and competencies, as highlighted by Kazim (Kazim, 2019).

The study's primary focal point is the adoption of DT within the Indian IT sector. It scrutinizes challenges and probes potential deficiencies in DT investment, interest, and leadership willingness. In the broader context, this literature contributes a comprehensive understanding of DT across diverse sectors and international perspectives. Given that DT hinges on technological innovation and IT enablement, assessing whether the correct transformation occurs within the IT sector becomes pivotal. Thus, this research seeks to understand how the IT industry embraces digital transformation.

3.2 Operationalization of Theoretical Constructs

3.2.1 The Role of Psychological Factors in Embracing New Technologies

The success and failure of innovation are driven by the power of people, where the adoption of new technology isn't always smooth due to psychological factors. The

impact of these factors on technology adoption is evident, especially in the context of

sustainability and the recent pandemic, which highlighted technology's crucial role in

maintaining business continuity. Throughout history, industries have studied the

influences on innovation adoption (Roberts & Flin, 2020).

Figure 18: Human Psychological factors   *Source* (Ruby, 2022)

Technology plays a pivotal role as we enter the era of Industry 4.0 amid rapid digital

transformation. However, for effective technology adoption, understanding the

psychological factors that influence it is essential. Numerous studies and literature

have delved into these factors, including a 2020 publication by Roberts and Flinn

(Roberts & Flin, 2020), which outlines five psychological factors shapinghe adoption

of technology.

Despite the potential, a substantial portion of digital transformation efforts fail to deliver anticipated outcomes. Often, this is due to poorly defined technology goals and inadequate communication. Such shortcomings lead to employee resistance and misalignment across departments, hindering successful implementation. Employee apprehensions about job security and negative perceptions about technology's role in replacing human labor further impede technology adoption, particularly in areas like finance, HR, and IT.

Harvard Business research by Frank-Jürgen Richter and Gunjan Sinha (Frank-Jürgen Richter and Gunjan Sinha, 2020) reveals that despite technological advancements, many organizations struggle to adopt new technologies due to barriers. Slow adoption and the persistence of legacy technologies limit organizations from reaching their full potential. Overcoming these hurdles remains a longstanding concern for companies. Leaders as Catalysts for Organizational Transformation

3.2.2 Leadership as Catalysts for Organizational Transformation

Digital transformation is driven by insightful individuals within a company who grasp its workings and can visualize change. It involves reshaping people, processes, and technology. While some view it as a workforce shift, others see it as a collective employee effort (Bhushan Parikh, 2021).Successful transformation requires bold leadership decisions, even replacing hurdles with skilled talent. Leadership, led by the CEO, is crucial in guiding change.

Digital transformation thrives on proactive leadership as it's about change, not stability (Sainger, 2018). Organizational leadership embeds new systems and approaches. Transformational and transactional leadership coexist – one drives innovation and adaptation, and the other enforces change (Hay, Transformational leadership, 2015); (Florida Tech, 2017).

It is vital in transformational leadership, viewing it as an asset for change (Hansen A. M., Rapid Adaptation in Digital Transformation, 2011). During COVID-19, leaders used IT to implement virtual solutions for customer service.

3.3 Research Purpose and Questions

The aim of this research is to examine the complex relationship between psychological factors and leadership roles in the context of incorporating new technologies and achieving successful transformation within organizations. By investigating these dimensions, this study aims to offer a comprehensive understanding of how psychological factors of individuals and groups, as well as effective leadership strategies, influence the adoption and implementation of new technologies. This will contribute to the development of informed practices and strategies for organizational growth and innovation.

The questionnaire design to outlined appears to be focused on investigating various factors related to the adoption of new technologies within an organizational.

- Investigates how individual factors like risk perception and technological anxiety influence employees' readiness to adopt new technologies.

- Explores the relationship between different leadership roles and the effective implementation of technological transformations within an organization.

- Examines how group dynamics and organizational culture shape the adoption of new technologies, highlighting the impact of these contextual factors.

- Seeks insights into practical leadership strategies to create a supportive environment for technological transformation, while addressing psychological challenges that may arise.

3.4 Research Design

This research will adopt a mixed-methods approach, combining qualitative and quantitative methods. It will allow for a comprehensive exploration of the psychological factors and leadership roles, providing a well-rounded understanding of the phenomena.

3.4.1 Qualitative

- Conduct semi-structured interviews of senior executives from various IT and IT consulting organizations to gather in-depth insights into their perceptions, attitudes, motivations, and fears about adopting new technologies. These interviews will be designed to explore their experiences, barriers, and facilitators.

- Examine group dynamics, peer influences, and organizational culture. It will provide a deeper understanding of how collective psychological factors interact with technology adoption.

3.4.2 Quantitative

- Administer surveys (Using social media) to a larger sample of employees across different IT industries and organizations to quantify and analyze psychological factors such as attitudes towards change, technological readiness, and perceived barriers.
- A physical survey will be conducted among employees in the targeted industry to gather data on the organization's preparation for digital transformation. The survey will take place in designated break-out areas, specifically within the IT industry, across at least three cities, ensuring representation across all genders and varying levels of experience among employees.

3.9 Data Analysis
3.9.1 Qualitative Analysis

- Employ thematic analysis on interview and focus group transcripts to identify recurring themes related to psychological factors and their impact on technology adoption. It will involve coding and categorizing data to uncover patterns and insights.

3.9.2 Quantitative analysis

- Utilize statistical techniques such as regression analysis to explore the relationship between psychological factors and technology adoption.

- Examine relation between leadership styles and successful transformation outcomes, considering factors like employee engagement, resistance, and technology acceptance.

3.10 Research Design Limitations
3.10.1 Ethical Considerations

Ensure ethical practices in data collection, storage, and analysis, obtaining informed consent from participants and maintaining their anonymity and confidentiality. By employing this mixed-methods research design, we can capture the qualitative nuances and quantitative trends related to psychological factors and leadership roles in embracing new technologies and driving transformation. This approach will provide a robust foundation for research, enhancing the validity and reliability of your findings.

CHAPTER IV:

RESULTS

4.1 Introduction

This research encompassed a multifaceted approach to exploring how individual psychological factors and leadership styles influence technology adoption within the IT industries. Interviews were conducted with senior executives from various IT companies to gather qualitative insights, while surveys on professional social media networks were utilized to collect quantitative data. This comprehensive research strategy was further enhanced by in-person interviews in three key IT hub cities- Bangalore, Gurugram, and Noida. With a substantial survey sample size of approximately 300+ respondents, our study

benefits from a rich and diverse dataset, providing a holistic understanding of the pivotal role played by individual psychological factors in shaping the adoption and acceptance of new technologies within organizations.

The research adopted a meticulous and objective data analysis approach to unravel the complex relationship between individual psychological factors, leadership styles, and technology adoption within the dynamic landscape of the IT industry. Its comprehensive strategy aimed to extract meaningful insights from a diverse population, enriching our understanding of technology adoption factors.

The data analysis unfolded in two distinct yet interrelated steps. A rigorous data screening process evolved, encompassing data cleaning and coding tasks. This foundational step ensured the integrity and quality of the dataset, laying the groundwork for robust subsequent analyses.

In essence, our data analysis approach was not only systematic and objective-oriented but also encompassed a series of checks and validations to enhance the robustness and reliability of our findings. Through these meticulous steps, we aimed to contribute valuable insights to the broader understanding of technology adoption dynamics within the IT industry

4.2 Data Collection

The data collection process employed a systematic and targeted approach to ensure the reliability and relevance of the gathered information. A self-structured questionnaire served as the primary instrument for data collection, meticulously designed and distributed on the professional social media platform LinkedIn. To maintain precision and accuracy, professionals within the IT industry or those providing IT services received the questionnaire linked-in poll link.

In tandem with the online survey, a strategically crafted poll was executed within highly focused linked-in and WhatsApp groups, ensuring an audience tailored precisely to the industry scope of the research. This targeted approach minimized the risk of discrepancies and false positives, typically associated with broader social media channels. It deliberately excluded traditional online platforms like Google

112

Forms and emails to random participants. This deliberate exclusion served to refine

and elevate the precision of the data collection process, aligning it more closely with

the specific needs of the research.

4.2.1 Response from social media and Targeted audience

Due to the target audience's distinctive nature, respondents were free to respond at

their convenience, cultivating a collection of responses characterized by depth and

quality.

The response metrics from various channels and targeted audiences highlight the

effectiveness of this approach. However, the data indicates that participation rates

were relatively low when people visited the poll. The number of impressions in the

table signifies the number of individuals who saw the post but did not actively

participate.

Channel	Target	Timeline	Impression	Response	Turnaround
Linked in round 1	Request for poll for Specific Audience	July to Aug 2023	7749	114	1.4%
Whatsup and Telegram	IT group channel	July to Aug	274 members	7	2.5%
Linked in Round 2	Best possible for the IT audience	Oct to Nov 2023	8824	174	2%

Table 18- Social media poll   *Source: Author's Compilation*

For instance, the LinkedIn poll in Round 1 targeted a select audience and achieved only a 1.4% response rate, garnering valuable insights from 114 votes. The WhatsApp poll, conducted within dedicated IT group channels, demonstrated an even higher response rate of 2.5%, with seven respondents actively participating.

In the second round on LinkedIn, optimized for the IT audience, there was a notable increase in engagement with a 2% response rate, receiving 174 polls. These response metrics affirm the efficacy of the strategic approach and highlight the research's resonance within the targeted industry audience, providing a solid foundation for robust data analysis and insightful conclusions.

Additionally, upon closer examination of the polls received, the LinkedIn polls in Round 1 and Round 2 garnered 114 and 174 votes, respectively. The WhatsApp poll received seven responses, emphasizing the focused engagement within specific IT group channels. These statistics further illuminate the effectiveness of the tailored approach, providing a nuanced understanding of participant engagement in response to the research inquiries

4.2.2 The responses from physical Sampling

A secondary data collection effort was initiated through physical interviews with employees. It involved distributing hard copies of the questionnaire to employees in IT companies, allowing for feedback collection. This dual-pronged strategy resulted in the accumulation of a robust dataset, with over 310 samples gathered across three

key IT hub cities: Bengaluru, specifically around Whitefield and Manyata Tech Park; Cyber Hub in Gurugram, housing various IT companies and Big 4 consulting firms; and the SEZ IT Park in Noida, Sector 144, a hub for prestigious IT and outsourcing firms.

To capture diverse perspectives and practices prevalent in the IT industry, we chose these cities, representing a significant cluster of IT industries. The data collected from both online and offline modes was automatically recorded in an Excel sheet, facilitating efficient management and analysis.

Combined with online and Physical, a meticulous approach ensured a comprehensive and well-rounded dataset for subsequent analyses and insights generation.

The responses from the physical sample were collected through strategically targeted visits to key IT hubs, encompassing a diverse range of companies and startups.

In Gurugram's bustling Cyber Hub, our targeted interviews covered Big 4 consulting firms, various IT companies, startups, and co-workplace environments. Conducted from the 25th to the 27th of September, 2023, this segment garnered 81 responses, providing a nuanced understanding of technology adoption within this dynamic business ecosystem.

In Noida's vibrant Sector 144, targeted interviews included IT firms, BPOs, IT startups, and consulting companies. Conducted from the 28th to the 29th of September 2023, this segment yielded 59 responses, contributing valuable insights into technology adoption practices within these varied IT-related sectors.

Interviews were focused on big IT firm offices within the tech hub of Whitefield in Bengaluru. Executed from the 13th to the 20th of October and the 23rd of October 2023, this phase resulted in 102 responses. The targeted approach in this area provides nuanced perspectives on technology adoption within prominent IT firms. At Manyata Tech Park in Bengaluru, interviews encompassed Big IT firms, consulting companies, and IT startups. Carried out from the 26th to the 27th of October and the 30th to the 31st of October 2023, this segment garnered 68 responses, offering valuable insights into technology adoption practices within this prominent IT-centric location.

These physical interviews were strategically conducted in various locations, capturing insights from IT-related businesses. The specified dates and targeted companies ensured a diverse and representative sample, contributing to the richness and depth of the overall dataset. The recorded responses from these interviews form a valuable component of the comprehensive data collection strategy, providing a holistic understanding of the technology adoption landscape within the IT industry.

Location	Targeted companies	Date	Response recorded
Gurugram Cyber Hub	Big Four consulting firms, IT companies, Startup, co-workplace	25th to 27th of Sep 2023	81
Noida Secor 144	IT firm, BPO and IT start-up, consulting	28th Sep to 29th 2023	59
Whitefield Bengaluru	Big IT firm offices	13th to 20th Oct, 23rd Oct 2023	102
Manyata Tech Park Bengaluru	Big IT firm, consulting, and IT start-up	26th - 27th Oct and 30th to 31oct	68

Table 19- Physcial Survey   *Source: Author's Compilation*

4.2.3 Career Level with the Sample

Location	Early career(1-5 years)	Mid-career (5-10 years)	Expert (10+Years)
Gurugram Cyber Hub	23	42	16
Noida Sector 144	20	32	7
Whitefield Bengaluru	35	49	18
Manyata Tech Park Bengaluru	18	37	13

Table 20- Physcial Survey   *Source: Author's Compilation*

Exploring sample diversity across distinct locations reveals a nuanced distribution of professionals across various stages of their careers.

In Gurugram's Cyber Hub, a diverse sample is evident, with 23 individuals in their careers (1-5 years), 42 mid-career (5-10 years), and 16 experts boasting over ten years of experience. This composition reflects a balanced representation of career stages within the dynamic professional landscape of Cyber Hub.

Noida's Sector 144 exhibits sample diversity with 20 early-career professionals, 32 mid-career, and seven experts. This mix underscores the varied experiences within the sample, contributing to a rich and dynamic cross-section of professionals. Whitefield in Bengaluru demonstrates a well-distributed sample, encompassing 35 early-career professionals, 49 in mid-career, and 18 experts. The model in this location portrays a diverse cross-section of professionals at different career stages, adding depth to the overall workforce.

Manyata Tech Park in Bengaluru also reflects sample diversity, featuring 18 individuals in the early stages of their careers, 37 in mid-career, and 13 experts. The park is a focal point for professionals at varying career stages, contributing to a collaborative and experienced sample.

In summary, these insights shed light on the diversity within the sample across different locations, offering valuable perspectives on the distribution of professionals in early, mid, and expert stages across Gurugram Cyber Hub, Noida Sector 144, Whitefield Bengaluru, and Manyata Tech Park Bengaluru.

4.2.4 Gender Diversity with Sample

Location	Male	In % Male Participant	Female	In % Female Participant
Gurugram Cyber Hub	46	56.7%	35	43.3%
Noida Sector 144	38	64.4%	21	35.6%
Whitefield Bengaluru	68	66.6%	34	33.4%

Manyata Tech Park Bengaluru	41	60.3%	27	39.7%

Reveals distinctive patterns in participant composition. In Gurugram's Cyber Hub, the sample is characterized by 46 male participants, constituting 56.7%, and 35 female participants, accounting for 43.3%. Moving to Noida's Sector 144, the gender distribution shows 38 male participants, 64.4%, and 21 female participants, representing 35.6%. Whitefield in Bengaluru displays a similar trend with 68 male participants, comprising 66.6%, and 34 female participants, constituting 33.4%. In Manyata Tech Park Bengaluru, the sample consists of 41 male participants, 60.3%, and 27 female participants, representing 39.7%. These findings underscore the nuanced gender diversity within our model across diverse locations, offering valuable insights into the gender composition of professionals participating in our study.

4.2.5 Technical diversity with sample

Location	IT Outsourcing	IT Consulting	IT startups, BPOs and other IT workplace
Gurugram Cyber Hub	10	46	25
Noida Secor 144	16	4	39
Whitefield Bengaluru	80	6	16
Manyata Tech Park Bengaluru	40	8	20

The analysis of technical diversity within our sample collection across different locations unveils distinctive patterns in the distribution of professionals across various segments of the IT industry. In Gurugram's Cyber Hub, our sample includes 10 participants from IT outsourcing, 46 from IT consulting, and 25 from IT startups, BPOs, and other IT workplaces. Moving to Noida's Sector 144, we observe 16 participants from IT outsourcing, four from IT consulting, and 39 from IT startups, showcasing a varied representation across these segments. Whitefield in Bengaluru presents a diverse technical landscape with 80 participants from IT outsourcing, six from IT consulting, and 16 from IT startups. Manyata Tech Park Bengaluru reflects a balanced technical profile, featuring 40 participants from IT outsourcing, eight from IT consulting, and 20 from IT startups. These findings shed light on the distribution of professionals across different technical segments, providing valuable insights into the technical diversity of participants in our study.

4.2.6 Physical Interview of Executive

To embark on a comprehensive interview process delving into dialogues with a select group of 12 esteemed senior executives. The coordination of appointments was meticulously planned through a combination of strategic outreach on social media platforms and leveraging professional references. The interviews were conducted through a multifaceted approach, involving face-to-face interactions at cafes for a personalized touch and virtual meetings facilitated through MS Teams and Webex platforms to accommodate varying preferences. The nuanced nature of our approach

encompassed both recorded sessions for comprehensive analysis and discreet sessions tailored to the confidentiality preferences of certain executives.

Designation	Mode of Interview	Industry represents
CTOs	Online	IT and IT startup Gaming
County Heads	Physical	IT
Senior Directors	Online and Physical	IT and IT consulting
Directors	Online and Physical	IT and IT consulting
Specialist	Physical	HR IT

Table 22- Interview   *Source: Author's Compilation*

In our rigorous interview exploration, we interacted with executives at various hierarchical levels, employing a tailored approach based on the executive level and industry representation. CTOs participated in online interviews, contributing insights from IT and IT startup gaming. County Heads engaged in physical discussions, representing the IT sector. Senior Directors exhibited a dual participation mode, with interviews conducted both online and physically, offering perspectives from the dynamic intersection of IT and IT consulting. Directors participated versatilely, engaging in online and physical discussions and providing valuable insights from IT and IT consulting. This nuanced approach allowed us to capture diverse perspectives and expertise across executive levels and industries.

4.3 Ethics Related to Participation
The research focus was deliberately narrowed to encompass solely IT professionals, a principle established and confirmed through verbal communication with the participants. It is crucial to note that the insights shared, whether through written

responses or during executive interviews, were explicitly clarified as personal observations and did not necessarily mirror their respective company practices. Given the code of conduct policies prevalent in these organizations, participants strongly preferred anonymity throughout the interview process, emphasizing the need for discretion and confidentiality.

4.4. Thematic analysis of the interviews

4.4.1 Research Question 1

How do individual psychological factors influence adopting and accepting new technologies within an organization?

As per the proposition, a noticeable void existed in past studies regarding the psychological factors influencing technology adoption within IT companies. This research was designed to bridge this gap by delving into the specific psychological factors that play a pivotal role in shaping technology adoption in the IT sector. A tailored set of questions, encompassing individual contributors and executives, was meticulously formulated and distributed to individuals across both organisations. It is essential to clarify that the research does not seek customer feedback but emphasises capturing employees' perspectives. The primary objective is to explore and understand the depth of psychological factors' impact on technology adoption from an employee standpoint.

Q. 1 Do individual differences in risk perception and technological anxiety impact employees' willingness to adopt new technologies?
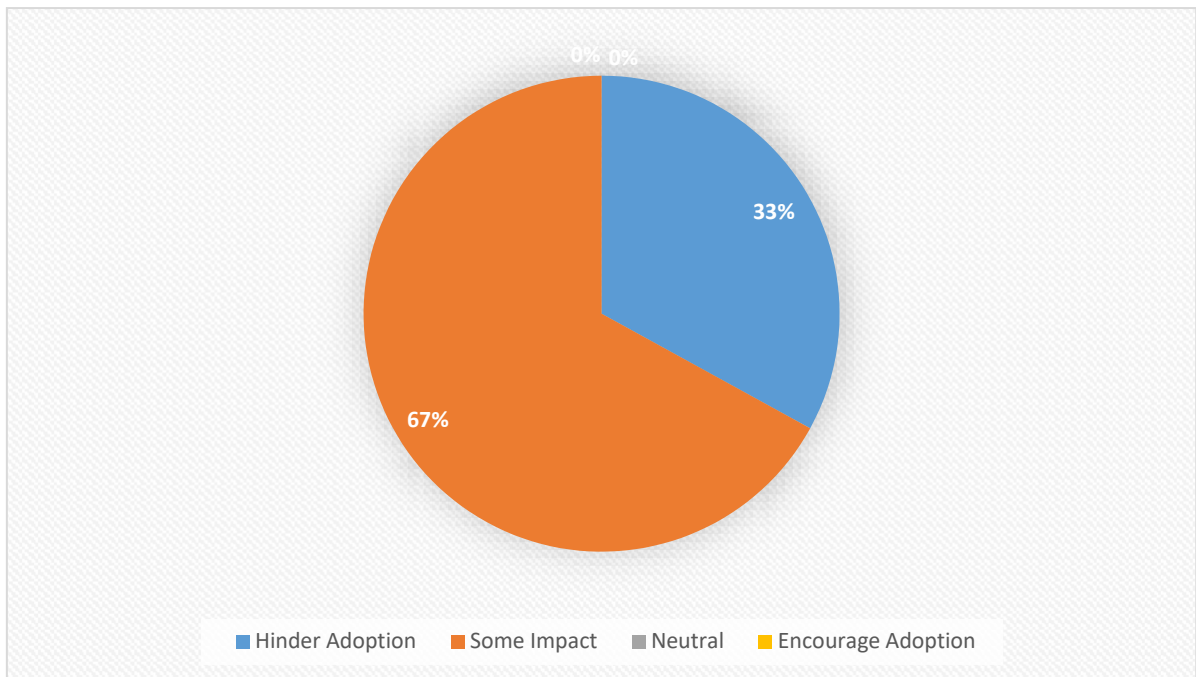
Figure- 19 -Poll Result   *Source: Author's Compilation*

When considering the impact of risk perception and technological anxiety on tech adoption, it's evident that these factors do have a notable influence. While none of the respondents in this survey indicated that they encourage adoption, the majority, 67%, acknowledged that these factors have "Some Impact" on tech adoption. Moreover, 33% reported that risk perception and tech anxiety "Hinder Adoption." It suggests

that many technical individuals in the IT industry recognize these factors' role in shaping their willingness to adopt new technologies. These results emphasize the importance of addressing and mitigating these concerns to facilitate smoother tech adoption processes in the industry.

