



A catalyst for Customer Experience and Operational Efficiency: A Study with reference to Digital Transformation

Prof. Dr. Krishna Kumar TP¹, Venkatesh.M², Dr Veeramani G³, Dr.R. Sethumadhavan⁴, Dr. Navnath Narawade⁵, Dr. S. Gomathi⁶,

¹Professor & HOD, Master of Business Administration (MBA), Nehru School of Management @ Nehru College of Engineering and Research Centre, Pampady, Thiruvilwamala, Thrissur, Kerala, India - 680588

²Assistant Professor, Department of Management Studies, P.S.R. Engineering College, Sivakasi, TamilNadu

³Associate Professor, School Of Management, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Pallavaram Chennai- 600117.

⁴Assistant Professor, Department of MBA, Dayananda Sagar College of Engineering, Kumaraswamy Layout, Bangalore - 560 111.

⁵Professor in Electronics and Telecommunication Engineering, Parvatibai Genba Moze College of Engineering, Wagholi, Pune.

⁶HoD, Department of Business Administration, St. Thomas College of Arts And Science, Koyambedu Chennai- 600107.

(Received: 04 August 2023)

(Revised: 12 September)

(Accepted: 06 October)

KEYWORDS

Prioritizing
Cybersecurity,
Data Integrity,
Scalable Security,
Technology and CRM

ABSTRACT:

In the digital era, customer expectations have evolved dramatically. Consumers now demand seamless, personalized, and convenient interactions with businesses. To meet these expectations, organizations leverage digital technologies to improve the customer experience. This includes creating user-friendly websites and mobile apps, implementing chatbots for instant support, and using AI-driven personalization to tailor offerings to individual preferences. A positive customer experience fosters loyalty, brand advocacy, and customer retention. Digital transformation aims to streamline internal operations to reduce costs, enhance productivity, and drive growth. This involves automating repetitive and manual tasks, optimizing supply chain and inventory management, and implementing data-driven decision-making processes. Operational efficiency can lead to increased profitability and agility, allowing organizations to respond to market changes more effectively. Balancing these two priorities is essential. A purely customer-centric approach may lead to inefficiencies and higher costs, while a sole focus on operational efficiency might overlook the customer experience. Digital transformation should be approached holistically, with customer experience and operational efficiency seen as mutually reinforcing. Organizations that successfully balance these priorities can not only remain competitive but also drive sustainable growth and profitability in the digital era.

Introduction

There has been an increase in the frequency of discussions among scholars and professionals from many industries on the importance of digitalization and the process of digital transformation (DT) [5]. The scientific community is currently seeking a comprehensive understanding of the conceptual framework of digital transformation and its interconnectedness with various aspects of business management, organisational dynamics, sustainability, open innovation, and related concepts [1]. Conversely, the business world primarily

emphasizes the practical implications and advantages associated with the implementation of digital transformation strategies. The increasing prevalence of digital technology has led to significant transformations in the characteristics of organisations and their engagements with their clientele. The organisation is now engaged in a phase of process and operational reform, with a reassessment and redefinition of the role of human agents in the value creation process. The identification of characteristics that contribute to the success of digital transformation is crucial, since the



impact of digital technologies and their dissemination alone does not exclusively determine the occurrence of digital transformation [8]. The paper presents a comprehensive examination of the current body of research pertaining to digital transformation, with a particular focus on identifying the critical determinants that contribute to the eventual efficacy of these initiatives [1]. This article elucidates the evolving nature of the executive role in response to many variables, and examines the strategies used by businesses to adapt to the emerging realities of the information era. In the contemporary digital landscape, it is essential for companies to effectively respond and adjust to the rapid transformations induced by technology advancements. The integration of digital technology has become essential for organisations in order to remain competitive and effectively address the demands of their client base [4]. Nevertheless, the process of digital transformation necessitates a substantial reorientation in the management of organisations and the adoption of novel technological advancements. In order to thrive in the contemporary digital landscape, enterprises must adapt to the evolving trends and embrace novel viewpoints, approaches, and organisational frameworks [8]. The primary catalyst for the expansion of an organisation is the enhancement of performance and productivity facilitated by digital technology [9]. To embrace digital transformation and effectively use its advantages, firms must first possess a comprehensive comprehension of the underlying variables involved. The article aimed to analyze the impact of several elements on the organisational structure, process, and culture in order to facilitate the success of companies and their leaders in the dynamic digital era.