Executives strongly believe individual differences in risk perception and technological anxiety significantly influence adoption. The nexus between new technology adoption and technological anxiety is crucial in determining overall employee receptiveness and readiness.

Jitesh Midha, Country Head at Insight Solution, underscores a nuanced perspective, asserting that technological changes profoundly impact early-career individuals while mid-career individuals exhibit greater receptivity. Furthermore, he posits that technology influences job roles for early-career professionals but also creates new job opportunities for those in mid-career.

Richard Seamark, Senior Director from NTT Data, offers a thought-challenging perspective on the psychological impacts of digital transformation, emphasizing the standard change curve. Seamark draws attention to a headline article featuring British Telecom's decision to cut 55,000 jobs (BBC, 2023), with up to one-fifth being replaced by AI. He acknowledges the immediate impact on employees and the organization's dynamics, including appointing a new CEO.

Navigating the standard change curve involves initial denial, particularly for employees facing the potential loss of their roles due to AI, automation, and digitalization. Seamark highlights the psychological challenges associated with such

transformative changes, noting that individuals might experience denial, resistance, exploration, and acceptance.

Despite the initial negative impact, Seamark emphasizes the importance of recognizing the benefits of digitalization to personal lives, enhancing interactions with services and products. Moreover, he underscores the opportunities created for those involved in developing AI technologies.

Seamark urges a cautious approach to interpreting technology news, acknowledging the potential psychological strain caused by sensational headlines, such as job cuts due to AI adoption. He questions the long-term psychological damage, suggesting that while there may be short-term pressure, the transformative potential of digitalization could ultimately lead to new job titles and employment opportunities. In conclusion, Seamark emphasizes the need for a balanced perspective on the human impact of technology, highlighting the potential for positive outcomes and new opportunities emerging from the ongoing digital transformation process.

Building upon the preceding discussions, the consensus among executives is that technological change undeniably influences employees, although there exists a nuanced difference in perceptions regarding its impact on employment. According to a director from an Indian IT firm, the prevailing perception is that technological changes lead to job impacts and employee anxiety. However, this executive underscores the crucial role played by technology in adoption. The strain induced by technological change catalyzes employees to upskill themselves and embrace emerging technologies to remain proficient proactively.

This sentiment aligns with the perspective of HR executives Sonali Dash, who perceive a positive impact on technology adoption, as evidenced by survey results. While acknowledging the positive influence, executives also recognize the potential negative repercussions on employment and the retention of skilled resources. The key lies in addressing these challenges through practical leadership approaches.

The executives unanimously advocate for individual initiatives in training and upskilling, emphasizing that staying skilled and market-ready can mitigate the adverse effects of technological impact on employment. This collective belief among executives reinforces the perception that individuals must take proactive measures to train themselves continuously, stay adept with evolving skills, and remain competitive in the job market. In essence, the shared sentiment among executives is that a proactive approach to personal development can significantly reduce the negative impacts of technological changes and ensure individuals remain resilient and valuable contributors to the workforce.

Q2- What are some specific misconceptions or myths you've encountered regarding adopting new technology?
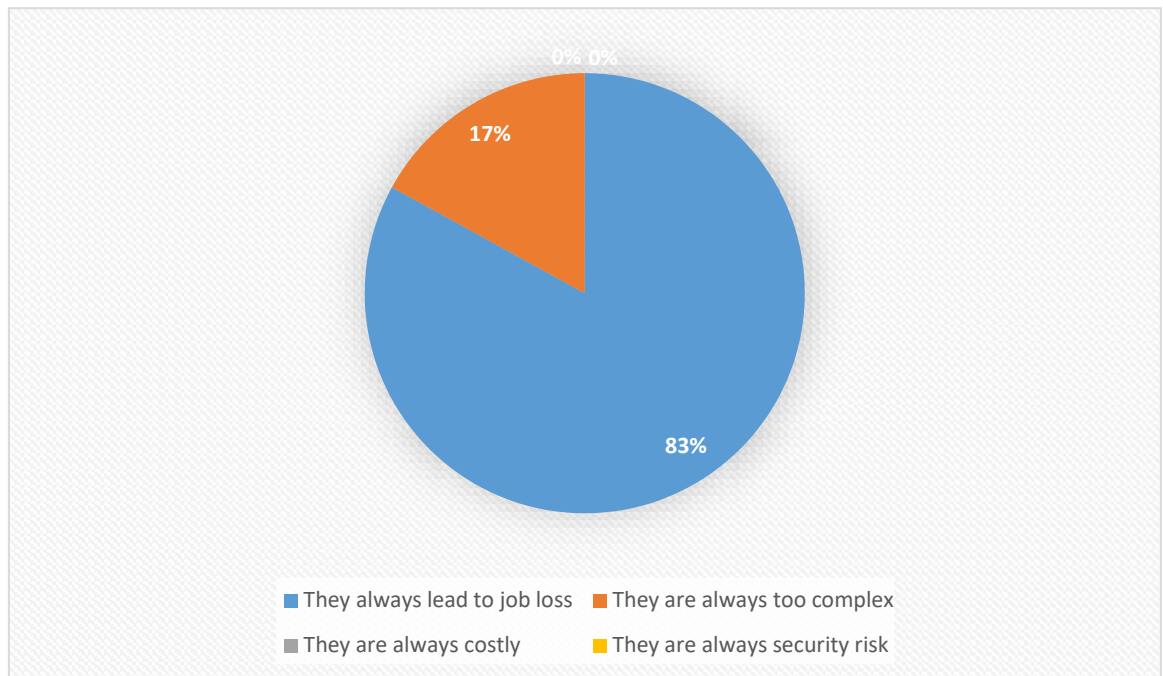

Figure- 20 -Poll Result   *Source: Author's Compilation*

The survey results reveal several prevalent misconceptions or myths surrounding adopting new technology. An overwhelming 83% of respondents believe that one common misconception is that adopting new technologies always leads to job loss.

This misconception reflects concerns about automation and job displacement. However, it's important to note that technology can create new job opportunities and enhance existing roles. Only 17% of respondents mentioned the misconception that new technologies are always too complex. It highlights concerns about usability and the need for user-friendly interfaces. None of the respondents believed new technologies are always costly or a security risk. It may indicate a more informed perspective on technology adoption's financial and security aspects, suggesting that these misconceptions are not as widespread as those related to job loss and complexity. Addressing these misconceptions and providing accurate information is crucial to fostering a more balanced and informed approach to adopting new technology.

Jean Turgeon, CTO at NTT LTD, persistently challenges the misconception that technology and AI are poised to replace jobs. Instead, Turgeon asserts that these advancements aim to secure employment by enhancing efficiency and enabling the delivery of high-standard services. He emphasizes the need for employees to shift away from the mindset that technology replaces jobs.

Drawing on historical examples, Turgeon reflects on the transition from mechanical processes to electronics and the introduction of robots in factory lines. Contrary to fears of widespread job loss, he notes that jobs have not only endured over the past 45 years, but new opportunities have also emerged. Turgeon encourages employees to embrace and convince themselves to adapt to technological changes, emphasizing the importance of learning.

Turgeon cites examples such as the introduction of IBM mainframes, storage innovations, and network advancements, highlighting the recurring pattern of technological evolution. In his perspective, continuous learning and adaptation to changing technology are essential. He believes in relevance to the field, acknowledging that one might find themselves in the wrong seat at the wrong time, but another seat is always waiting for them in the evolving landscape. Turgeon's insights challenge misconceptions about job security in the face of technological advancements, advocating for a proactive and adaptive mindset among employees.

Nidhi Singh, former CTO of Dangal Game, sheds light on a common misconception among employees—the belief that new technologies are inherently complex and challenging to adopt. However, Singh counters this perception, stating that employees can easily navigate such situations with the proper support and training initiatives. His perspective emphasizes the role of a supportive environment and structured training programs in facilitating smooth technology adoption.

Rowland Searle, Director of IT, places a vital importance on effective communication to disperse myths and misconceptions surrounding new technologies. He contends that proactive and transparent communication can be pivotal in guiding individuals away from mistaken beliefs about the complexity of adopting new technologies. Echoing these sentiments, other executives acknowledge a prevailing misconception that adopting new technologies leads to job loss, a fear reflected in survey responses. These collective insights underscore the need for proactive communication, training,

and a supportive environment to undo myths and foster a positive outlook on technology adoption within the workforce.

Q- 3 How does prior experience with similar technologies affect employees' willingness to learn and adopt new ones?

0%

100%

- Positively encourages adoption
- Has a minor influence
- No significant impact
- Creates reluctance to adopt
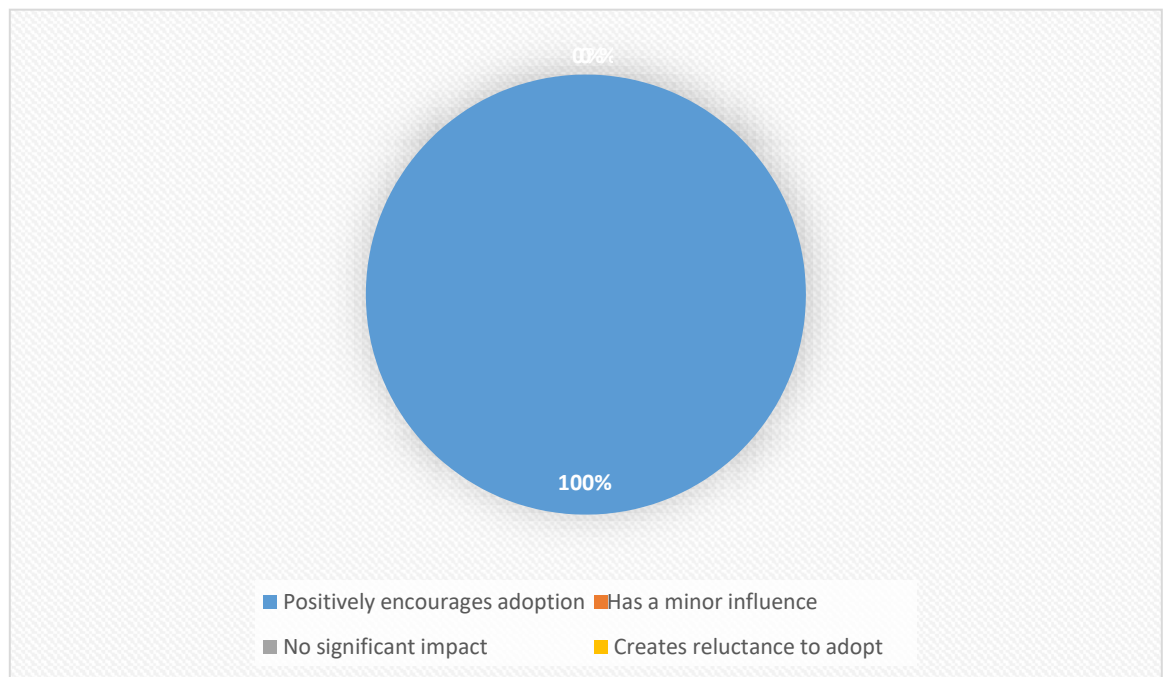
Figure- 21 -Poll Result   *Source: Author's Compilation*

The survey results present a clear and unanimous consensus that prior experience with similar technologies firmly and positively encourages employees' willingness to learn and adopt new ones, with 100% of respondents in agreement. This unequivocal response underscores the significance of familiarity and past exposure to similar technologies in fostering a receptive attitude toward new technology adoption. It highlights the valuable role that building on employees' existing knowledge and

130

comfort with technology can play in facilitating the successful integration of new tools and systems in the workplace.

The significance of prior experience with similar technologies on employees' willingness to learn and adopt new ones is a crucial aspect that resonates across perspectives. Directors from Indian IT firms share a unanimous belief that employees with prior experience in similar technologies exhibit a positive attitude toward embracing technological changes. Jitesh Midha strongly emphasizes the pivotal role of experience, asserting that it expedites the adoption process. The consensus is that a history of technology experience accelerates technology adoption.

Sonali Dash underscores the profound impact of prior experience on technology adoption, suggesting that individuals with a background in technology are more inclined to embrace new advancements. Additionally, more technology-driven resources demonstrate a faster capacity to adopt new technologies. Executives stress the need for organizations to cultivate a digital transformation culture, fostering an environment that encourages skill development and a learning mindset, ultimately facilitating technology adoption.

The collective sentiment among executives, substantiated by survey findings, reinforces that prior experience catalyzes the prompt adoption of technology. The alignment of perspectives underscores the imperative for organizations to recognize and leverage employees' previous experience as a strategic asset in fostering a culture of continuous learning and swift technology adoption.

Q4 - How does social influence and peer pressure impact employees' decisions on adopting new technologies?

17%

1%

49%

33%

■ Strongly encourages adoption ■ Has some influence
■ No significant impact ■ Creates resistance to adoption
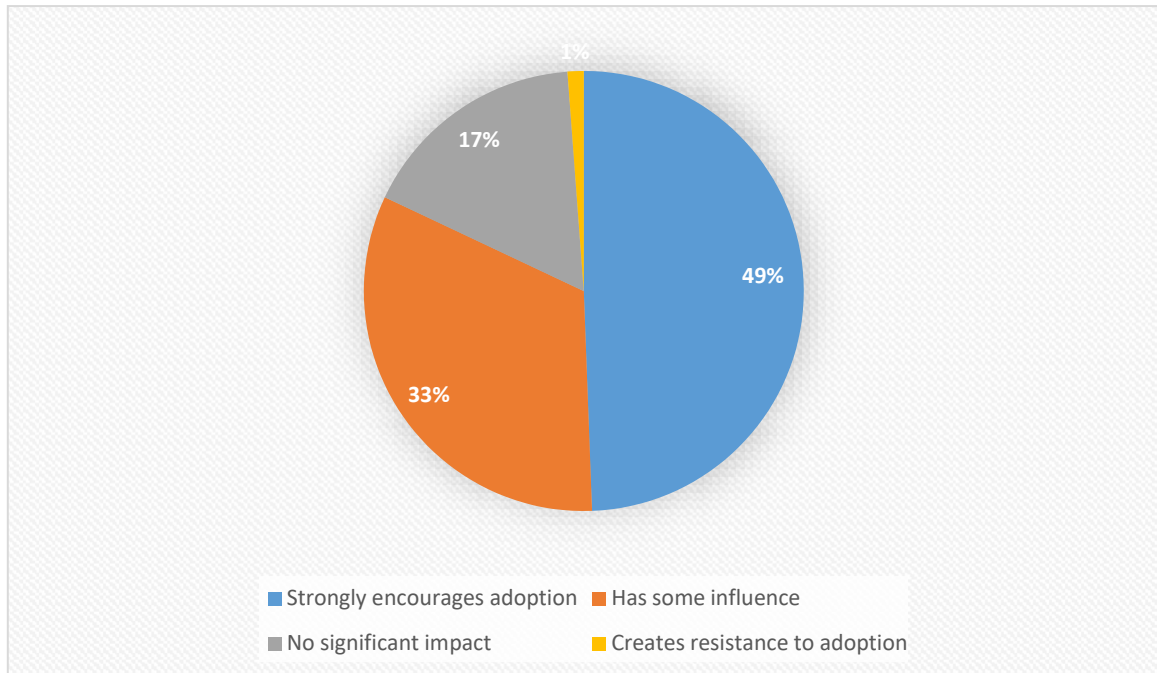
Figure- 22 -Poll Result   *Source: Author's Compilation*

The survey results indicate that social influence and peer pressure substantially impact employees' decisions regarding adopting new technologies. A significant majority, at 50%, believe that social influence and peer pressure "Strongly encourage adoption." it suggests that colleagues and social factors play a pivotal role in motivating employees to embrace new technologies, possibly through positive endorsements and shared enthusiasm. Furthermore, 33% of respondents note that social influence and peer pressure "Have some influence," underscoring a moderate yet notable impact. Notably, none of the respondents believe that social leverage and

peer pressure "Creates resistance to adoption," indicating that, in this context, these factors are not perceived as negatively influencing technology adoption decisions. Only 17% report that it has "No significant impact," implying that social influence and peer pressure generally shape employees' technology adoption choices. These results emphasize the importance of fostering a supportive and encouraging social environment to facilitate successful technology adoption within organizations.

The directors highlighted the significant impact of peer pressure and support on fostering positive outcomes in digital transformation. The consensus is that individuals exhibit greater receptivity to new technologies when influenced and encouraged by their peers. Peer involvement extends beyond mere encouragement; it is crucial in creating a conducive learning environment and fostering a positive and supportive atmosphere that contributes to effective learning.

Moreover, as indicated by survey responses, executives echo the same sentiment, highlighting the role of peer influence in facilitating technology adaptation. Recognizing peer dynamics as a driving force behind successful technology adoption underscores the importance of fostering collaborative and supportive relationships within the organizational context. This shared perspective among directors and executives further emphasizes the positive influence that peer dynamics can exert on employees' decisions to adopt new technologies.

Q5- Which emotional factors impact technology adoption within your organization?
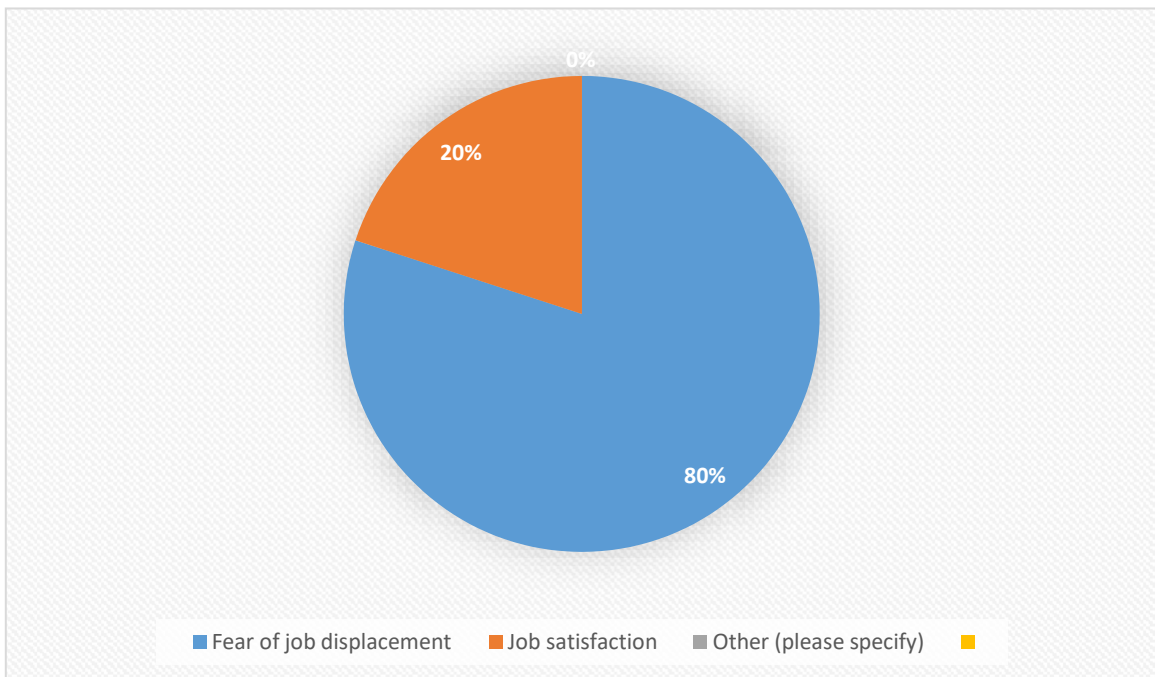
The survey results indicate two prominent emotional factors that impact technology adoption within the organization. The most significant factor, with 80% of the responses, is the "Fear of job displacement." It suggests that employees in the organization are deeply concerned about how technology adoption may affect their job security and livelihood, which can create resistance to embracing new technologies. Conversely, "Job satisfaction" is identified as a factor by 20% of

respondents, highlighting the role of employees' overall job contentment in influencing their attitude toward technology adoption. Interestingly, no respondents mentioned any other specific emotional factors, suggesting that, in this context, job displacement fears and job satisfaction are the dominant dynamic drivers affecting technology adoption decisions. These results underscore the need for organizations to address and alleviate job displacement concerns while fostering a work environment that enhances job satisfaction to facilitate more successful technology adoption.

Executives commonly identify two prominent emotional factors that significantly influence the adoption of digital transformation within organizations. The foremost emotional factor revolves around employees' prevalent fear of job displacement. Executives universally echo concerns about technology displacing jobs, acknowledging that this fear is commonplace across all career levels. Some executives believe job displacement is specific to certain careers, while others contend it transcends career types. Despite variations in perspectives, the consensus is that job shifts are inevitable, and AI technologies may replace specific jobs while creating opportunities for skill acquisition in other areas.

Survey findings highlight job displacement as the predominant emotional factor impacting technology adoption, reflecting the overarching apprehension among employees. Additionally, another emotional factor that emerges is the attachment to legacy skills. Executives note that employees who have invested time and expertise in

legacy technologies may find it emotionally challenging to transition to new technologies.

However, executives emphasize that digital transformation is not merely a choice but a necessity for survival in the competitive market. While acknowledging the emotional complexities associated with job displacement and legacy skill attachment, executives underscore embracing digital transformation as a strategic imperative for organizational viability and success in a dynamic and competitive landscape.

Q6- Do generational differences influence employees' technology adoption mindset?
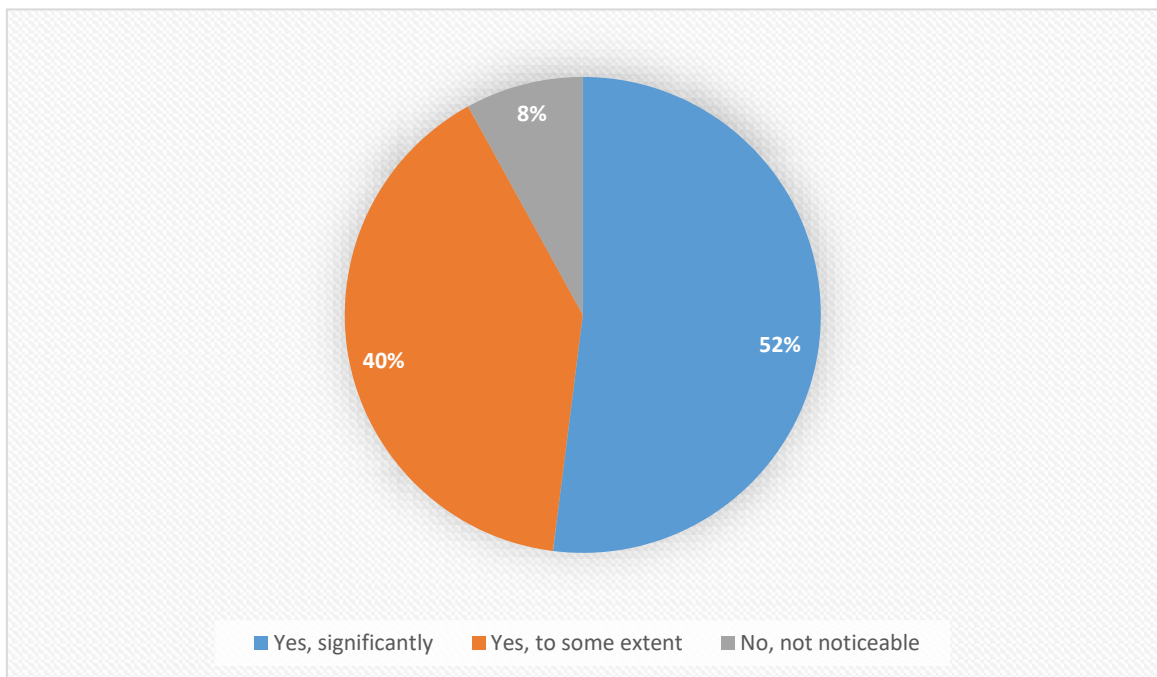

Figure- 24 -Poll Result   Source: Author's Compilation

The survey results strongly suggest that generational differences influence employees' mindsets about adopting technology. A combined 92% of respondents believe that generational factors shape employees' attitudes and readiness to adopt new technologies to some extent or significantly. Only 8% indicate that generational differences are not noticeably influential. These findings underscore the importance of recognizing and addressing generational diversity when implementing technology adoption strategies within organizations, as it plays a substantial role in shaping employees' perspectives and approaches to new technologies—technology adoption strategies and training programs to ensure effective and inclusive adoption processes. Richard Seamark acknowledges the influence of generational differences on employees' technology adoption mindset. He categorizes generations into XY, millennials (Z) (Wikipedia, 2023), and even the emerging generation alpha (born in 2010 and after), emphasizing their entry into the workforce. Seamark suggests that specific industries may adopt digitalization and automation quickly based on their demographic composition.

Additionally, he highlights the significance of a company's technological stance as a significant factor influencing individuals' decisions to join and work for a particular organization. Seamark references Maslow's hierarchy (Mcleod, 2024) of needs, indicating that integrating advanced technologies is a pivotal aspect that employees consider when selecting a company to work for, aligning with their evolving needs and expectations.

Nidhi Singh observes a gradual reduction in resistance to technology adoption over time, driven by the imperative to enhance services, reduce costs, and stay competitive in the business landscape. Singh points out that embracing technology is crucial for companies to improve services, lower prices, and address broader goals such as lowering carbon footprints and contributing to societal benefits.

Jitesh Midha underlines that employees aged 55 years and above exhibit a slower adoption of digital transformation. Consistently, all executives unanimously agree that generational differences play a role in influencing technology adoption, ranging from a moderate to a significant impact.

4.4.2 Research Question Two
What is the relationship between leadership roles and the effective implementation of technological transformations?

Leadership significantly influences the successful implementation of technological transformations within organizations. The choice of leadership style plays a pivotal role in steering the course of technological change. A thorough literature review has unveiled a noticeable gap in past studies regarding the connection between leadership and its impact on the psychological situation of employees during technological transformations.

This research aims to bridge the gap by investigating the multifaceted relationship between leadership styles and the effective implementation of technological transformations. Through extensive exploration, the study sheds light on how

different leadership styles shape the organizational landscape during technological change.

Questions were prepared and posed to individuals, including employees and executives, to understand their perceptions of various leadership styles. The data collected during this research endeavour will offer valuable perspectives on how leadership styles are perceived in the context of technological transformations and how they influence the psychological dynamics of the workforce.

Q1- How do leaders adapt during tech transitions for diverse teams?
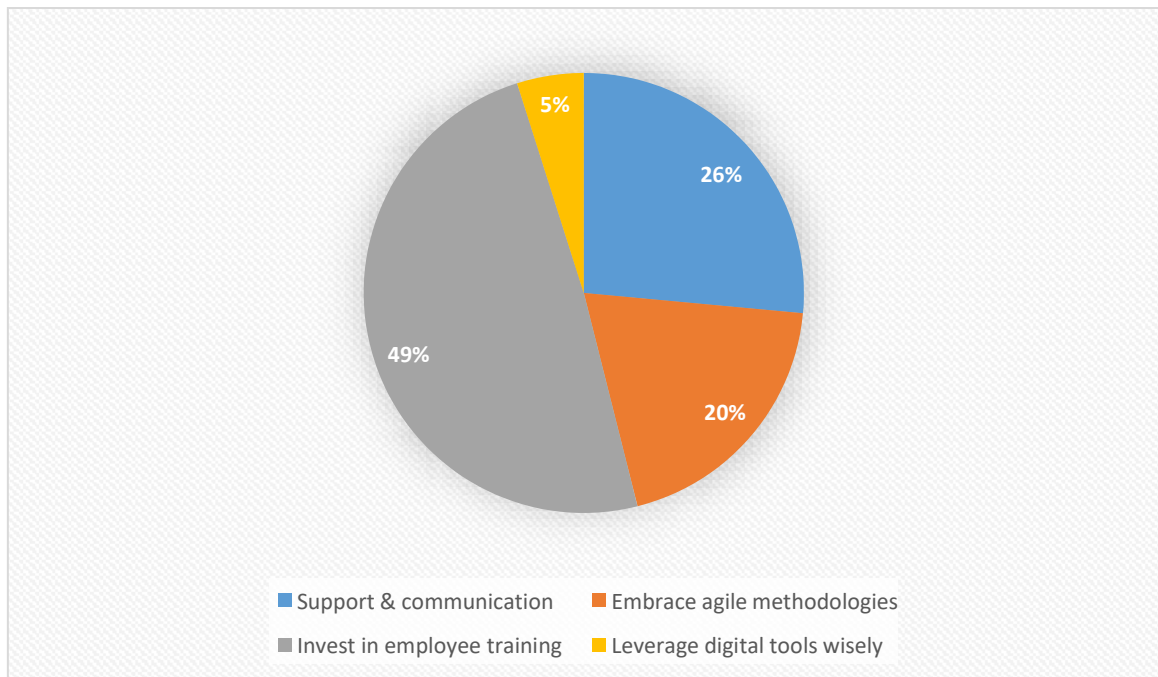

Figure- 25 -Poll Result   *Source: Author's Compilation*

The survey results indicate that leaders' adaptation strategies during tech transitions for diverse teams involve a combination of approaches. A significant 48% of

respondents believe that investing in employee training is a crucial aspect of leadership during tech transitions, highlighting the importance of equipping team members with the skills and knowledge required for successful adaptation. Additionally, 27% emphasize the significance of support and communication, underscoring the role of leaders in providing guidance and fostering open dialogue during these transitions. Embracing agile methodologies is considered necessary by 20% of respondents, emphasizing the value of flexibility and adaptability in project management. Only 5% mention leveraging digital tools wisely, suggesting that while technology is a part of the transition, it's not the sole focus. These results emphasize the multi-faceted nature of leadership during tech transitions for diverse teams, which involves a combination of training, support, communication, and adaptable methodologies.

From the collective perspective of executives, there is a unanimous belief in the importance of supportive leadership during technological transitions. They emphasize that effective leadership requires a deep understanding of employees' psychological situations, with proactive plans to mitigate any associated challenges. With the emotional impact of technological change, leaders are suggested to establish open communication channels to address employees' emotional factors while fostering a positive environment for embracing the evolving landscape. Executives emphasize providing comprehensive training to equip employees with the skills to navigate the new technology landscape. Jitesh highlights the holistic nature of technology investment, advocating for a broader focus that includes technological platforms and

extensive employee training. This executive consensus aligns with the survey results, reinforcing the pivotal role of supportive leadership and strategic initiatives in guiding diverse teams through technological transitions.

Q2- Can you provide examples of leadership practices that encourage a culture of experimentation and innovation, thereby facilitating technological transformations?

As highlighted by Jean Turgeon, effective leadership in an organization is not confined to a singular CEO; instead, the CEO is a leader, and leadership passes throughout the managerial hierarchy. Leaders play a pivotal role in shaping the organizational culture, fostering communication, and translating their vision into reality. Executives unanimously assert that leadership practices directly impact the cultivation of an organization's experimentation and innovation culture. The active involvement of leadership in innovation initiatives and the encouragement of experimentation contribute to developing an innovation-centric culture.

Vaibhav Agrawal, a director from an IT firm, exemplifies this by providing employees with dedicated development and testing environments. It enables them to test and optimize innovative ideas, systematically streamlining processes. The consensus among executives highlights the essential role of leadership in nurturing an innovation culture within organizations.

Q3- What strategies have leaders used to build trust and credibility among employees when introducing major technological changes?
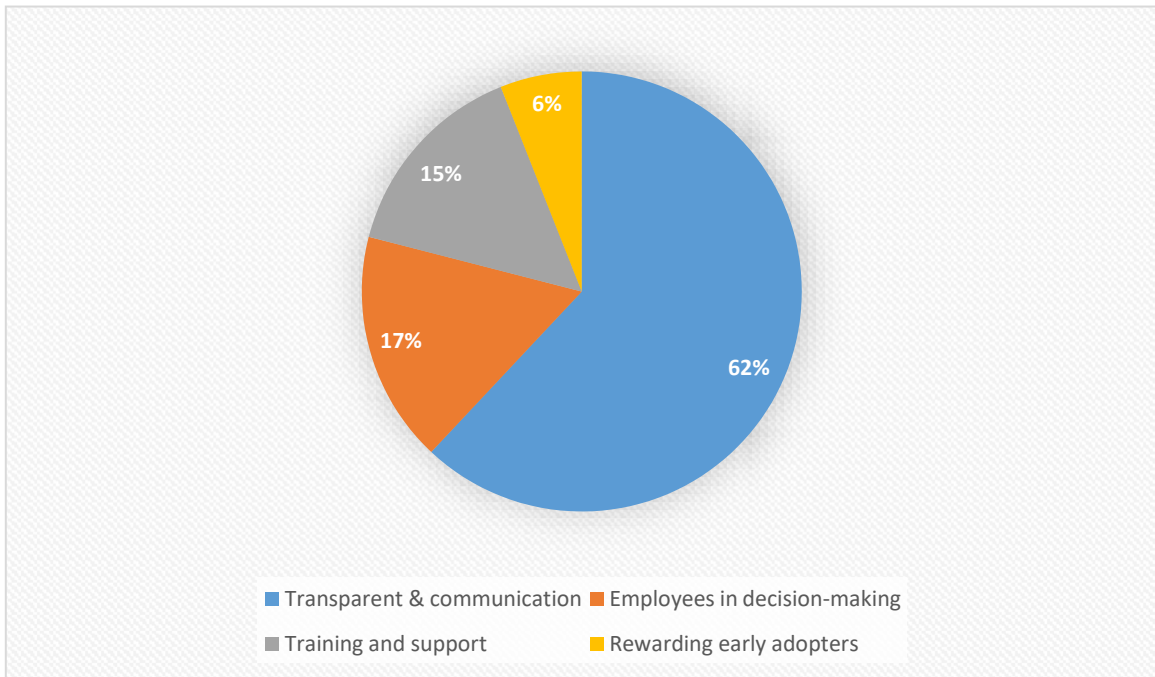
Figure- 26 -Poll Result   Source: Author's Compilation

The survey results indicate that building trust during tech changes primarily involves transparent communication. Most 62% of respondents emphasize the importance of transparent and effective communication to foster trust during technological transitions. Additionally, 17% believe applying employees in decision-making is a valuable strategy, empowering them and enhancing confidence. Training and support are recognized by 15% of respondents as crucial elements, highlighting the role of skill development and assistance. Only 6% mention rewarding early adopters, suggesting that while incentives can play a role, they are less prominent in building trust during tech changes. These results underscore the significance of open communication, employee involvement, and support in fostering trust during technological transitions.

Richard Seamark emphasized that effective communication is the foundation of successful leadership during technological transitions. Strategically reskilling resources is highlighted as a crucial initiative to instill employee confidence and trust, focusing on repurposing and targeted efforts. Nidhi Singh emphasizes the need for leadership involvement with employees to comprehend their anxieties and challenges. Rowland underscores the significance of communication, aligning with the consensus among executives that effective communication is pivotal for success. Jitesh emphasizes the importance of direction and mentorship in ensuring successful implementation. The unanimous view among executives reinforces the critical role of communication as the linchpin for success, a sentiment mirrored by survey findings highlighting communication as the most influential factor for success.

Q4- How does the alignment between the organization's primary goals and the leadership role impact the success of technology implementation efforts?
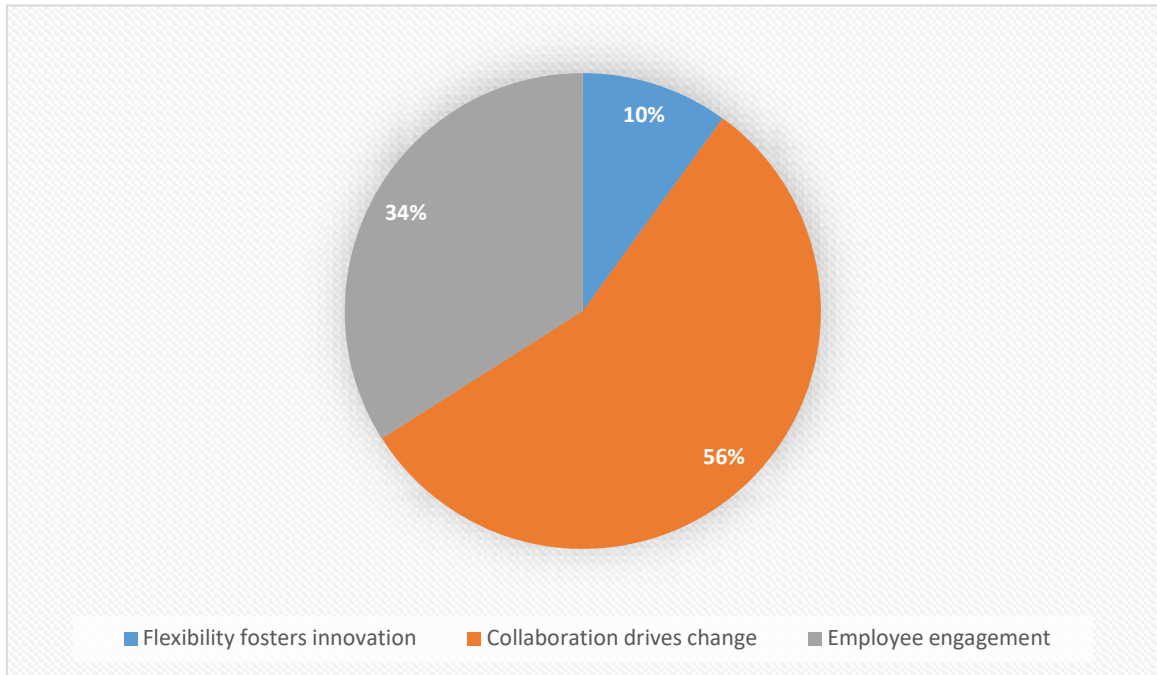
Figure- 27 -Poll Result   *Source: Author's Compilation*

The survey results indicate that leadership roles significantly influence tech implementation success, with 56% of respondents asserting that collaboration-driven leadership fosters successful tech implementation by driving change. An additional 34% emphasize that employee engagement, facilitated by leadership, is pivotal in ensuring tech implementation success. Meanwhile, a minority, 10%, believes that flexibility, as demonstrated through leadership, is instrumental in promoting innovation during tech implementation. These findings highlight the crucial role of

collaborative and engagement-oriented leadership in achieving success in technology implementation endeavors.

Jean Turgeon underscores organizations' challenges in achieving their primary goals, mainly when innovation and global engagement are not prioritized. He emphasizes that leadership is pivotal in overcoming resistance, collaborating, and aligning the workforce toward shared objectives. Transformational leadership, capable of making tough decisions, is essential during this journey to prevent missed opportunities due to resistance. Jitesh advocates for mentoring and supportive supervision, Nidhi Singh highlights the importance of leadership possessing empathy and authenticity, while Sonali Dash emphasizes the motivational aspect. The director from an IT firm stresses the significance of supportive and innovative leadership. Vaibhav Agrawal suggests leadership is more about providing guidance and setting realistic expectations. However, the survey challenges these views, indicating a preference for collaborative leadership styles according to the respondents.

Q5 - In cases where there's resistance to a new technology, how have leaders effectively used coaching and mentoring to facilitate the transition?
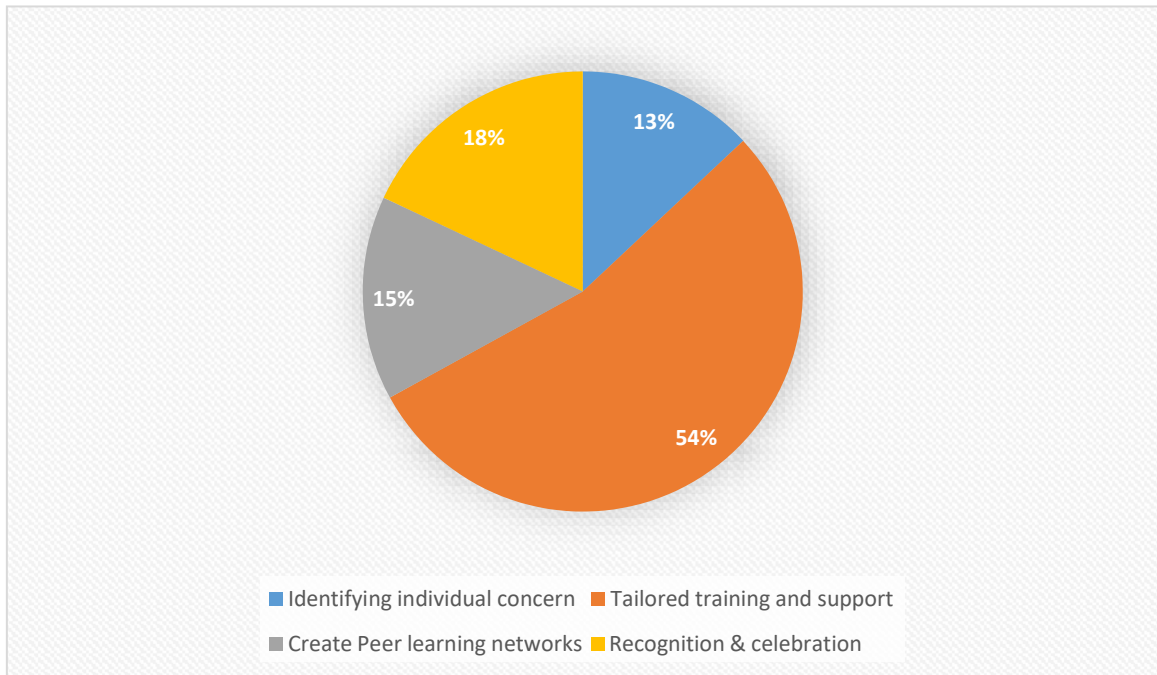
Figure- 28 -Poll Result   Source: Author's Compilation

The survey results underscore that effective coaching in tech transitions predominantly relies on tailored training and support, with 54% of respondents highlighting its importance. It emphasizes the need for personalized guidance and assistance during technological changes. Additionally, 18% underline the significance of recognition and celebration as a coaching strategy, highlighting the role of positive reinforcement. Creating peer learning networks is considered valuable by 15% of respondents, underscoring the importance of knowledge sharing and peer support.

Identifying individual concerns is recognized by 13% as a vital component of effective coaching in tech transitions. These results stress the paramount role of tailored training and support while acknowledging the value of recognition, peer learning, and addressing individual concerns to ensure a successful tech transition.

Q6 -In your opinion, how does a transformational leadership style contribute to inspiring employees during technological transitions?

Rowland Searle highlights the crucial role of leadership, particularly in a transformational context, emphasizing effective communication. He points out that while leadership teams may be well-versed in technological transformations, employees tasked with implementation often lack awareness of the technology's significance and benefits for the company and its clients. According to Searle, this communication gap can arise due to a disconnect between leadership intent and its effective conveyance to employees.

Searle underscores the importance of leadership in managing technological changes, describing it as a process centered around clear communication of intent and objectives. He acknowledges that moving from one platform to another can be multifaceted, with multiple reasons prompting such changes. Employees may experience change fatigue, having undergone numerous alterations previously.

Trust in leadership is paramount for successful transformation, and Searle notes that employees tend to trust leaders when results are apparent. In his view, effective

communication is the linchpin of leadership, instilling employee trust and confidence. Searle also emphasizes the collaborative aspect of implementation, urging the involvement of various stakeholders early in the process. According to him, this inclusive approach is critical to garnering input, ensuring direction, and preventing misalignment.

Searle stresses the importance of involving employees from the outset, recognizing their critical role in using and adapting to the transformation. In his perspective, the success of a technological transformation hinges on open communication, early involvement of stakeholders, and the cultivation of trust in leadership's ability to navigate change effectively.