Theoretical Contributions

Despite the considerable progress in economic growth and digitalization, particularly in the service industry, there is a dearth of scholarly research in this area [1]. Moreover, previous research has shown the need of examining the impact of (DT) on organisational performance across different contexts and sectors. It is important to comprehend the mechanisms via which digital transformation influences the operational outcomes of businesses. There exists a hypothesis suggesting that digital transformation (DT) might potentially influence corporate outcomes by facilitating

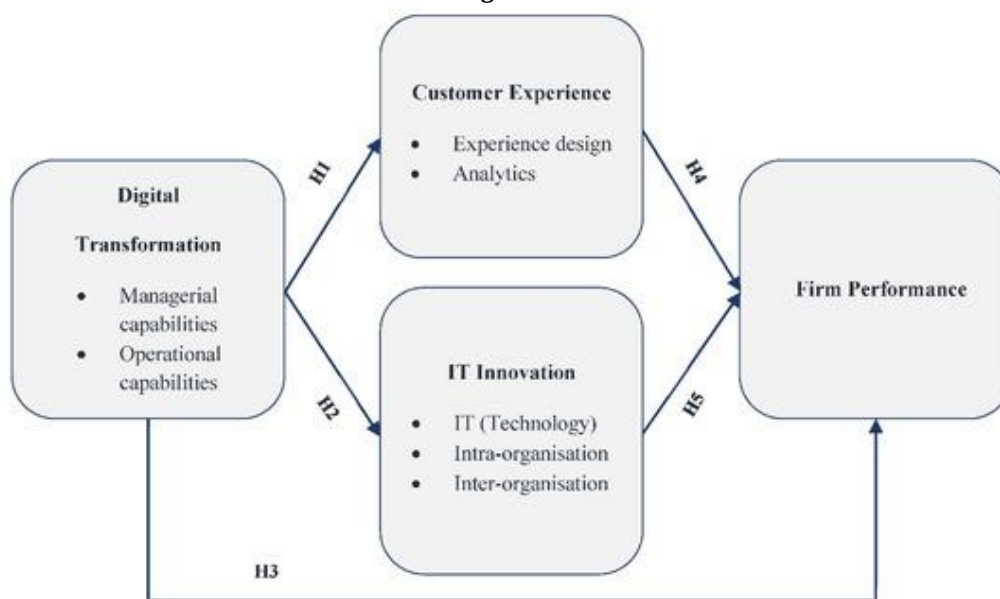
improvements in IT innovation and enhancing the customer experience [7]. These concerns have significant importance in the service business, since the provision of high-quality client service. Prior research has examined these relationships in several contexts. The assessment of customer experience (CX) is a critical metric for measuring performance within the service business. Research has shown that maintaining consistency in delivering a superior customer experience has a positive impact on a company's financial performance. Furthermore, recent research has highlighted customer experience as an emerging factor that might confer a competitive advantage, potentially serving as a predictor of customer loyalty and therefore influencing corporate performance [3]. Nevertheless, a significant portion of the existing body of literature pertaining to customer experience has mostly focused on several facets of CX. These include the examination of consumers' interactions with companies, their overall contentment with those brands, and the caliber of services provided by these firms. Hence, prioritizing the enhancement of the customer experience as a method to enhance the company's performance is a feasible approach. Similarly, organisations greatly depend on innovation in order to flourish in intricate marketplaces, safeguard their competitive advantage, and enhance their overall performance [6]. Moreover, Information Technology (IT) is increasingly being seen as a critical component and the major catalyst for driving transformation in business processes within the context of innovation. The system enables effective administration of processes, while also supporting the generation and execution of novel ideas. Consequently, the significance of research on emerging kinds of information technology has increased. Nevertheless, investigations pertaining to this topic are still in their nascent stages. The existing body of literature on innovation has mostly focused on products, processes, and employee behaviour. There is potential for further advancement in our comprehension of development in the field of information technology. Further investigation is required to ascertain the influence of digital transformation on IT innovation and its subsequent effects on organisational performance. Critiques have been raised about the limited focus of the existing body of literature on innovation, mostly centered on the industrial sector, which has resulted in a neglect of the



service industry and its corresponding requirements. Despite concerted attempts to address the knowledge gap, a discernible bias persists in the examination of IT innovation, as seen by a disproportionate emphasis on IT

innovation within the industrial domain, whereas non-technological innovation garners more attention within the service sector.