Drawing on his experience in transforming various systems, Nidhi Singh emphasizes the critical aspect of aligning the leader's vision with that of the individuals within the organization. Singh points out the importance of ensuring that the envisioned changes resonate with the team members, whether undergoing a significant or minor transformation. He highlights the need for a cohesive vision that fosters a sense of belonging among the workforce, enabling them to align with the transformative goals. Singh identifies effective communication as a critical factor in successful transformations. He stresses the importance of imparting insights, providing relevant training, and explaining the pros and cons of the changes. According to Singh, this comprehensive approach makes the entire process smoother and more successful. He

notes that merely wanting to transform without actively involving and training the team can lead to challenges and resistance.

In Singh's view, the transformation process requires time and investment. He recommends allocating a sufficient period, including weeks of training and engagement. This extended timeframe, consistent communication, and interactive workshops allow employees to understand and internalize the changes gradually. Overall, Singh advocates for a holistic approach to transformation that prioritizes shared understanding, open communication, and a dedicated investment in training and collaboration.

4.4.3 Research Question Three
How do group dynamics and organizational culture impact the adoption of new technologies*?*

Jean Turgeon emphasizes the need for the universal adoption of new technologies at different organizational levels. Acknowledging the diversity of roles and responsibilities, Turgeon points out the importance of aligning everyone toward embracing technology. According to him, the key lies in achieving alignment as a leader. This recognition of the significance of group dynamics and organizational culture in the context of technology adoption forms the basis for our research. Our research aims to bridge the gap in understanding the interplay between organizational culture and technology adoption. By delving into the nuances of group dynamics and cultural influences, we seek to shed light on how these factors impact

an organization's readiness and receptivity to new technologies. This research topic addresses a critical aspect of modern organizational dynamics and aims to contribute valuable insights.

Q1- How does the level of cross-functional collaboration influence the speed and effectiveness of technology adoption across different departments?
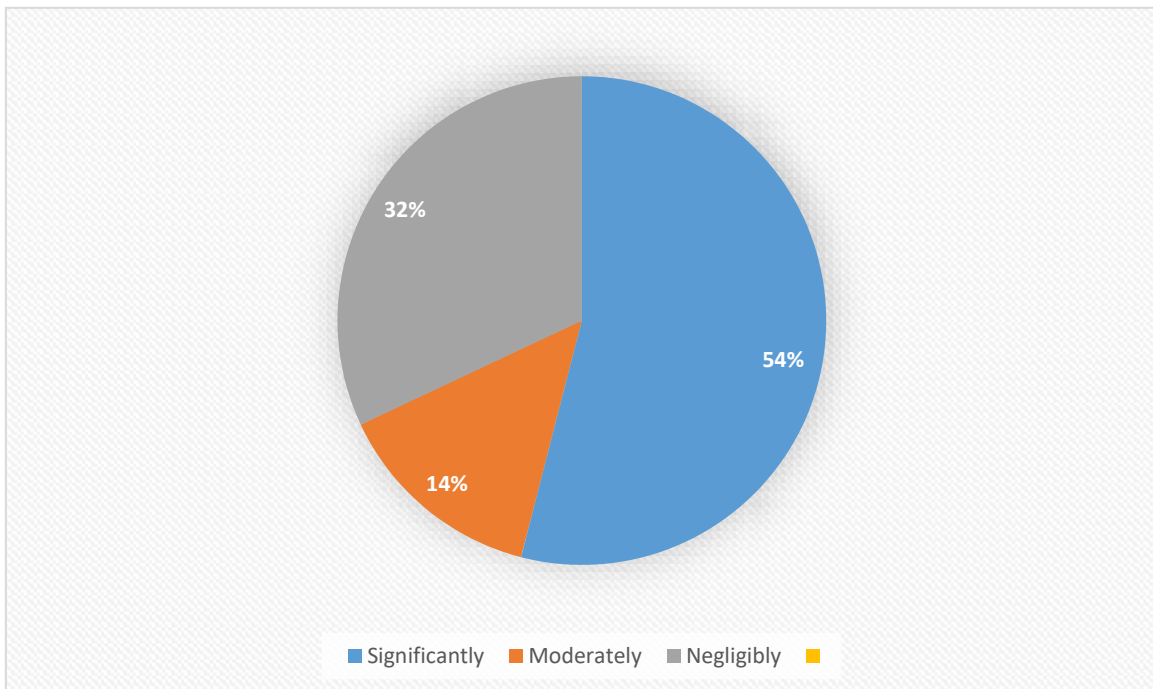
Figure- 29 -Poll Result   *Source: Author's Compilation*

The survey results indicate that cross-functional teamwork substantially impacts tech adoption, with 54% of respondents showing that it affects tech adoption "Significantly." An additional 14% believe it has a "Moderate" impact, emphasizing its importance to a lesser extent. Only 32% suggest that cross-functional teamwork has a "Negligible" impact, indicating that the majority recognizes the influence of collaboration across different functions in facilitating technology adoption. These

findings highlight the significant role of cross-functional teamwork in shaping tech

adoption within organizations, underscoring the importance of collaboration and

cooperation between various departments or teams.

The significance of cross-functional collaboration in influencing the speed and

effectiveness of technology adoption is emphasized by Jean Turgeon, who firmly

believes that collaboration across different functions is the key to success in tech

adoption. Highlighting the transformative power of teamwork, Turgeon notes that

when teams collaborate, the pace of work accelerates, leading to more effective

outcomes. Vaibhav Agrawal shares a specific example from a data center

transformation project, illustrating how collaboration among infrastructure, data

center, and network teams contributed to significant positive changes. Other directors

echo similar sentiments, citing instances where cross-functional collaboration was

pivotal in successful technology transformations, emphasizing its crucial role in

achieving desired outcomes. Sonali Dash provides insights into her experience with

the Workday tool transformation, emphasizing how IT collaborated effectively to

ensure a successful transition to the cloud.

Nidhi Singh emphasizes the critical importance of aligning different departments and

teams when undertaking significant projects, emphasizing the necessity for cohesive

collaboration. Drawing from his experience building a multi-gaming platform, Singh

illustrates the complexity of such endeavors, where various teams, including the data

team, business team, and stakeholders, are integral to the overall success. He

emphasizes that as a CTO, creating a product in isolation without transparent communication and alignment across teams can lead to inefficiencies. Singh highlights the interconnected nature of systems, where end-user data is crucial for user experience and utilized by other groups for data analysis and decision-making. This insight underscores the significance of cross-functional collaboration in ensuring the alignment and success of technology adoption across diverse departments.

Q2- How does team communication affect the sharing of tech updates?
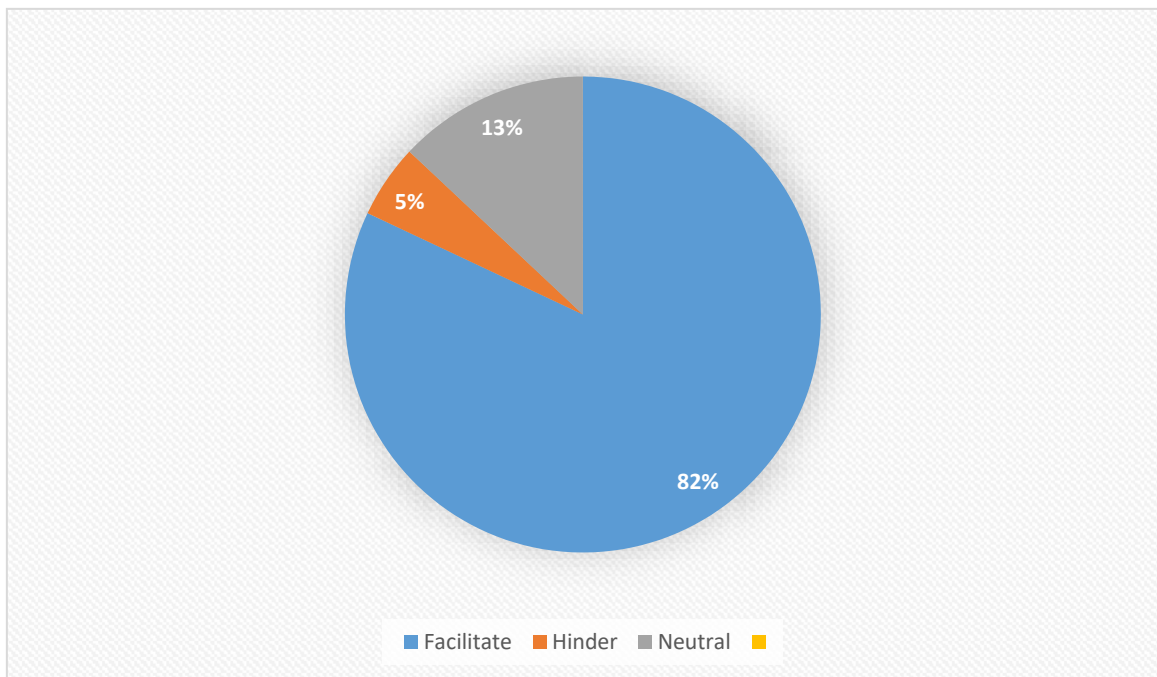

Figure- 30 -Poll Result   *Source: Author's Compilation*

The survey results make it clear that team communication significantly affects tech update sharing, with 82% of respondents indicating that these styles "Facilitate" the process. Only 5% believe that team communication "Hinder" tech updates sharing,

suggesting that communication approaches rarely act as barriers. Additionally, 13%

view team communication as "Neutral" in their impact, implying that, while they may

not actively facilitate, they also do not impede tech update sharing to a significant

degree. These findings underscore the pivotal role of effective team communication

styles in promoting the seamless dissemination of technology updates within an

organization.

The executives unanimously affirm that effective team communication is paramount

for the success of technology updates. They emphasize that communication is the

cornerstone, and any communication breakdown can lead to adverse consequences.

Rowland highlights the importance of leadership organizing comprehensive training

sessions and communication initiatives to instill employee confidence and facilitate

the welcoming acceptance of technological changes.

Sumit Gupta, a leader in an IT outsourcing firm, mentions his experience with the

successful implementation of a new ERP system, attributing the success to robust

communication within the organization. Vaibhav highlights the significance of soft

skill training in enhancing communication skills, emphasizing the need for employees

to understand different communication styles. A director from a consulting firm

echoes the sentiment that communication is the driving force behind success,

fostering a better team dynamic.

The executives collectively stress that innovation fails without effective communication within the organization. Sonali Dash describes various HR activities to foster collaboration and break communication barriers. The executives also note that CEOs and CTOs frequently schedule all-hands meetings with employees, reinforcing the survey findings highlighting communication as the cornerstone of success.

Q3- Have you observed any instances where a clash of subcultures within an organization posed challenges to implementing new technologies?
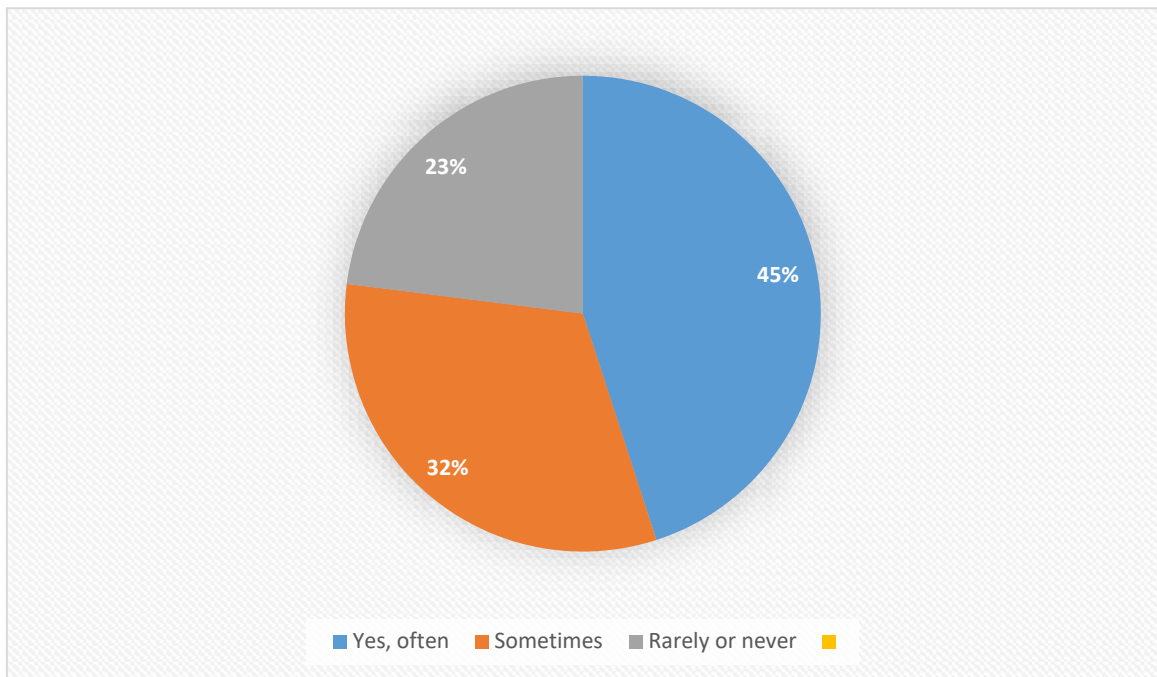

Figure- 31 -Poll Result   *Source: Author's Compilation*

The survey results reveal that subculture clashes affect tech adoption to varying degrees within organizations. A substantial 45% of respondents believe that

subculture clashes affect tech adoption. "Yes, often," indicating frequent challenges in this regard. An additional 32% suggest that these clashes affect tech adoption "Sometimes," underlining their intermittent impact. While a smaller percentage, 23%, indicate that subculture clashes "Rarely or never" affect tech adoption, this still acknowledges that such clashes can occasionally be a factor. These findings emphasize the importance of recognizing and addressing subculture clashes as a potential barrier to smooth tech adoption within organizations.

Rowland highlights instances where clashes between subcultures within an organization pose challenges to implementing new technologies. He cites examples from a multinational environment, emphasizing how different teams or teams acquired through mergers might bring distinct organizational cultures and values. Rowland points out that the clash of these subcultures, especially during technology adoption, can lead to political issues within leadership. However, he suggests that the challenge is less about subcultures and more about the maturity of processes, indicating that individual or team maturity plays a crucial role in navigating these challenges.

While Jitesh acknowledged the existence of subcultures within every organization, emphasizing that people often work within their subcultures, he noted the potential for clashes between them. A director from an IT company provided an example, illustrating a conflict between a highly process-oriented team and another team focused on expeditious task completion. This clash arose from differing expectations,

with one team seeking immediate outcomes and another adhering to established

processes.

Sumit shared his experience during a transformation where the solution team

prioritized the immediate production of a tool while the operation team resisted,

adhering to their standard processes and checklists. Executives echoed similar

sentiments, highlighting the crucial role of leadership in mitigating such clashes and

fostering alignment between diverse subcultures within the organization.

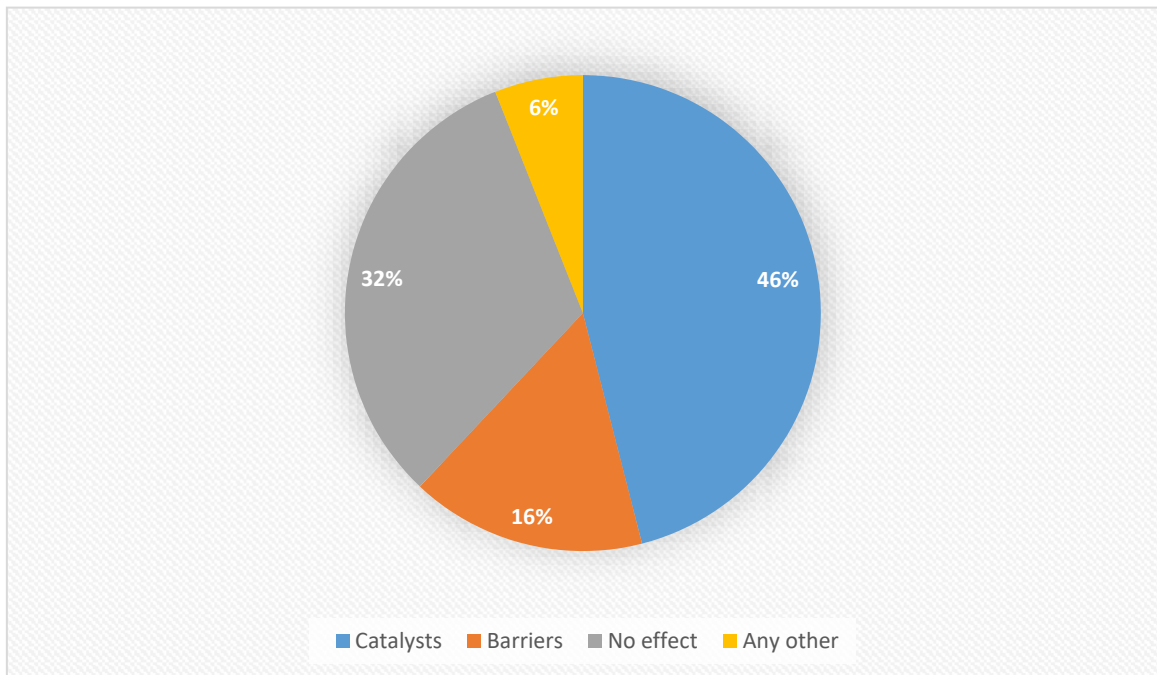**Q4- How do organizational cultures influence tech adoption?**

Figure- 32 -Poll Result   *Source: Author's Compilation*

The survey results underscore the significant influence of organizational culture on tech adoption. A substantial 46% of respondents view these cultures as "Catalysts," suggesting they actively promote and facilitate technology adoption within the organization. Conversely, 16% perceive organizational culture as "Barriers," indicating that they can impede or hinder tech adoption to some extent. Additionally, 32% believe corporate cultures have "No effect," suggesting they neither significantly promote nor hinder tech adoption. A more minor but notable 6% express that corporate rituals have other impacts, although specific details are not provided. These findings emphasize organizational culture's complex and involved role in tech adoption, with some acting as drivers, some as obstacles, and others having a neutral impact.

Richard Seamark highlighted the continuing impact of organizational culture, emphasizing that culture persists even as employees come and go. According to him, the transmission of culture from one generation of employees to the following shapes how individuals work within the company. While discussing practices that either encourage or impede the adoption of new technology, Richard noted that a company, being a global leader in digital transformation, revolves around embracing technological change.

Vaibhav addressed hindering practices, identifying factors such as the lack of buy-in from key stakeholders, the absence of an updated purpose or strategy, and the failure to establish a roadmap with clear milestones for successful adoption. At the same time, Richard stressed the importance of considering different ways of doing things

and the need to focus on people and processes in addition to technology. Richard emphasized training, promoting, taking risks, accepting imperfection, and fostering a culture that encourages continuous improvement. During the discussion, all executives noted the significance of risk management in business and highlighted the value of embracing learning opportunities within the organizational culture during meetings.

Q5- How significant is leadership's role in shaping tech culture?
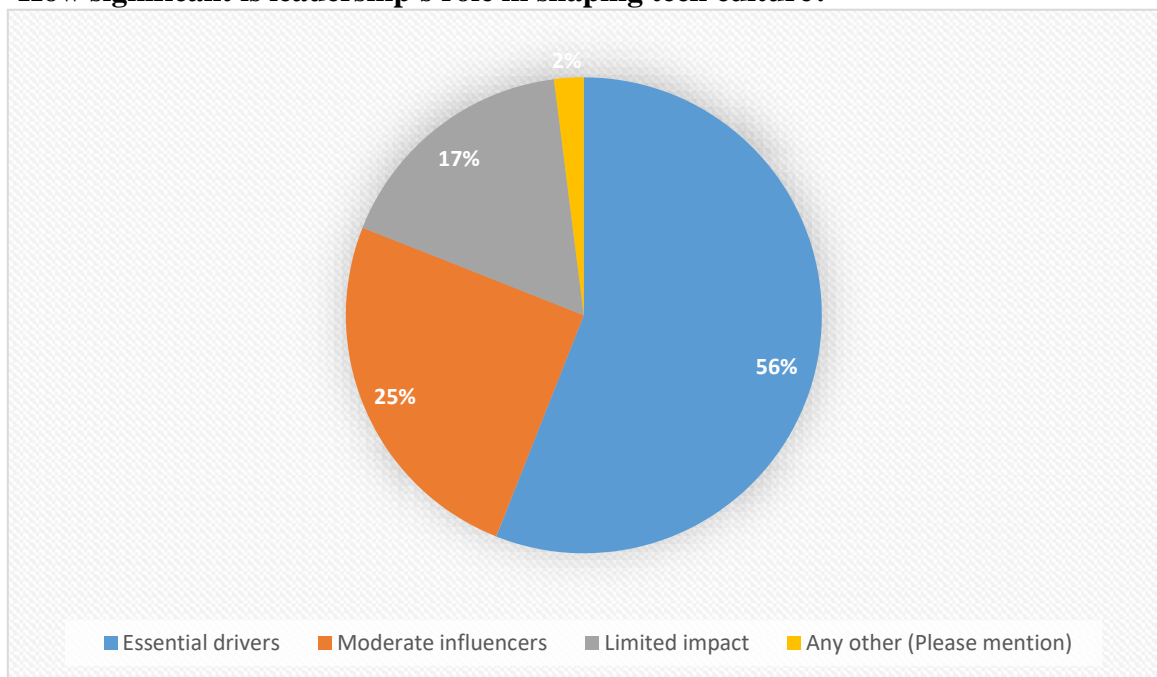

Figure- 33 -Poll Result   *Source: Author's Compilation*

The survey results highlight leadership's crucial role in shaping tech culture within organizations. A significant majority, at 56%, consider leadership an "Essential driver," indicating that they are the primary force behind shaping tech culture.

Additionally, 25% believe that leaders serve as "Moderate influencers," underlining their role but not as decisively. While a smaller proportion, 17%, perceive leadership as having "Limited impact," this still acknowledges their influence to some extent. Only 2% mention "Any other" impacts of leadership not covered by the provided options. These findings underscore the pivotal role of leadership in shaping and driving tech culture, highlighting their significance as key drivers in establishing a tech-oriented organizational culture.

The executives unanimously emphasize the utmost importance of leadership in shaping the technology culture within an organization. Jitesh underlines the various leadership styles, emphasizing coaching to instill employee confidence. Transformational leaders, according to him, are instrumental in shaping new technologies. Furthermore, he highlights the role of leadership in mentoring employees and providing them with the necessary guidance.

Nidhi Singh shares a practical example from his tenure as a solution architect and leader of transformation at Junglee Game. He relates how leadership was pivotal during a new product rollout, guiding the team in adopting new tools and platforms to create a robust and powerful product. Sumit echoes this sentiment by detailing how he supports his team in promoting and adopting new technologies.

Vaibhav provides a concrete illustration of leadership's impact on technology adoption, citing instances where he mentors his team on technology and introduces new working methodologies.

Jean Turgeon extends the discussion, emphasizing that the company's CEO is the primary leader, and the rest of the management cycle acts in leadership roles. He stresses the critical role of leaders in translating the vision set by the CEO into reality, with everyone in the hierarchy being responsible for technology transformation. He asserts that the organization's transformation will likely fail if the leadership team does not follow the leader's vision effectively.

The executives concur that technology is not merely necessary but crucial for survival in today's dynamic business landscape. Through its vision, coaching, mentoring, and guidance, leadership plays an instrumental role in shaping the technology culture and ensuring the organization's adaptability and competitiveness in the contemporary era.

4.4.4 Research Question Four
What strategies can leaders employ to foster a supportive environment for technological transformation while addressing psychological challenges?

Rowland highlighted the crucial role of open communication channels in addressing the team's concerns. In contrast, Jitesh emphasized the significance of training and providing support as key measures to build confidence and assist employees in overcoming psychological challenges. The research highlights a notable gap in addressing leadership and psychological challenges within the IT industry. The study aims to unearth key factors influencing technology adoption by probing employees and gaining insights into the involved dynamics through comprehensive surveys and discussions.

Q1- Which leadership style aids tech adaptation?
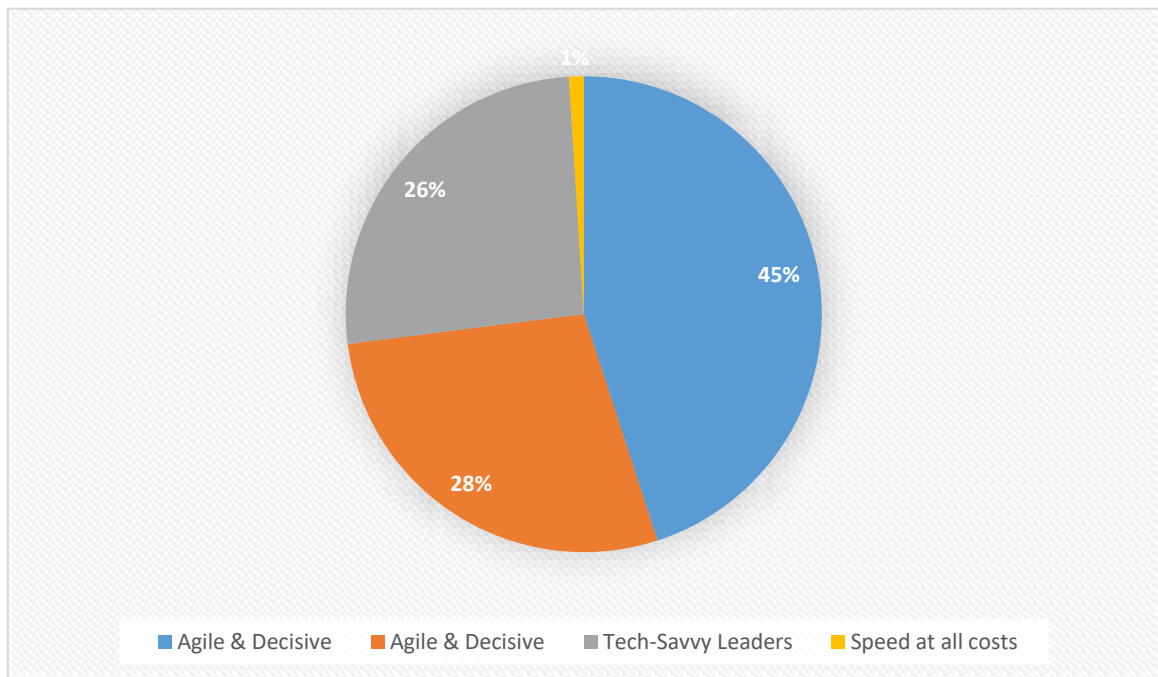
Figure- 34 -Poll Result   Source: Author's Compilation

The survey results underline the various approaches leaders can employ to balance the need for quick technology adoption with allowing employees time to learn and adapt. A significant 45% of respondents suggest that leaders should be "Agile & Decisive," indicating the importance of swift decision-making and adaptability in the face of technological changes. Additionally, 28% emphasize the value of leaders being "Patient and supportive," highlighting the significance of providing a supportive environment that allows employees to adjust and upskill. Furthermore, 26% advocate for "Tech-Savvy Leaders," emphasizing the importance of leaders

having a solid understanding of technology to guide the adoption process effectively.

Only a small percentage, 1%, suggest a "Speed at all costs" approach, indicating a

preference for rapid adoption regardless of employee learning curve. These findings

underscore the importance of a balanced leadership approach that combines agility,

support, technological proficiency, and consideration for employees' learning needs in

successfully managing technology adoption within organizations.

The unanimous sentiment among executives is that a tech-oriented leadership style

significantly aids technology adoption. Leadership is viewed as pivotal in the tech

adaptation process. Sumit echos as adopting a transformational leadership style

emphasizes its role in fostering tech adoption. Nidhi shares direct experiences

illustrating how effective leadership facilitated the launch of a flagship gaming

product. Rowland underscores the importance of communication between leadership

and tech teams for innovation. Jitesh advocates for transformational leadership, citing

a past project that facilitated the adoption of new technology. The executives

collectively assert that survey results align with the view that tech-savvy or

transformational leaders contribute significantly to technology adoption.

Q2- What motivates technology adoption most?
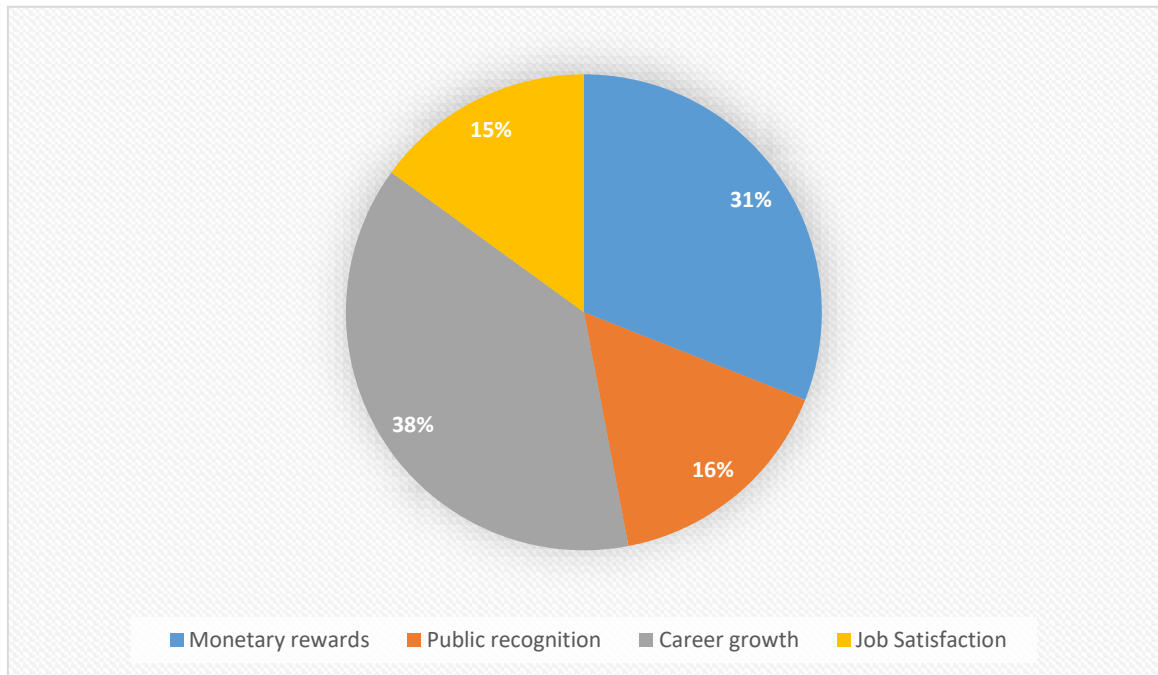
Figure- 35 -Poll Result   *Source: Author's Compilation*

The survey results reveal that career growth is the primary motivator for tech adoption, with 36% of respondents indicating it as the most significant factor. Monetary rewards follow at 31%, highlighting the financial incentive as a substantial motivator. Public recognition is considered motivating by 16% of respondents, emphasizing the value of acknowledgment and validation. Job satisfaction is the primary motivator by 15% of participants, highlighting the intrinsic fulfillment derived from tech adoption. These findings indicate that while various factors influence tech adoption, career growth is the most compelling motivator, suggesting that opportunities for professional advancement primarily drive individuals.

The primary motivators for tech adoption echo across executive insights and survey responses. Nidhi emphasizes that career growth is a significant driving force beyond technological advancements. It involves transforming one's skills, ultimately contributing to individual progress and career development. Sonali Dash underscores the importance of talent acquisition, where HR prioritizes candidates with transformation experience and proficiency in the latest technologies to thrive in a rapidly changing environment. Sumit highlights the monetary aspect, suggesting that recognizing and rewarding talent through salary hikes and bonuses is crucial for motivation. Another director mentions instances of companies offering hot skills bonuses and running tech recognition programs to encourage employees further, aligning with the consensus revealed in the survey and executive perspectives.

Q3-What role does the active involvement of employees in the decision-making process play in minimizing resistance and psychological challenges?

- Essential for success: 65%
- Moderately important: 12%
- Minimally relevant: 15%
- Any other (Please mention): 8%

Figure- 36 -Poll Result   *Source: Author's Compilation*
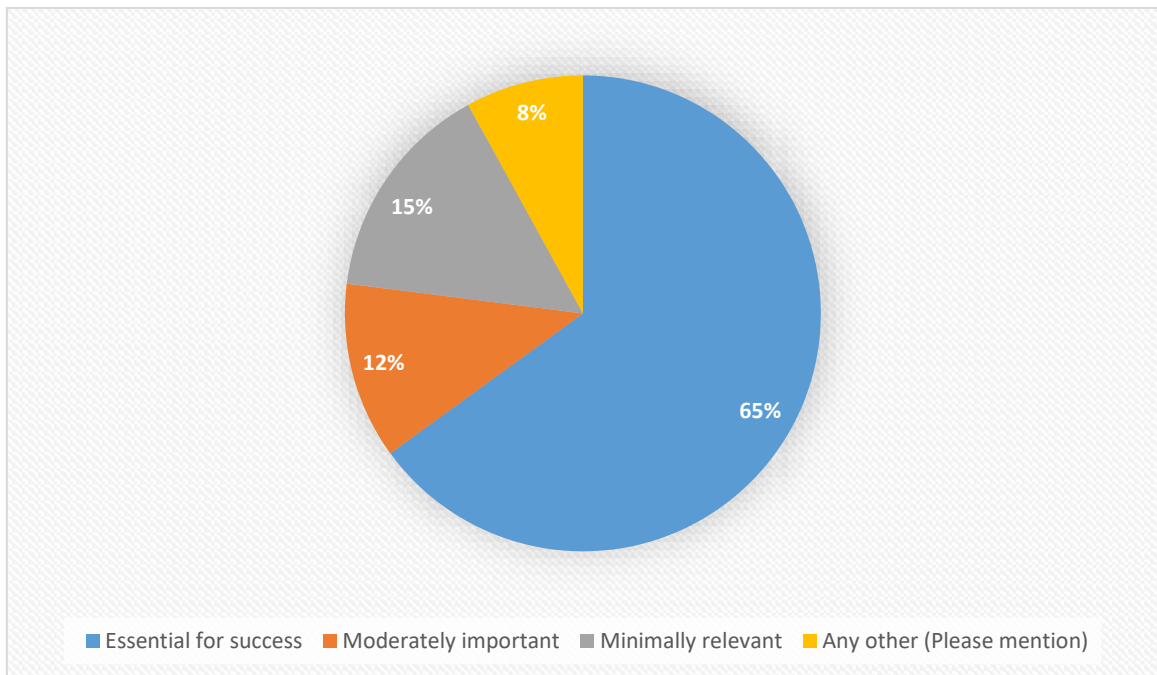
The survey results emphasize the importance of each employee's input in tech decisions. A significant 65% of respondents believe that employee input is "Essential for success," underscoring its critical role in shaping effective tech decisions. Additionally, 12% consider employee input as "Moderately important," acknowledging its relevance but to a lesser degree. Only 15% view it as "Minimally relevant," suggesting that some see employee input as having limited impact. A notable 8% provide "Any other" effects of employee input, although specific details are not provided. These findings highlight the fundamental role that employee input plays in tech decision-making, indicating that it is widely perceived as essential for successful outcomes.

The consensus from the survey results and executive perspectives affirms the importance of active employee involvement in decision-making processes. However, executives acknowledge that this practice may not always be consistently followed due to strategic challenges and deadline constraints. Despite this, executives emphasize that employee engagement in decision-making instills confidence, with employees more readily embracing technology when they are part of the evaluation process. Directors from IT companies illustrate this by sending solution and operation teams to vendor conferences and product evaluations, enabling employees to understand the benefits and operational use of the technology. Executives also highlight instances where engineers conduct POC evaluations based on employee

165

feedback, emphasizing that employee insights significantly influence leadership decisions regarding adopting new technologies. The alignment between survey findings and executive opinions underscores the crucial role of involving employees in decision-making.

Q4- Have you ever been part of psychologically aware tech training?
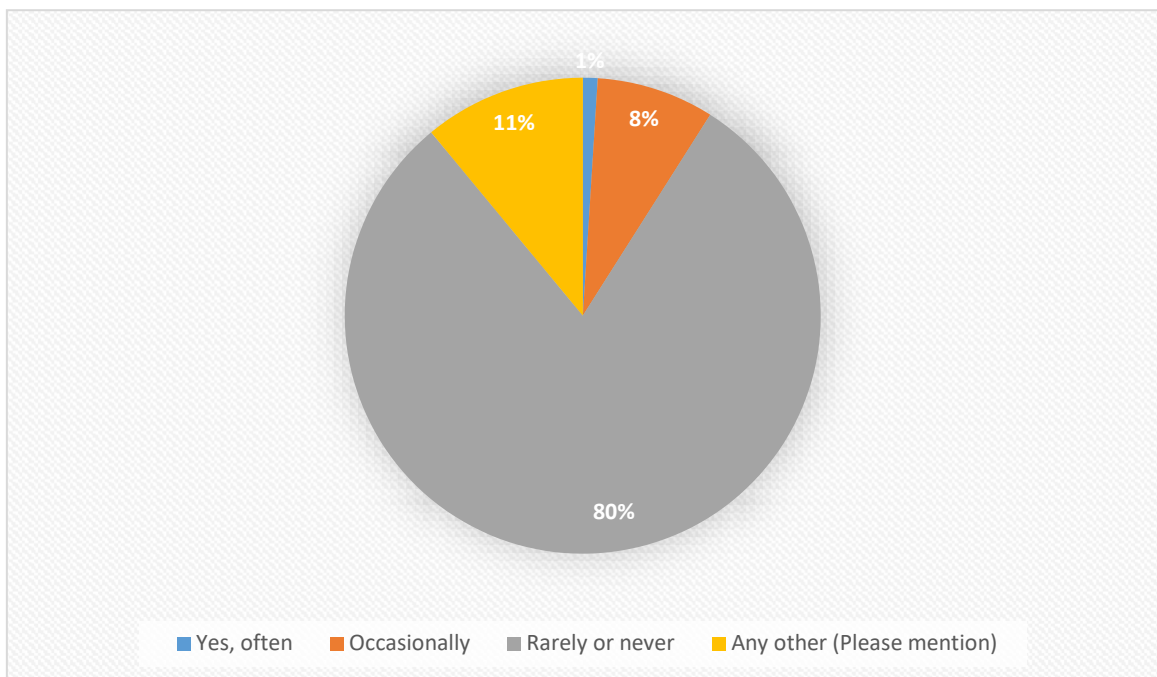
Figure- 37 -Poll Result   *Source: Author's Compilation*

The survey results indicate that, in general, respondents have not frequently witnessed successful examples of psychologically aware tech training. 80% of respondents report having seen such instances "Rarely or never." Only 8% have observed them "Occasionally," and a mere 1% have seen them "Often." Additionally, 11% mention

"Any other" observations, although specific details are not provided. These findings suggest room for improvement in incorporating psychologically aware elements into tech training programs, as most respondents have had limited exposure to such examples.

The discussions among executives echoed the survey results, indicating that they have not encountered psychologically aware tech training in their experiences. Nevertheless, there is unanimous agreement among executives regarding the importance of combining psychological awareness with modern workplace training. They emphasize that such activity is crucial for understanding and addressing employee anxiety related to new technologies, providing the necessary confidence for employees to navigate and overcome challenging situations. The consensus among executives highlights the recognized need for psychological awareness in tech training programs to foster a supportive and empowering environment for employees.

Q5- How do leaders ensure that the psychological aspects of technology adoption are considered when designing training programs and resources?

The survey results provide insights into how leaders can balance driving tech adoption urgency and allowing employees the time to adapt. 52% of respondents emphasize the importance of "Clear Roadmaps," highlighting the need for well-defined plans and timelines that offer transparency and guidance. Additionally, 28% advocate for "Employee Feedback," underscoring the significance of involving employees in decision-making and being receptive to their input. Gradual rollouts are suggested by 12% as a method to find equilibrium, indicating the value of phased implementations. A smaller percentage, 8%, mentions "Any other" approaches, although specific details are not provided. These findings underscore the importance of transparent planning, employee involvement, and gradual implementation to balance urgency and adaptation in tech adoption.

Rowland Searle emphasizes the importance of psychological aspects in technology adoption, particularly in designing training programs and resources. His highlights and the discussions among executives and survey results align, revealing a lack of encounters with psychologically aware tech training. Despite this, executives unanimously agree about the critical need to integrate psychological awareness into modern workplace training.

Rowland underscores the critical role of a sponsor and a robust program manager in driving change initiatives. He points out that the psychology behind digital transformation is often overlooked, emphasizing the importance of understanding the end users, including those supporting the environment. Rowland notes the significance of focusing on the end-user experience and the psychological impact on the teams responsible for keeping the changes.

Sumit highlights the practicalities of change, such as enabling teams with the right tools and technologies, and acknowledges the challenge of balancing rapid technological advancements with the need for inclusion. Vaibhav stresses the importance of representative inclusion, allowing various departments to have a voice in the change process. However, he acknowledges the challenge of maintaining a balance between the speed of technological changes and the depth of communication required for effective inclusion.

Executives insights underscore the critical need for organizations to consider psychological aspects, provide detailed communication about changes, and strike a balance between rapid technological advancements and the inclusivity required for successful technology adoption.

Q6 - How can leaders balance driving tech adoption urgency and giving employees the time to adapt?

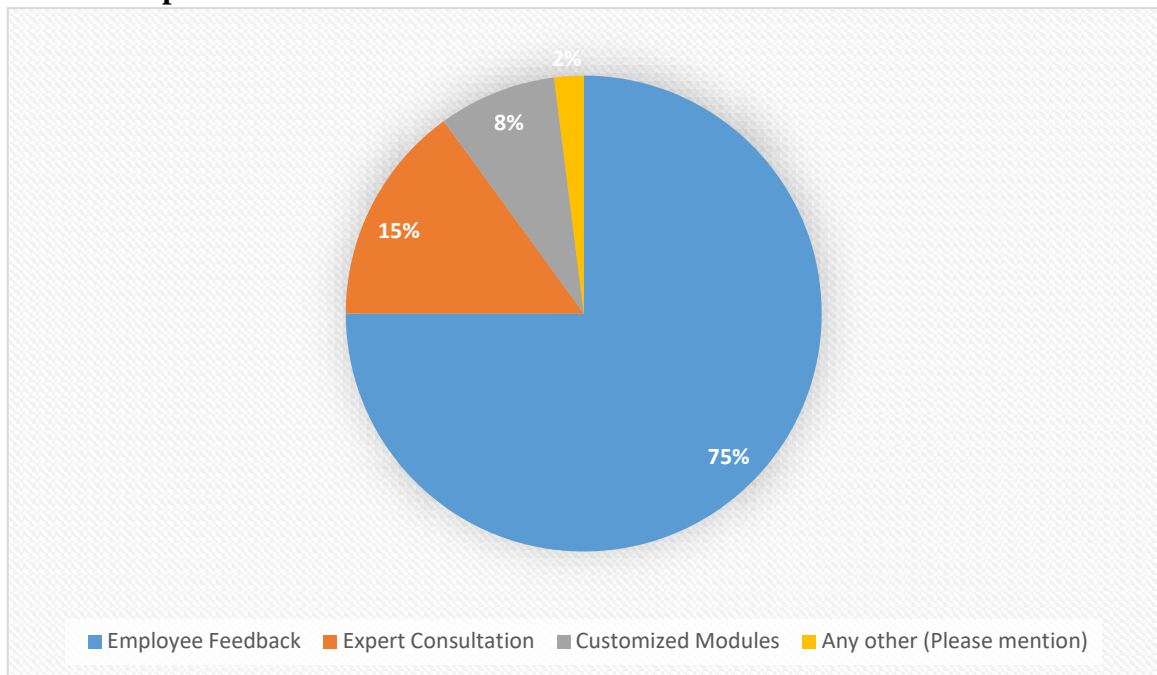
Figure- 38 -Poll Result   *Source: Author's Compilation*

The survey results highlight the strategies leaders employ to ensure that the psychological aspects of technology adoption are considered when designing training programs and resources. An overwhelming 75% of respondents emphasize the

importance of "Employee Feedback," indicating that involving employees in the process is critical to addressing psychological aspects. Additionally, 15% suggest "Expert Consultation," underscoring the value of seeking guidance from professionals with expertise in psychology and technology adoption. Customized modules are mentioned by 8%, reflecting the significance of tailoring training to individual psychological needs. A smaller percentage, 2%, says "Any other" approaches, although specific details are not provided. These findings underscore the importance of employee feedback and expert consultation as critical strategies for addressing the psychological aspects of technology adoption in training programs and resources.