Figure: 01



Source: <https://www.mdpi.com/digital>

Digital transformation is positively related to customer experience

Digital transformation is undeniably positively related to customer experience in today's fast-evolving business landscape. As organizations embrace digital technologies to adapt and thrive in the digital age, they are increasingly recognizing the direct impact of these transformations on the customer journey. First and foremost, digital transformation enables businesses to offer enhanced and personalized customer experiences. Through the implementation of data analytics, artificial intelligence, and machine learning, companies can gain profound insights into customer behavior and preferences. This knowledge empowers them to tailor their products, services, and interactions to meet individual needs, resulting in a more satisfying and relevant customer experience. Furthermore, the seamless integration of digital channels allows customers to engage with a company on their own terms, whether through a website, mobile app, social media. This multi-channel approach not only provides convenience but also consistency in the customer journey, ensuring a coherent and harmonious experience across various touch points.

Digital transformation also empowers businesses to respond to customer inquiries and resolve issues promptly, leading to increased customer satisfaction. Automation and self-service options reduce response times, while AI-driven chatbots and virtual assistants offer round-the-clock support, improving the overall experience. Moreover, the wealth of data collected through digital interactions allows companies to proactively identify and address customer pain points and preferences. By continuously optimizing their operations based on this data, organizations can fine-tune their customer experiences and stay ahead of changing expectations. In conclusion, digital transformation is intrinsically linked to an improved customer experience. As organizations harness the power of digital technologies, they can provide more personalized, convenient, and responsive interactions that meet the ever-growing expectations of today's consumers. This positive relationship between digital transformation and customer experience is a key driver of business success and customer loyalty in the digital era.

Digital Transformation and Innovation



Digital transformation and IT innovation are closely intertwined and represent a dynamic partnership that drives organizations into the future. In the era of digital transformation, businesses recognize that technology is not merely a tool but a strategic enabler for achieving their goals and staying competitive. IT innovation is the engine that powers this transformation by continually identifying and implementing novel technologies and solutions that reshape how organizations operate. Digital transformation involves a holistic overhaul of an organization's processes, culture, and customer interactions. IT innovation empowers businesses to adapt to rapidly changing market dynamics and evolving customer preferences. Moreover, IT innovation fosters a culture of continuous improvement and adaptation. It encourages organizations to experiment with emerging technologies, adapt to market disruptions, and seek out new opportunities. This mindset of constant learning and adaptation is pivotal in the ever-evolving digital landscape. Additionally, IT innovation goes beyond technology itself. It involves the development of novel strategies, business models, and partnerships that leverage technology to create value. Whether it's adopting a subscription-based business model, using data analytics to predict customer behavior, or forming strategic alliances to access new markets, IT innovation is at the heart of these transformative strategies. Digital transformation and IT innovation are inseparable. The latter serves as the driving force behind the former, enabling organizations to reinvent themselves, embrace new opportunities, and deliver superior value to their customers. As businesses navigate the complex digital terrain, they must recognize that IT innovation is not just an occasional project but a fundamental element of their long-term success and relevance.

Digital transformation drivers

Nevertheless, this undertaking is not a straightforward endeavor, but rather a protracted process that entails embracing digital innovations, reevaluating and restructuring corporate tactics, and guaranteeing the uninterrupted operation of the company. The impetus for digital transformation is rooted in the need to sustain competitiveness and enhance performance, with the imperative to safeguard business continuity. The efficacy of this process of transformation is contingent upon several circumstances and situations that serve as either external or internal catalysts for organisations. These

drivers play a crucial role in enabling or compelling firms to embrace digital solutions in order to effectively respond to the evolving digital landscape within their respective industries. Comprehending these factors is essential for attaining proficiency in the process of transformation and guaranteeing its effective execution.

Objectives, Materials and methods

The present study undertook a comprehensive literature evaluation to provide a conceptual framework for digital transformation [2]. The search and selection of relevant material were carried out using Scopus and Web of Science citation databases, with Google Scholar serving as an additional supplementary database. Given the limited duration and specific scope of the research, the authors have chosen to use a methodical approach to conducting their search, which represents a balanced decision [4]. The first search criterion included the need for the term "digital transformation" to only occur in the title of the publication, with the additional condition that the language of the article should be either English or Russian. In recent times, there has been a notable increase in the significance of the service sector, which has therefore contributed significantly to the overall global Gross Domestic Product (GDP). The available evidence indicates that there will be a significant expansion in the service business in the next years. Service providers often face challenges while operating in environments characterized by uncertainty [8]. The primary objective of the plan is to facilitate the Kingdom of Saudi Arabia's shift from a mostly oil-dependent economy to a knowledge-based one. The National Transformation project 2020 was implemented with the aim of developing the essential competencies and capabilities required to successfully accomplish the objectives outlined in Saudi Vision 2030. Digital transformation (DT) is a fundamental component of this project. The initiative is designed to be implemented nationwide, including various sectors such as non-profit organisations, governmental institutions, and commercial enterprises, throughout the Kingdom. The plan further pledges to provide resources towards the development and expansion of digital infrastructure. The use of digital technology in the achievement of organisational goals is seeing a notable increase. There is a growing interest among managers in using digital technology (DT) as a strategic tool to distinguish their organisations and get a competitive advantage. However,