Richard Seamark emphasizes the need for leaders to find an equilibrium between driving tech adoption urgency and giving employees the time to adapt. He highlighted the psychological aspects of technology adoption, recognizing positive and negative impacts on individuals. Richard acknowledges that the media often amplifies negative aspects, creating additional pressure on employees.

Richard again highlights that training is just one aspect, and leaders should consider a holistic approach to communication. He recommends embracing the constant nature of technological changes within the industry, team, and company to create a positive environment. Richard suggests proactively acquiring skills and preparing for potential job changes, aligning with the evolving nature of work.

Richard Seamark's insights guide leaders to navigate the delicate balance between driving tech adoption and ensuring employees have the time and support to adapt successfully. His emphasis on empathy, careful planning, and proactive

communication underscores the importance of a people-centric approach to technological change.

Nidhi Singh and Jitesh emphasize the importance of viewing technology adoption through the lens of employees and understanding the context in which they work. Nidhi provided an example of focusing on career development as a positive outcome of technological changes. He suggests leaders should not avoid complex topics and must approach them with answers and considerations before discussing them with their teams.

Sumit emphasizes the significance of walking in employees' shoes, expressing empathy, and planning carefully to ensure effective communication. He advises against a dictatorial approach and encourages leaders to tailor their messages based on the individual's perspective. He stresses that planning and preparation are vital to addressing concerns and providing necessary support.

Q7 - How do leaders balance technology progress and employee well-being?
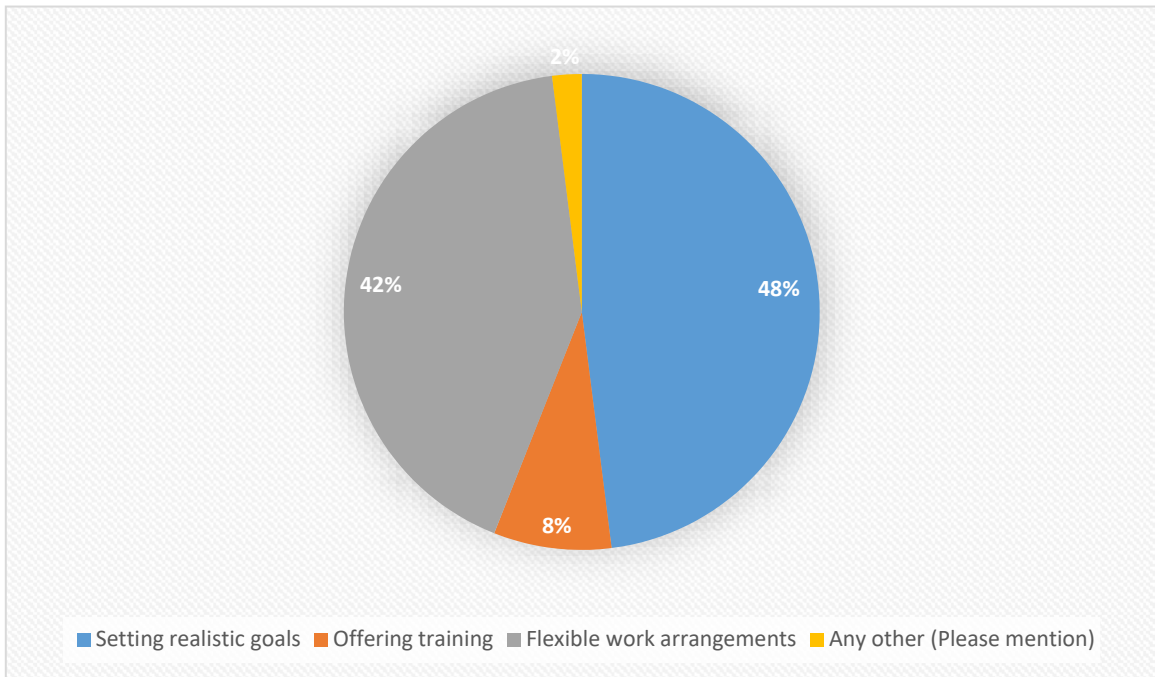
Figure- 39 -Poll Result   *Source: Author's Compilation*

The survey results show how leaders balance tech progress and employee well-being.

A significant 48% of respondents emphasize the importance of "Setting realistic

goals," underscoring the need for achievable objectives that consider employee well-

being. Flexible work arrangements are viewed as a critical strategy by 42%,

highlighting the value of providing options that promote work-life balance. Offering

training is mentioned by 8%, suggesting the role of skill development in maintaining

employee well-being while advancing technology. A smaller percentage, 2%, says

"Any other" approaches, although specific details are not provided. These findings

underscore the significance of realistic goal-setting, flexible work arrangements, and

skill development to balance tech progress and employee well-being.

173

Jean Turgeon emphasizes the importance of leaders dedicating more time to employees to enhance technology adoption. He believes how leaders approach training and upskilling is crucial to this balance. According to JT, presenting a new technology to employees within a short timeframe is not conducive to success. He advocates for leadership to articulate a vision, set clear expectations and timelines, and initiate training.

Jean highlights that traditional training methods may not be effective, and leadership should focus on imparting fundamental technological knowledge. He suggests that the leadership's vision should encompass the significance of the technology, its potential achievements, the purpose of a POC, and the provision of ample time for leveraging the technology. In summary, JT's perspective underscores the need for leaders to prioritize time, vision, and effective training methods to strike a balance between technological progress and employee well-being.

Richard Seamark emphasizes the importance of implementing learning programs alongside introducing new technology at various stages – before, during, and critically after its implementation. According to Richard, preparation is necessary before technology enters production, and structured learning and adaptation time are crucial components. He provides an example of adopting the monitoring system, stating that training was conducted before and during the introduction. Still, the actual critical phase focused on adoption occurs afterward.

Nidhi highlights that employees need time to learn and adapt, and this process is not confined to a specific phase; instead, it's a mix of activities before, during, and after implementation. Sonali Dash emphasizes that employees, when properly aligned, are more likely to adopt the technology successfully. Vaibhav suggests that the most successful approach involves hands-on experience with the technology, creating use cases, and aligning goals to clarify employees' roles in adopting the new technology. Jitesh insights underline the need for a holistic and ongoing approach to training and adaptation throughout the various stages of technology implementation.

4.5 Thematic Structure

Based on interviews with executives and discussions, codes have been prepared for thematic analysis.

Code	Theme
Fear Of Job Replacement **Technological anxiety** **Misconception** **Peer pressure** Generational gap	Individual Psychological Factors
Transformational Leader Transparent and communication **Importance of career growth** Realistic expectations	Leadership Roles in Digital Transformation
Cross-functional collaboration **Effective team communication** Shaping organizational technology culture	Group Dynamics and Organizational Culture
Importance of career growth **Realistic timeline** **Learning Program** Psycological Aware training	Strategies Leaders Deploy

Table 23 -Thematic Structure

175

4.6 Thematic analysis
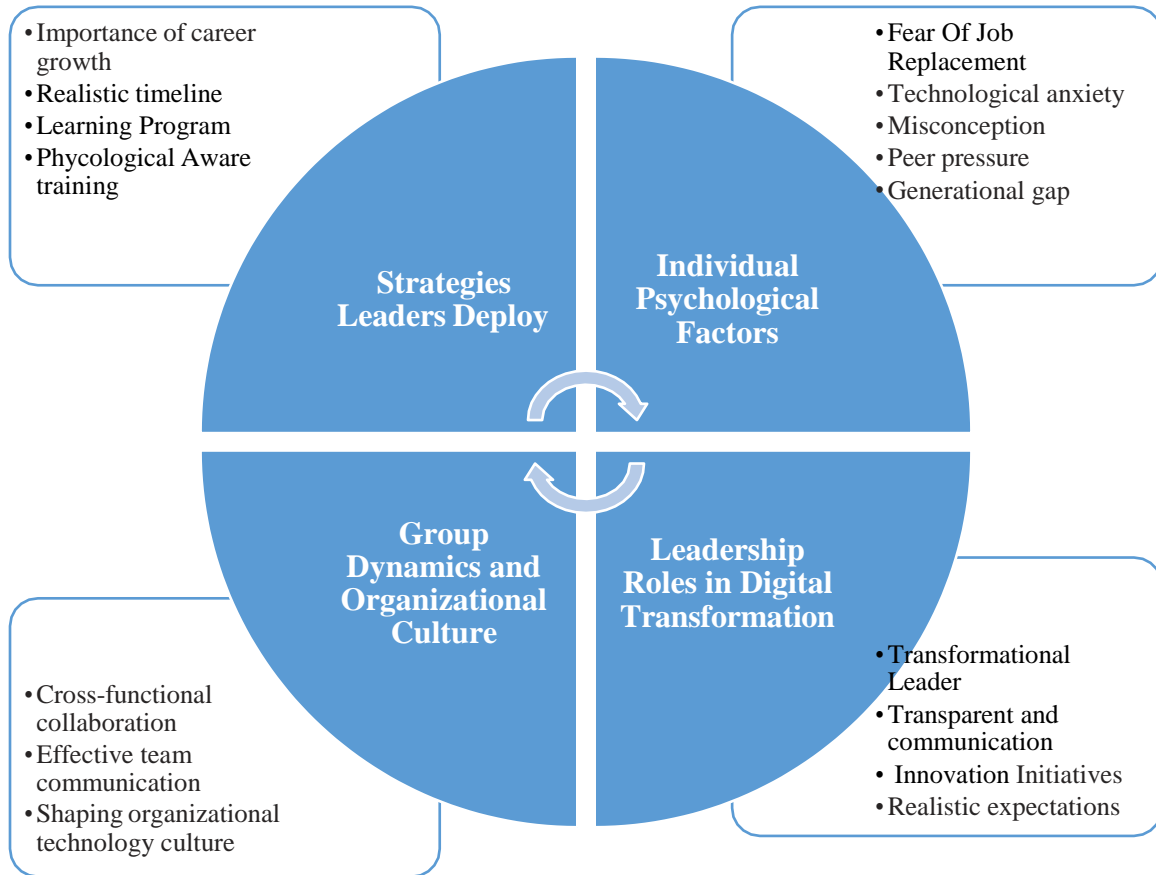
Figure 40 -Thematic analysis   *Source: Author's Compilation*

- Executives express concerns about job security due to technological changes, indicating individual psychological factors influencing perception.

- Employees exhibit anxiety and apprehension regarding technology adoption, reflecting individual psychological factors.

- The theme highlights the pivotal role of transformational leaders in guiding and driving digital transformation initiatives.

- The theme underscores how group dynamics and organizational culture can influence individual career perspectives.

- Leadership focus on managing employees' expectations realistically during digital transformation.

- Importance of collaboration and teamwork as strategies for successful digital transformation.

- Emphasizes the role of communication in shaping team dynamics and ensuring a smooth transformation process.

- Indicates the implementation of learning programs as part of strategies for employee development during technological changes.

- Addresses the need for training programs that are sensitive to psychological aspects, contributing to the holistic development of individuals.

4.7 Proposition analysis

Proposition	Relation	Interpretation	Result
Psychological Factors(P1)	There exists a positive relationship between employee psychology and Openness to change	A positive relationship exists between employee psychological and Openness to change, with results revealing that	Positive Result

	during digital transformation.	Openness to technology change and psychological factors significantly influence the adoption of digital transformation.	
Leadership Roles and Technological Transformation (P2)	There exists a positive relationship between Transparent and communication during digital transformation	A positive relationship exists between leadership roles and technology transformation. Result Thematic analysis reveals Leadership should be transparent and communicative during technology change.	Positive Result
Group Dynamics & Organization Culture(P3)	There is exist relationship between supporting environment and organization culture during digital transformation .	A positive relationship exists between supporting environment and group dynamics and organization culture during digital transformation.	Positive Result
Leaders' deployment of strategic (P4)	There is exist a relationship between Job Satisfaction and well-being and leadership's strategy plan	A positive relationship exists between a Leader's strategy and job satisfaction and well-being	Positive Result

Table 24 – Analysis   *Source: Author's Compilation*

4.8 Summary of Findings

The survey provides a comprehensive overview of the complex landscape of technology adoption within organizations-

Prior experience significantly encourages technology adoption (100%).

Generational differences influence technology adoption, with a balanced division between "Yes, significantly" and "Yes, to some extent" at 50% each.

Leadership is essential for shaping tech culture, with 56% acknowledging its significance.

Effective coaching involves tailored training and support (54%), recognition and celebration (18%), and creating peer learning networks (15%).

Career growth is the primary motivator for tech adoption (36%), followed by monetary rewards (31%).

Employee input is considered essential for success (65%).

Subculture clashes affect tech adoption, with "Yes, often" (45%) and "Sometimes" (32%) responses.

Organizational rituals act as "Catalysts" (46%) and "Barriers" (16%) for tech adoption.

Team communication styles significantly facilitate tech update sharing (82%).

Cross-functional teamwork significantly impacts tech adoption (54%).

Leaders can find equilibrium through clear roadmaps (52%) and employee feedback (28%).

Successful examples of psychologically aware tech training are observed rarely or never by a substantial 80%.

Balancing tech progress and employee well-being involves setting realistic goals (48%) and offering flexible work arrangements (42%).

These comprehensive findings underscore the multifaceted nature of technology adoption, emphasizing the importance of individual, organizational, and leadership factors in navigating this complex terrain.

4.9 Conclusion

In conclusion, the survey and poll results, collectively offer a comprehensive view of the intricate dynamics of technology adoption within organizations. The results consistently highlight the significance of prior experience in encouraging adoption, with a unanimous 100% agreement among respondents across all surveys. Moreover, generational differences have always been noted as influential, with a balanced 50% division between "Yes, significantly" and "Yes, to some extent" observed in the latest survey.

Leadership's essential role in shaping tech culture, with a 56% consensus, has remained a consistent theme throughout the surveys. Employee input has emerged as

indispensable, with a notable 65% expressing its critical role in the success of tech decisions across all surveys.

Subculture clashes, organizational rituals, and team communication styles affect tech adoption. Moreover, clear communication, flexible work arrangements, and tailored training and support have been consistently acknowledged as strategies for balancing tech progress and employee well-being.

These cumulative findings underscore the multifaceted nature of technology adoption and its profound consequences for employees and organizations. They emphasize the importance of a holistic approach in navigating this complex terrain as organizations adapt and evolve in an ever-changing technological landscape.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

The insights gathered from the discussions with industry leaders, and survey shed
light on critical aspects of technology adoption within organizations. Several
recurring themes emerged, offering valuable perspectives on leadership,
organizational culture, employee involvement, and the psychological dimensions of
tech integration.

5.2 Discussion of Research Question One

Exploring individual psychological factors influencing technology adoption within
organizations has yielded significant insights through surveys and executive
discussions. Consolidating survey responses and organizational perspectives offers a
comprehensive understanding of the intricate dynamics.

5.2.1 Risk Perception and Technological Anxiety

The survey unveiled an agreed response, with 67% acknowledging "Some Impact"
and 33% indicating risk perception and tech anxiety "Hinder Adoption."
Executive discussions substantiate these findings, emphasizing these factors' crucial
role in determining employees' readiness for technology adoption.

5.2.2. Common Misconceptions

The prevalent belief, identified by 83% in the survey, that adopting new technologies

leads to job loss reveals a significant misconception.

Executive insights provide a counter-narrative, emphasizing the positive impact of

technology on job security and the emergence of new opportunities.

5.2.3. Prior Experience as a Facilitator

The unanimous agreement (100%) among survey respondents that prior experience

positively influences tech adoption aligns with executive perspectives.

Executives emphasize accelerating the adoption process for those with past tech

experience, underlining its pivotal role.

5.2.4. Social Influence and Peer Pressure

Survey results highlight that 50% feel enormously encouraged by peers, emphasizing

the positive impact of social influence.

Executive discussions reinforce this, stressing the importance of peer dynamics in

fostering a supportive learning environment.

5.2.5. Emotional Factors

The survey identifies "Fear of job displacement" (80%) and "Job satisfaction" (20%)

as primary emotional drivers affecting tech adoption decisions.

Executives align with these findings, acknowledging the fear of job displacement and

the emotional attachment to legacy skills.

5.2.6. Generational Differences

The survey indicates a strong belief (92%) that generational factors significantly

shape employees' attitudes and readiness for tech adoption.

Executive discussions delve into the influence of generational differences,

emphasizing the need for tailored approaches across age groups.

The analogy between survey responses and executive perspectives validates the

identified psychological factors' impact on technology adoption.

The organizations adopt multifaceted strategies, considering both individual and

collective psychological aspects. The diversity of perceptions and experiences

highlights the importance of tailored approaches to address varied concerns and

motivations.

The discussion affirms the relevance and depth of the findings, emphasizing the

requirement for organizations to navigate the sophisticated landscape of individual

psychological factors in technology adoption. As organizations strive for digital

transformation, acknowledging and addressing these factors becomes paramount for

fostering a positive and inclusive environment conducive to successful technology

adoption.

5.3 Discussion of Research Question Two

The study of the relationship between leadership styles and the effective

implementation of technological transformations unveils complex dynamics that

significantly impact organizational success during periods of change. The research,

comprising surveys and executive discussions, aims to address the void in understanding how diverse leadership styles influence the psychological landscape of employees in the context of technological transformations.

5.3.1 Leaders' Adaptation for Diverse Teams

The survey identifies diverse strategies, with 48% emphasizing employee training, 27% highlighting support and communication, 20% endorsing agile methodologies, and 5% focusing on digital tools.

Executive discussions underline the consensus that supportive leadership, equipped with proactive plans and open communication channels, is pivotal during technological transitions.

5.3.2 Leadership Practices Encouraging Innovation

Executive perspectives stress the pivotal role of leadership in fostering a culture of experimentation and innovation. Examples include providing dedicated development and testing environments empowering employees to test and optimize innovative ideas.

The alignment between executive views and survey results emphasizes the crucial influence of leadership in cultivating an innovation-centric culture within organizations.

5.3.2 Building Trust and Credibility

The survey highlights transparent communication (62%) as the primary strategy for building trust during tech changes. Involving employees in decision-making (17%), training and support (15%), and rewarding early adopters (6%) are also recognized. Executive discussions underline the foundational role of effective communication in successful leadership during technological transitions.

5.3.4 Alignment with Organizational Goals

Survey results reveal that collaboration-driven leadership (56%) and employee engagement (34%) are perceived as crucial for successful tech implementation. Flexibility is considered necessary by 10%.

Executive insights emphasize the imperative of collaborative and engagement-oriented leadership styles in achieving success in technology implementation efforts.

5.3.5 Coaching and Mentoring to Facilitate Transition

Survey responses indicate that tailored training and support (54%) are the utmost for effective coaching during tech transitions. Recognition and celebration (18%), creating peer learning networks (15%), and addressing individual concerns (13%) are also recognized strategies.

The survey and executive perspectives align, emphasizing the paramount role of tailored training and support in ensuring a successful tech transition.

5.3.6 Transformational Leadership Style

Executive discussions, represented by insights from Rowland Searle and Nidhi Singh, underscore the transformative power of leadership in managing technological

changes. Effective communication, alignment of vision, involvement of stakeholders, and trust-building are identified as crucial elements.

These insights align with the survey findings, reinforcing the significance of clear communication, early involvement, and cultivating trust in leadership during technological transformations.

Incorporating survey responses and executive insights validates the pivotal role of leadership styles in shaping organizational outcomes during technological transformations.

Consistent themes across diverse questions highlight the multidimensional nature of effective leadership, emphasizing the need for adaptability, innovation, trust-building, goal alignment, coaching, and a transformative approach.

The synthesis emphasizes that successful technological transformations require a holistic leadership strategy that considers the diverse needs and challenges inherent in the process.

The consolidated discussion affirms that leadership styles are not merely peripheral but integral to the success of technological transformations. Organizations navigating through technological changes must recognize the varied dimensions of leadership and tailor their approaches to foster a conducive environment for innovation, trust, and practical implementation. As technological transformations become increasingly prevalent, the role of leadership styles emerges as a critical factor in determining organizational resilience and success.

5.4 Discussion of Research Question Three

The investigation into the relationship between group dynamics, organizational culture, and the adoption of new technologies reveals a complex relationship that significantly influences an organization's ability to embrace technological advancements. Fixed in recognition of the importance of aligning diverse roles and responsibilities toward technology adoption, the research explores how group dynamics and cultural influences shape an organization's readiness and receptivity to new technologies.

5.4.1 Cross-Functional Collaboration-

Survey results highlight the substantial impact of cross-functional collaboration on technology adoption, with 54% indicating a significant influence. Executives, including Jean Turgeon, emphasize the transformative power of teamwork, accelerating the pace of work and contributing to more effective outcomes. Nidhi Singh provides practical insights into the complexity of cross-functional collaboration, emphasizing the need for cohesive partnerships to achieve success in significant projects.

5.4.2 Team Communication and Technical Updates Sharing

Survey responses highlight the paramount role of effective team communication in facilitating tech update sharing, with 82% indicating a positive impact. Executives unanimously emphasize the critical importance of communication, with Rowland

highlighting comprehensive training sessions and communication initiatives

organized by leadership.

The alignment between survey results and executive insights reinforces the

foundational role of communication in successful technology adoption.

5.4.3 Clash of Subcultures

Survey findings reveal that clashes of subcultures within organizations pose

challenges to tech adoption, with 45% experiencing frequent difficulties. Executives,

including Rowland and Jitesh, share instances where conflicts between subcultures

affected the implementation of new technologies, emphasizing the importance of

leadership in mitigating such challenges.

The discussions highlight that the success of technology adoption depends on

addressing clashes between subcultures and fostering alignment among diverse teams.

5.4.4 Organizational Cultures and Tech Adoption

Survey results depict organizational cultures as significant catalysts (46%) or

occasional barriers (16%) to tech adoption. Executive insights from Richard Seamark

and Vaibhav Agrawal underscore the lasting impact of organizational culture on

technology adoption.

The executives stress the importance of fostering a culture that encourages continuous

improvement, embraces learning opportunities, and considers different ways of doing

things to facilitate successful technology adoption.

5.4.5. Leadership's Role in Shaping Tech Culture

Survey responses underline the essential role of leadership in shaping tech culture,

with 56% considering them as crucial drivers. Executive discussions featuring

insights from Jitesh, Nidhi Singh, Vaibhav Agrawal, and Jean Turgeon emphasize the pivotal role of leadership in shaping technology culture.

The executives highlight various leadership styles, such as coaching, mentoring, and transformational leadership, as instrumental in guiding teams through technology adoption.

The consolidated discussion emphasizes the elaborate relationships between group dynamics, organizational culture, and the successful adoption of new technologies.

The research affirms that effective cross-functional collaboration, communication, and leadership are integral components for overcoming challenges posed by clashes of subcultures and leveraging organizational culture as a catalyst for technology adoption.

Leadership emerges as a common thread, pivotal in shaping the culture that fosters technology adoption and guiding organizations through the complexities of transformative processes.

The consolidated discussion establishes that group dynamics and organizational culture are not passive elements in the technology adoption process but active contributors to an organization's ability to embrace and integrate new technologies successfully. As organizations navigate the complexities of technological transformations, understanding and effectively managing these dynamic elements become imperative for sustained success in an ever-evolving digital landscape.

5.5 Discussion of Research Question Four

The research on strategies leaders can employ to foster a supportive environment for technological transformation while addressing psychological challenges brings forth crucial insights. It aims to bridge the gap in understanding the intersection of leadership and psychological aspects within the IT industry, probing employees' experiences and perceptions to gain a comprehensive understanding.

5.5.1 Leadership Style for Tech Adaptation

The survey results indicate a need for a balanced leadership approach. A majority (45%) advocates for leaders to be "Agile & Decisive," while 28% stress the importance of leaders being "Patient & Supportive," and 26% advocate for "Tech-Savvy Leaders."

Executive discussions align with the survey, emphasizing the significance of tech-savvy or transformational leaders in contributing significantly to successful technology adoption.

5.5.2 Motivators for Technology Adoption

Career growth emerges as the primary motivator for tech adoption (36%), followed by monetary rewards (31%), public recognition (16%), and job satisfaction (15%).

Executive insights affirm the alignment between survey responses and real-world practices, emphasizing the importance of career growth, financial incentives, and job satisfaction in motivating technology adoption.

5.5.3 Active Involvement of Employees in Decision-Making

Survey findings highlight that 65% consider employee input "Essential for success" in tech decision-making, emphasizing its critical role. Executives unanimously agree on the importance of employee involvement, even though strategic challenges and deadlines may occasionally limit the consistent practice.

Both survey responses and executive perspectives underscore the crucial role of involving employees in decision-making processes for successful technology adoption.

5.5.4 Psychologically Aware Tech Training

The survey indicates a significant gap, with 80% of respondents reporting having seen psychologically aware tech training "Rarely or never." Executives unanimously agree on the lack of encounters with such activity but stress its importance. Executive discussions highlight the recognized need for incorporating psychological awareness into tech training programs to foster a supportive and empowering environment for employees.

5.5.5 Consideration of Psychological Aspects in Training Programs

Survey results emphasize the importance of "Clear Roadmaps" (52%) and "Employee Feedback" (28%) in designing psychologically aware training programs. Executive discussions, particularly with Rowland Searle, highlight the need for a holistic

approach to communication, considering the psychological impact on end-users and supporting teams.

The insights converge on the significance of transparent planning, employee involvement, and gradual implementation to balance tech adoption urgency and employee adaptation.

5.5.6 Balance Between Tech Adoption Urgency and Employee Adaptation

The survey reflects the importance of "Employee Feedback" (75%) and "Expert Consultation" (15%) as critical strategies. Executive discussions with Richard Seamark stress the need for leaders to consider the psychological impact of technological changes on individuals, emphasizing empathy and proactive communication.

Both survey results and executive insights underscore the pivotal role of employee feedback and expert consultation in addressing the psychological aspects of technology adoption.

5.5.7 Balancing Technology Progress and Employee Well-Being

Survey responses highlight the importance of "Setting realistic goals" (48%) and providing "Flexible work arrangements" (42%) to achieve a balance between tech progress and employee well-being.

Executive discussions emphasize the need for leaders to dedicate more time to employees, integrate learning programs with technology introductions, and

implement structured learning and adaptation phases before, during, and after technology implementation.

The consolidated outcomes emphasize the multi-faceted nature of fostering a supportive environment for technological transformation while addressing psychological challenges. The importance of leadership styles, motivators, employee involvement, psychologically aware training, and the delicate balance between tech progress and employee well-being emerges as critical elements.

Both survey responses and executive discussions converge on the significance of a people-centric approach, emphasizing the need for transparent communication, empathy, and active involvement of employees at every stage of technological transformation.

Successfully navigating technological transformation while addressing psychological challenges requires a holistic and adaptive leadership approach. The synthesis of survey responses and executive insights provides a comprehensive understanding of leaders' strategies to foster a supportive environment for technological transformation, acknowledging the crucial interplay between leadership, psychological aspects, and the unique dynamics of the IT industry.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

- Leadership emerges as a critical factor in influencing technology adoption within organizations.

- Executives emphasize the need for visionary leaders who inspire teams and drive a cultural shift toward embracing technological advancements.

- Jean Turgeon and Sumit Gupta underscore the significance of a collaborative and supportive leadership style, fostering an environment where teams feel empowered to innovate.

- Organizational culture is recognized as a significant catalyst or barrier to technology adoption.

- Richard Seamark and Vaibhav Agrawal highlight the importance of aligning organizational culture with technology transformation goals.

- Nidhi Singh and Sonali Dash provide practical examples of how organizational culture contributes to successful adoption when aligned with technology initiatives.

- Cross-functional collaboration is a critical influencer in the speed and effectiveness of technology adoption.

- Executives unanimously emphasize the pivotal role of collaboration in successful technology transformations.

- The interconnected nature of teams and the need for cohesive collaboration, as highlighted by Nidhi Singh, underscores the importance of aligning diverse departments for successful technology adoption.

- Leadership styles that balance agility, support, and technological proficiency are crucial for successful technology adaptation.

- Career growth, monetary rewards, public recognition, and job satisfaction are primary motivators for technology adoption.

- The active involvement of employees in decision-making is deemed essential for successful tech outcomes, highlighting the need for inclusive processes.

- A notable gap exists in psychologically aware tech training, emphasizing the need for a holistic approach considering employees' psychological well-being during technology adoption.

- Leadership consistently emerges as a key player in driving technology adoption, shaping organizational culture, and fostering a supportive environment.

- The importance of aligning organizational culture with technology goals is emphasized across topics, highlighting its impact on the success of technology initiatives.

- Cross-functional collaboration and employee involvement are recurrent themes, underlining the significance of a collaborative and inclusive approach to technology adoption.

- Psychological aspects are recognized as crucial, from motivation to training, highlighting the need for leaders to be attuned to employees' needs and concerns.

A holistic, people-centric approach is essential for successful technology adoption, driven by visionary leadership and supported by an aligned organizational culture. Collaboration, communication, and active involvement of employees are foundational elements for navigating the complexities of technology adoption.

Recognizing and addressing psychological challenges, from motivators to training programs, is integral to creating a supportive environment for technological transformation.

In the ever-evolving landscape of technology, successful adoption is not just about implementing new tools but about cultivating a culture that embraces change. Leadership, organizational culture, collaboration, and a focus on psychological aspects collectively form the foundation for organizations seeking to adopt technology and thrive in the dynamic and transformative digital era.

6.2 Implications

6.2.1 Recommendation 1

Psychologically Aware Tech Training

Survey results and executive interviews highlight a significant absence of attention to psychological challenges within the organization, posing a considerable threat to adopting digital transformation initiatives. The pervasive fear and anxiety surrounding technological changes create formidable opposition within the workforce. This study strongly advocates that organizations incorporate psychologically aware elements into their tech training programs while implementing digital transformation initiatives.

Recognizing and addressing psychological factors can mitigate resistance by fostering confidence, enhancing adaptability, and ensuring employees are well-prepared for technological changes. While organizations can adopt any available training program, this study proposes including four significant elements to integrate psychologically aware components into tech training programs/systematically.
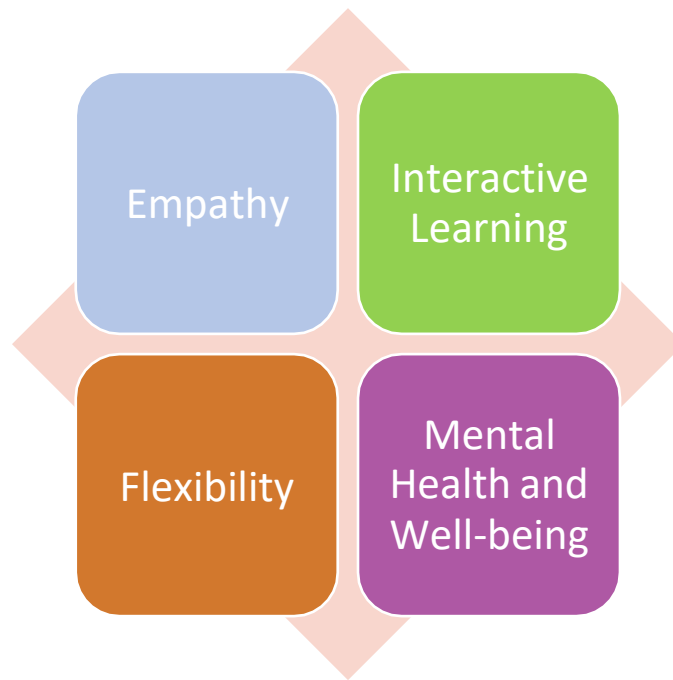

Figure 41- Four Training Elements   *Source: Author's Compilation*

- Design training programs that recognize and address the emotional aspects of technological changes. Incorporate elements that consider the psychological impact on employees, promoting empathy and emotional intelligence among participants.

- Implement interactive learning methods that encourage engagement and participation. Provide opportunities for employees to share their concerns, ask questions, and offer feedback. It creates a supportive environment where psychological aspects are considered in real-time.

- Provides detailed information about the reasons behind the technological transformation, its benefits, and how it aligns with the organizational goals. This clarity helps ease uncertainty and reduces anxiety among employees.

- Integrate components focusing on mental health and well-being into training programs. Educate employees about managing stress, coping with change, and accessing support resources. It ensures that psychological well-being is considered an integral part of the training process.

- Recognize the diversity of learners and their individual psychological needs. Offer training programs that can be customized to cater to different learning styles and paces. Provide flexibility in the training schedule to accommodate varying psychological responses to change.

6.2.2 Recommendation 2

Cross-Functional Collaboration

Executives have emphasized the lack of a robust and formalized cross-functional collaboration explicitly tailored for digital transformation. This research recommends that organizations establish a powerful cross-functional collaboration platform. This platform would efficiently manage and track critical complaints and knowledge sharing, address issues, and provide a common forum for departments involved in cross-functional support.

Promoting and facilitating cross-functional collaboration is imperative for the swift and effective adoption of technology. Organizations are urged to invest in initiatives that foster collaboration across diverse departments. It may involve implementing cross-functional training programs, establishing shared goals, and creating regular communication channels to ensure alignment and collective efforts toward common objectives.

While organizations can leverage existing omnichannel capabilities, this research proposes implementing four cross-functional practices. These practices are designed to assist organizations in successfully navigating technological transformations.
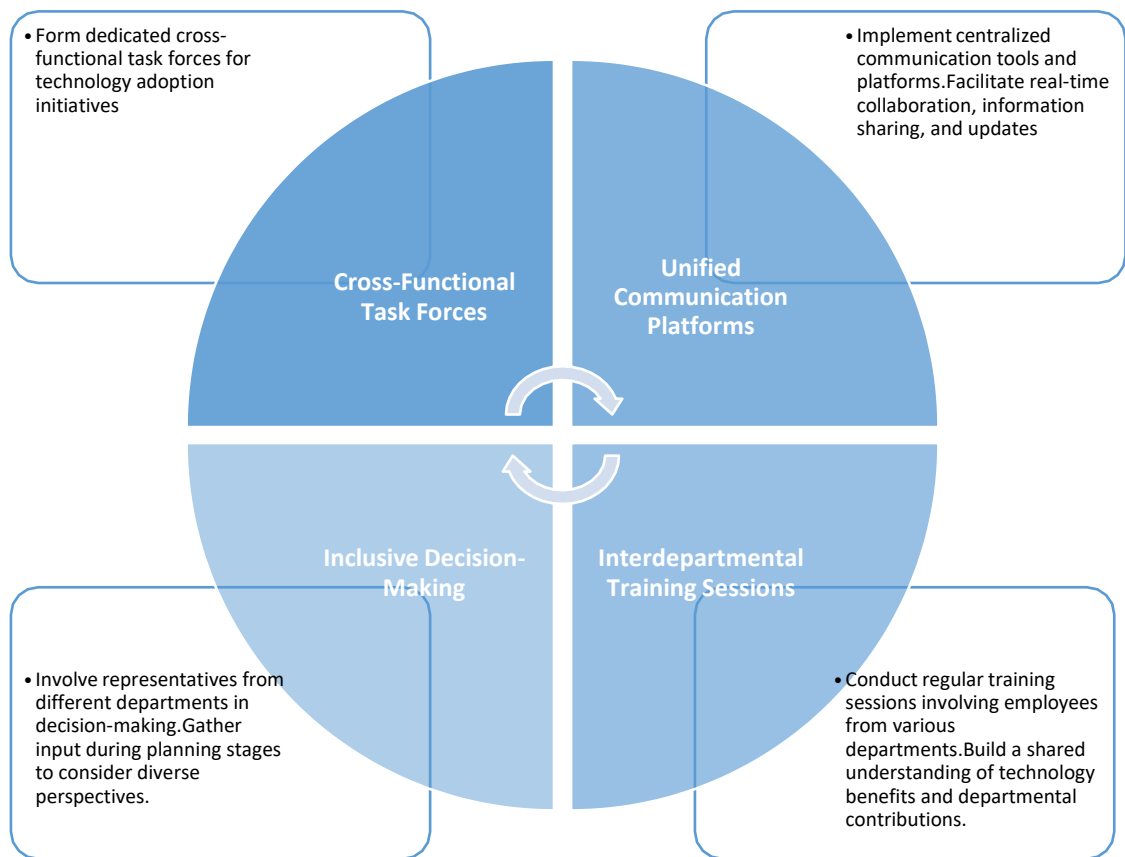
Figure 42 -Framework   Source: Author's Compilation

6.2.3 Recommendation 3

Balancing Urgency and Adaptation

This research reveals that, during digital transformation initiatives to stay competitive and secure an early foothold in the market, organizations often underestimate the importance of balancing urgency with the time given for adoption. This oversight poses a threat by not allowing sufficient time for employees to adapt to new technologies. Achieving equilibrium between driving urgency in tech adoption and allowing employees time to adjust necessitates meticulous planning and effective communication.

Organizations are advised to provide clear roadmaps, involve employees in decision-making processes, and ensure gradual rollouts of new technologies. This strategic approach aids in managing the learning curve, fostering employee confidence, and ensuring the successful adoption of technology without compromising overall well-being.

Table 25 is vital recommendations that organizations can follow -

Break down the overall technological transformation into manageable phases. This approach allows employees to adapt to changes incrementally rather than being overwhelmed by a complete overhaul

Prioritize critical components and functionalities, implementing them first before moving on to more advanced features.

Provide a timeline that balances the need for urgency with realistic expectations for the learning curve and adaptation process.

Clear communication of timelines and phased implementation helps manage expectations, reducing uncertainty and anxiety.

Provide ample resources and support for skill development, ensuring that employees feel adequately prepared to embrace the new technologies.

Providing continuous resources for skill development ensures that employees feel supported throughout the adaptation process, promoting a positive attitude toward change.

Table 25 – Model   *Source: Author's Compilation*

Achieving a balance between technology progress and employee well-being involves setting realistic goals, offering flexible work arrangements, and investing in skill development. Leadership should avoid unrealistic expectations, provide flexibility to support work-life balance, and ensure ongoing learning opportunities to equip employees with the skills needed for evolving technologies.

6.2.4 Recommendation 4

Organizational Culture Alignment

Organizations must proactively align their organizational culture with the goals of technology transformation. It involves recognizing and addressing subculture clashes, emphasizing the importance of communication and collaboration. Leadership should actively create a culture that values innovation, continuous improvement, and the seamless integration of new technologies.

However, organizational culture is not static but an ever-evolving and dynamic aspect that requires continued attention, nurturing, and adaptation. Figure 43 is the key recommendations from this research
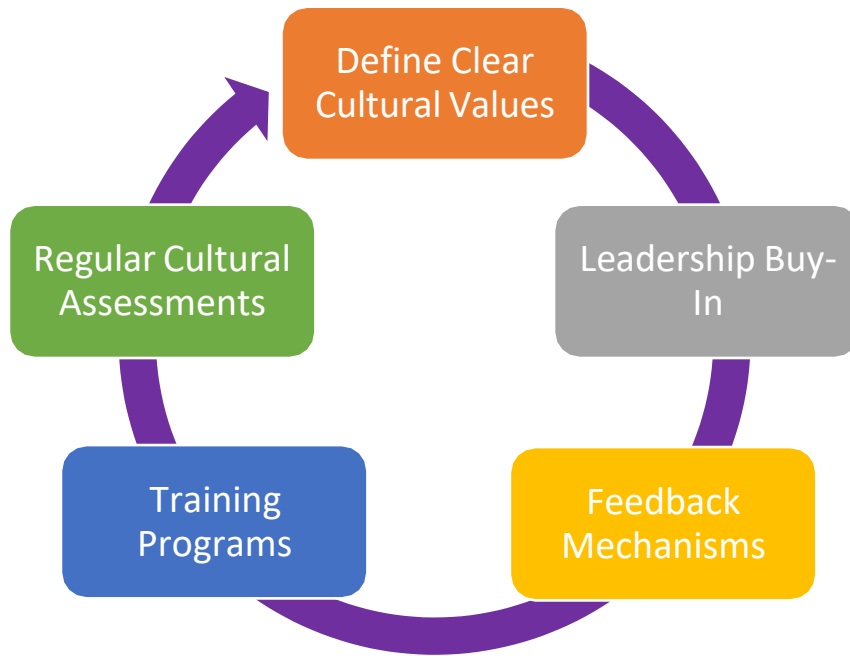
Figure 43- Framework   *Source: Author's Compilation*

- Begin by identifying and clearly defining the core values that represent the desired organizational culture. Involve key stakeholders, including employees at various levels, to enhance inclusivity and collective ownership.

- Secure commitment from top leadership, ensuring they endorse the cultural values and actively embody them. Demonstrate the desired behaviors at all levels of leadership, serving as role models for employees.

- Establish robust mechanisms for collecting regular employee feedback about the existing culture and areas for improvement. Create open communication channels for employees to express their thoughts, suggestions, and concerns about the organizational culture.

- Develop comprehensive training programs that embed cultural values into learning initiatives. Promote a culture of continuous learning, encouraging

employees to acquire and apply new skills that align with the evolving

organizational culture.

- Implement regular assessments to gauge cultural initiatives' effectiveness and identify improvement areas. Acknowledge and celebrate milestones and successes related to cultural industries, reinforcing positive behaviors and achievements.

6.2.5 Recommendation 5
Leadership Imperatives

Many organizations, however, currently operate general Leadership Acceleration

Programs, which may not be tailored to the specific needs of a digital transformation

initiative. This research calls for a closer examination of these programs.

Organizations should prioritize leadership development initiatives specifically crafted

to cultivate visionary and transformational leaders in digital transformation.

Leadership styles characterized by agility, support, and technological proficiency are

essential for successfully adapting technology in the evolving digital landscape. The

emphasis should be on nurturing leaders who inspire and lead cultural shifts toward

embracing technological advancements.

Additionally, the research proposes the following framework as strategic guidance for

leadership development programs tailored to the unique demands of a digital

transformation initiative based on the research findings
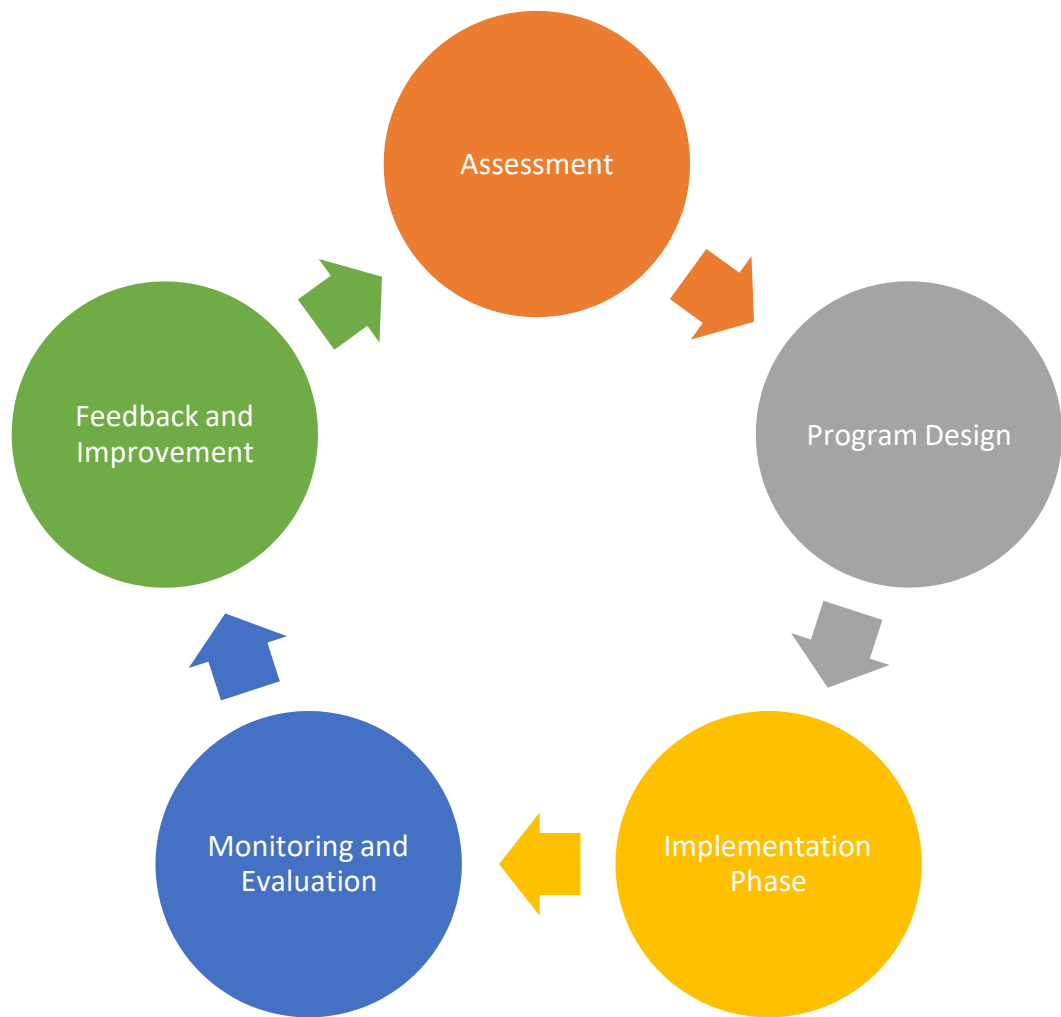
- During the assessment phase, Understand the current leadership landscape and identify potential leaders with the capacity for vision and transformation.

- During the Program design Phase, develop tailored leadership programs aligned with the organization's vision and transformational objectives.

- Implement leadership programs with a focus on participant engagement and skill development.

- Continuously assess the impact and effectiveness of leadership programs.

- Enhance leadership programs based on feedback and changing organizational needs.

Framework provides a structured approach to identifying, designing, implementing, and continually improving leadership development programs prioritizing visionary and transformational leadership. It allows organizations to adapt to changing needs and foster a leadership culture that drives innovation and sustainable digital growth.

6.2.6 Recommendation 6

Promoting a People-Centric Approach

In digital transformation initiatives, leaders must adopt a people-centric approach that considers their employees' diverse needs, motivations, and concerns. This approach encompasses empathetic leadership, effective communication, and proactive measures to address the psychological aspects associated with technology adoption. Recognizing and actively managing the human side of technological change becomes imperative for sustained success.

Organizations that prioritize leadership development in alignment with their technological goals—fostering collaboration, involving employees in decision-making processes, and addressing psychological aspects—are better positioned to successfully navigate the complexities of technology adoption. These recommendations aim to cultivate a holistic and supportive environment where

technology is not merely implemented but embraced as a catalyst for positive change and growth.

While this research aligns with existing organizational models, it also suggests a continuous flow model. Leaders are encouraged to adopt a people-centric approach as an integral part of this model, fostering a culture where technology is seamlessly integrated to drive positive organizational outcomes
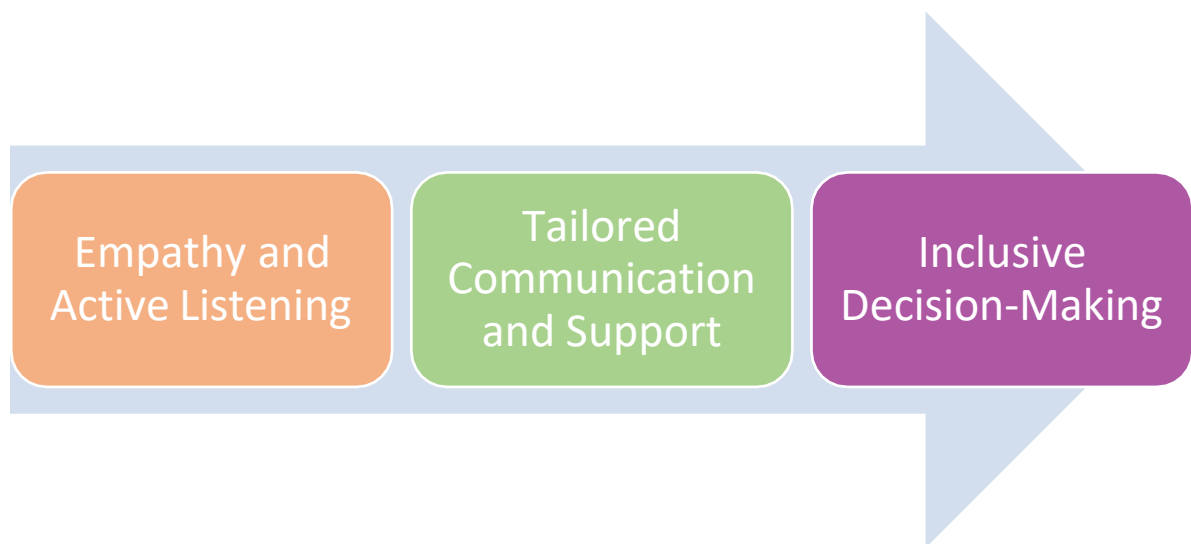
Figure 45- Framework   *Source: Author's Compilation*

1. Leaders should prioritize developing a deep understanding of their employees' diverse needs, motivations, and concerns. It begins with empathy and active listening. Create channels for open communication where employees feel comfortable expressing their thoughts and concerns. Actively listen to their perspectives.

2. Recognize that different individuals within the organization may have distinct needs and motivations. Tailor communication strategies and support mechanisms accordingly.

3. Adopt an inclusive decision-making process by involving employees in critical discussions and decisions that impact them directly. Seek their input and consider diverse viewpoints when shaping organizational strategies.

6.3 Recommendations for Future Research

A clear gap is evident in the literature review, indicating ample scope for future studies.

Future research on Digital Tranformation in IT industry

■ Study Available after this research ■ Scope for future study

Figure 46   This Picture is only for depiction purposes.

However, based on the findings of this study, the following recommendations for future research are proposed.

1. Investigate the long-term effects of technology adoption on organizational culture, leadership dynamics, and employee well-being. Understanding how these factors evolve and impact sustained innovation and competitiveness can provide valuable insights for future corporate strategies.

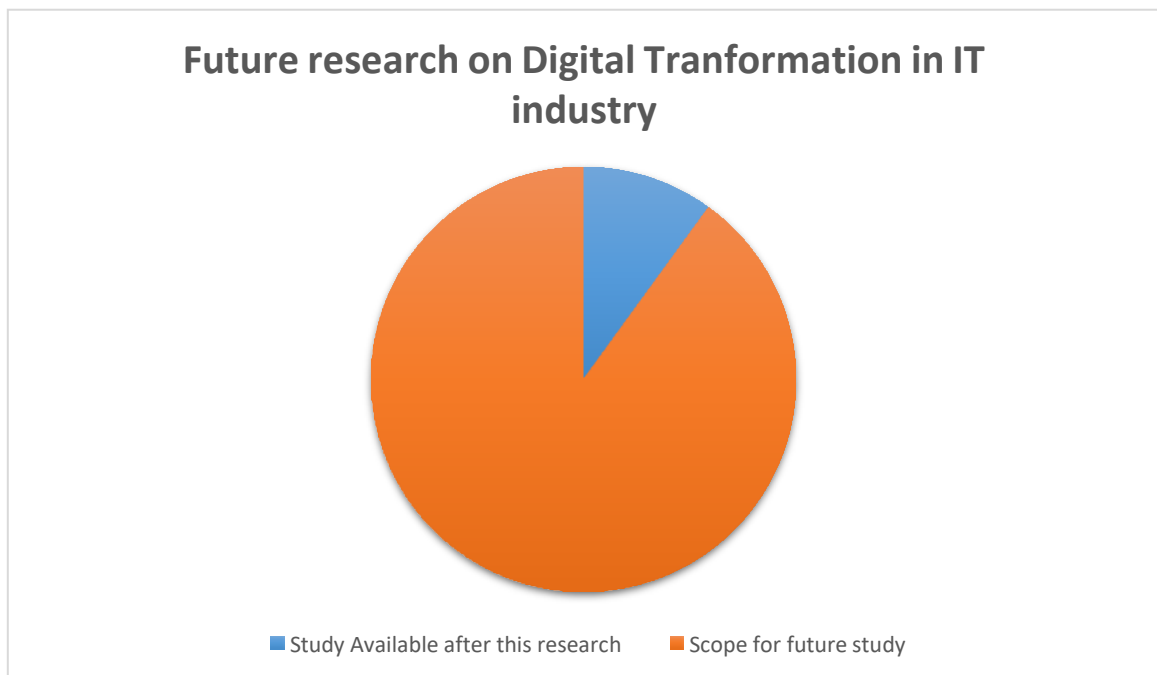2. Conduct cross-cultural studies to analyze how organizational culture influences technology adoption in global organizations. Examining cultural shades and their impact on collaboration, decision-making, and leadership approaches can contribute to more effective global technology implementations.

3. Evaluate the effectiveness of leadership development programs designed to enhance technological leadership skills. Understanding the outcomes of such programs and their influence on organizational culture and technology adoption can guide the design of tailored leadership training initiatives.

4. Investigate the impact of incorporating psychological awareness into technology training programs. Assess the effectiveness of training programs that address employee anxiety and psychological challenges, providing empirical evidence to guide the development of psychologically aware training modules.

5. Explore strategies and frameworks for effectively balancing the urgency of technology adoption with the need to allow employees sufficient time to adapt. Research can identify best practices for managing the pace of

technological change without compromising employee well-being and performance.

6. Explore approaches for promoting a human-centric perspective in technology adoption. Investigate how organizations can prioritize human factors, psychological well-being, and employee experience in technology implementations, leading to a more positive and sustainable technological transformation.

7. Conduct a comparative analysis of technology adoption practices across different industry sectors. Explore how varying industry characteristics influence organizational culture, leadership styles, and the challenges associated with technology implementation.

8. Conduct in-depth case studies of organizations that have successfully navigated technology transformations. Analyze the strategies, leadership approaches, and cultural dynamics that contributed to their success, providing practical insights for other organizations undergoing similar changes.

6.4 Conclusion

This comprehensive exploration of technology adoption within organizations revealed critical insights from industry experts and survey data. The findings indicate that cross-functional collaboration significantly influences the speed and effectiveness of technology adoption, with leaders emphasizing its pivotal role. Effective team communication is highlighted as crucial for sharing tech updates, with survey results overwhelmingly supporting the facilitative impact of communication styles.

The research acknowledges instances where clashes of subcultures within organizations pose challenges to technology adoption. Executives discuss the importance of leadership in mitigating such conflicts and fostering alignment between diverse subcultures. Organizational culture emerges as a significant factor, acting both as a catalyst and a barrier to tech adoption, with varied views among survey respondents.

Leadership's role in shaping tech culture is unanimously recognized as essential, with executives emphasizing coaching, mentoring, and translating the CEO's vision into reality. The research delves into strategies for fostering a supportive environment for technological transformation while addressing psychological challenges, identifying leadership styles, motivators for tech adoption, and the role of employee involvement in decision-making.

The research sheds light on the limited prevalence of psychologically aware tech training and underscores the unanimous agreement among executives regarding its importance. Strategies for considering psychological aspects in tech adoption training programs include clear roadmaps, employee feedback, and gradual rollouts.

The balance between driving tech adoption urgency and giving employees time to adapt is discussed, emphasizing the significance of employee feedback and expert consultation. Executives stress the importance of viewing technology adoption through employees' lenses, understanding their context, and providing effective communication.

Leadership's role in balancing technology progress and employee well-being is explored, with insights emphasizing setting realistic goals, flexible work arrangements, and skill development. Executives provide practical examples and stress the need for a holistic approach that considers the psychological impact on individuals and teams supporting technological changes.

The research implications suggest that organizations should prioritize cross-functional collaboration, effective communication, and leadership development to navigate challenges associated with technology adoption. The study recommends future research to delve deeper into psychological aspects, leadership strategies in subculture clashes, and the impact of organizational culture on technology adoption. This research offers valuable insights for organizations navigating the complexities of technology adoption, providing a foundation for future strategies and research in the dynamic modern business landscape.

APPENDIX A

SURVEY COVER LETTER

Introduction

I hope this letter finds you well. My name is Devanshu, and I work as an operations manager at an IT company in Bangalore. I'm conducting a research study on "Digital transformation adoption challenges: Indian IT industry", and we would greatly appreciate your insights and experiences.

Background

Our research aims to explore the distinctions of Digital Transformation adoption challenges in the Indian IT industry and understand how employee psychological factors, leadership roles, group dynamics, and culture impact digital transformation. We are seeking your crucial insights to gain a comprehensive understanding of this subject.

How to participate

The physical handbook of questions list was provided to you. Please read the disclaimer carefully; upon agreeing, please select the answer you feel is appropriate; if you want to offer a descriptive reply, please use the blank side of the handbook and mark the question number. If you prefer not to answer any questions, please skip it.

Benefits of Participation

By participating in this survey, you will be contributing valuable insights to the technology adoption field. Additionally, we will summarise the key findings with participants who express interest in receiving this information. If you have any questions or concerns, please do not hesitate to contact me at devanshu.k@gmail.com

Thank you for considering this invitation. Your input is highly valued, and we look forward to your participation.

<div align="center">

Thanks

Devanshu

Devanshu.k@gmail.com

Mobile - 7406433343

</div>

INFORMED CONSENT

Consent to indivisual

I would like to clarify that this is a personal research project. The data collected is not intended for use in my current occupation. It will be used solely for study and may be available for public viewing.

Thanks, Devanshu

Executive name -   Company Name –   Designation-

You are comfortable with having your name and designation mentioned (Yes/No)-

Consent to HR

RE: Disclosure of Personal Research

Dear HRBP,

I hope this email finds you well. I am writing to inform you that I am pursuing my Doctorate in Business Administration from the Swiss School of Business Management

Geneva. As part of my academic growth, I am researching the challenge of Digital Transformation Adoption and recommendations to overcome this challenge. My research is specifically focused on the IT industry in India.

I wanted to disclose this information to you to ensure transparency and clarify that this research project is personal. I will not use our company's proprietary or confidential data for my research. It is an independent study to improve our understanding of the challenges and opportunities in the Indian IT industry's Digital Transformation.

I would also like to assure you that my research will not interfere with my work responsibilities, and I will continue to fulfill my duties to the best of my ability. I understand the importance of maintaining confidentiality and will abide by all company policies regarding intellectual property and data protection.

If you have any questions or concerns, please reach out to me. Thank you for your understanding and support.

Thanks

Devanshu Kushwaha

INTERVIEW GUIDE

Interview questionaries

Interview
questionaries

Research Question One

How do individual psychological factors influence adopting and accepting new

technologies within an Organization?

a. Q 1- Do individual differences in risk perception and technological anxiety

impact employees' willingness to adopt new technologies?

b. Significantly hinder adoption

c. Minimal impact on adoption

d. Encourage adoption

Q 2- What are some specific misconceptions or myths you've encountered regarding new

technology adoption?

a. They always lead to job loss

b. They are always too complex

c. They are always costly

d. They are always security risk

Q 3 - How does prior experience with similar technologies affect employees' willingness to learn and adopt new ones?

a. Positively encourages adoption

b. Has a minor influence

c. No significant impact

d. Creates reluctance to adopt

Q4- How does social influence and peer pressure impact employees' decisions on adopting new technologies?

a. Strongly encourages adoption

b. Has some influence

c. No significant impact

d. Creates resistance to adoption

Q5- Which emotional factors impact technology adoption within your organization?

a. Fear of job displacement

b. Job satisfaction

c. Other (please specify)

Q6- Do generational differences influence employees' technology adoption mindset?

a. Yes, significantly

b. Yes, to some extent

c. No, it is not noticeable

Research Question Two

What is the relationship between leadership roles and the effective implementation of technological transformations?

Q1- How do leaders adapt during tech transitions for diverse teams?

a. Support & communication

b. Embrace agile methodologies

c. Invest in employee training

d. Leverage digital tools wisely

Q2- Can you provide examples of leadership practices that encourage a culture of experimentation and innovation, thereby facilitating technological transformations?

Q3- What strategies have leaders used to build trust and credibility among employees when introducing major technological changes?

a. Transparent & communication

b. Employees in decision-making

c. Training and support

d. Rewarding early adopters

Q4- How does the alignment between the organization's overarching goals and the leadership style impact the success of technology implementation efforts?

a. Flexibility fosters innovation

b. Collaboration drives change

c. Employee engagement

d. Collaboration drives change

Q5 - In cases where there's resistance to a new technology, how have leaders effectively used coaching and mentoring to facilitate the transition?

a. Identifying individual concern

b. Tailored training and support

c. Create Peer learning networks

d. Recognition & Celebration

Q6 -In your opinion, how does a transformational leadership style contribute to inspiring employees during technological transitions?

Research Question Three

How do group dynamics and organizational culture impact the adoption of new technologies?

Q1-How does the level of cross-functional collaboration influence the speed and effectiveness of technology adoption across different departments?

a. Significantly

b. Moderately

c. Negligibly

Q2- How does team communication affect the sharing of tech updates?

a. Facilitate

b. Hinder

c. Neutral

Q3- Have you observed any instances where a clash of subcultures within an organization posed challenges to implementing new technologies?

a. Yes, often

b. Sometimes

c. Rarely or never

Q4- How do organizational rituals influence tech adoption?

a. Catalysts

b. Barriers

c. No effect

d. Any other (please mention)

Q5- How significant is leadership's role in shaping tech culture?

a. Essential drivers

b. Moderate influencers

c. Limited impact

d. Any other (Please mention)

Q6- Have you observed any instances where a clash of subcultures within an organization posed challenges to implementing new technologies?

Research Topic Four

What strategies can leaders employ to foster a supportive environment for technological transformation while addressing psychological challenges?

Q1- Which leadership style aids tech adaptation?

a. Agile & Decisive

b. Patient & Supportive

c. Tech-Savvy Leaders

d. Speed at all costs

Q2- What motivates tech adoption most?

a. Monetary rewards

b. Public recognition

c. Career growth

d. Job Satisfaction

Q3-What role does the active involvement of employees in the decision-making process play in minimizing resistance and psychological challenges?

a. Essential for success

b. Moderately important

c. Minimally relevant

d. Any other (Please mention)

Q4- Have you seen successful examples of psychologically aware tech training?

a. Yes, often

b. Occasionally

c. Rarely or never

Q5- How do leaders ensure that the psychological aspects of technology adoption are considered when designing training programs and resources?

a. Employee Feedback

b. Expert Consultation

c. Customized Modules

d. Any other (Please mention)

Q6 -How can leaders find an equilibrium between driving tech adoption urgency and giving employees the time to adapt?

a. Clear Roadmaps

b. Employee Feedback

c. Gradual Rollouts

d. Any other (Please mention)

Q7 - How do leaders balance tech progress and employee well-being?

a. Setting realistic goals

b. Offering training

c. Flexible work arrangements

d. Any other (Please mention)

Coding Structure

Thematic
analysis.xlsx

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APPENDIX D:

1. Abbreviations

TLR	**Teaching, Learning, and Resources**
RP	Research and Professional Practice

OI	Outreach and Inclusivity
PR	Peer Perception
NIRF	National Institutional Ranking Framework
SMACIT	Social, Mobile, Analytics, Cloud, and
TMT	Top Management Team
BMI	Business Model Innovation
UTAUT	Unified Theory of Acceptance and Use of Technology
CIO	Chief Information Officers
DRP	Digital Readiness Perception
CMR	Change Management Resilience
EWB	Employee Well-being
OP	Organizational Performance
EE	Employee Empowerment
SOR	Stimulus-Organism-Response
GCC	Global Capability Centers
ER&D	Engineering Research and Development
CTO	Chief Technology Officers
COE	Chief Executive Officer
POC	Proof of Concept
AI	Artificial Intelligence
AR/VR	Augmented Reality/Virtual Reality
IoT	Internet of Things
DT	Digital Transformation

IT	Information Technology
DC	Data Center
R&D	Research and Development
ICT	Information and Communication Technology
API	Application Programming Interface
UX	User Experience
UI	User Interface
SDK	Software Development Kit
ROI	Return on Investment
LMS	Learning Management
BI	Business Intelligence
KPI	Key Performance Indicator
ML	Machine Learning
CRM	Customer Relationship Management

2. Tools

1	Google Search engine
2	Bing search engine

3	Research gate
4	Academia
5	ABDC
6	SSBM Journal
7	Google Scholar
8	IEEE
9	NASSCOM
10	ScienceDirect
11	theresearchschool.com
12	MS Excel
13	MS Word
14	MS Smart Art
15	MS Powerpoint
16	MS team
17	Webex meeting place
18	MS Copilot
20	Grammarly
22	Linked in
23	WhatsApp
24	Telegram
25	Cellular Phone

26	Laptops and Accessories

4. Carbon Footprint in this Research

Carbon Footprint while doing this research.

Air Travel

Two-way Air Travel from Bangalore to Delhi NCR

Carbon Footprint=Distance Emissions per passenger-kilometer×Number of

Passengers =

Carbon footprint during one way Travel = 1880 X.18kgCO2X1= 338.4 KG

Two way = 767.8 KG. Approx

City Transport

Public Transport Use musty used Metro for internal City travel

 The average carbon footprint for public transport is around 0.1 to 0.2 kg of CO2 per

passenger kilometer.

Paper

800 Pages printout on recyclable paper.

The carbon footprint of one A4-size recycled paper sheet is in the range of 0.01 to

0.02 kg of CO2.

Electricity

 Approx 730 Hours of Laptop computer work

Carbon Footprint=Power Consumption×Time×Carbon Intensity of Electricity

$= 30 \text{ watt} \times 730 \text{ hours} \times .5 \text{kgCO2/kWh} = 10950 \text{ Gram} = 11 \text{ KG}$