it is worth noting that a significant portion of the existing literature on DT mostly concentrates on exploring the conceptual aspects of DT and the process of its implementation. In a different approach [10]. The concept of dynamic capabilities from two distinct angles, namely management and operational competence. The establishment of these dimensions was established by prior research conducted in this field. The researchers of the study reached the conclusion that the presence of a sustainability strategy acts as a mediator in the relationship between managerial abilities and performance [8]. Digitalization plays a crucial role in facilitating the relationship between servitization and performance in industrial firms. Additionally, their research reveals a direct and very positive association between digitalization and sales performance [13]. However, when digitalization is combined with servitization, it does have a notable effect on financial success. Consequently, previous studies have shown inconclusive results on the correlation between decision-making style and measures of performance. The study is descriptive in nature. A sample size of 200 respondents is selected using convenient sampling. The required

primary data has been collected from the respondents using Google forms

Analysis, Findings and Results

The implementation of digital transformation is of paramount importance for contemporary enterprises in order to sustain their strategic competitiveness within the rapidly evolving business landscape. The impact of age on customer attitudes and behaviors toward digital transformation is a critical consideration for businesses navigating the ever-evolving landscape of technological advancements. Different age groups often exhibit distinct preferences, comfort levels, and expectations when interacting with digital platforms. Younger generations, such as Millennials and Generation Z, are typically more digitally native and tech-savvy, embracing new technologies with enthusiasm. For these cohorts, digital transformation is not just an expectation but an integral part of their daily lives, influencing their preferences for seamless online experiences, personalized services, and instant gratification. The result is given below.

Table 1 Age group of the respondents and level of customer experience

Age group	N	Mean	Std. Deviation	F	Sig.
Young	86	4.2380	1.35872	0.781	0.581
Middle	84	4.1745	1.41258		
Old	30	3.7586	1.32587		
Total	200	3.8754	1.44752		

The customer experience is found more with the young age group respondents (4.2380) which is greater than old age group (3.7586) and middle age group respondents (4.1745). The difference in the mean of stress shows an insignificant result. The calculated F value is 0.781 and p is 0.581. Hence, it is concluded that the level of customer experience does not differ according to their age. Conversely, older generations may approach digital transformation with varying degrees of comfort and resistance. While many older individuals have embraced technology, there remains a segment that may feel less inclined or less familiar with digital interfaces. Businesses engaging with older demographics in their customer base need to prioritize user-friendly interfaces, clear communication, and perhaps additional support to

ensure a positive and inclusive digital experience. Strategically, understanding the age-related nuances in customer attitudes toward digital transformation is crucial for businesses aiming to create inclusive and effective strategies. Tailoring digital initiatives to cater to the preferences and expectations of different age groups can enhance adoption rates and overall customer satisfaction. Additionally, educating and providing support to customers of all ages on the benefits and functionalities of digital tools can bridge the gap and encourage a more widespread acceptance of digital transformation initiatives. In essence, recognizing the diversity in age-related digital preferences is key to developing strategies that resonate with and effectively serve the needs of a broad and varied customer base.

**Table 2** Gender and level of customer experience

Gender	N	Mean	Std. Deviation	Z	Sig.
Female	153	3.2842	1.31189	0.781	0.453
Male	47	3.0054	1.21554		
Total	200	3.1654	1.32746		

The above table shows that customer experience is higher with female employees (3.2842) than the male employees (3.0054). The difference is not significant. Hence, the significance is found at 45.3%. It is understood that the customer experience is not significantly vary according to the gender of employees. Impact of Customer Experience towards Digital Transformation

The powerful and transformational nature of customer experience on digital transformation is evident. In the contemporary and dynamic corporate environment, there

is a growing awareness among organisations about the crucial significance of customer experience in propelling and maintaining digital transformation endeavours. The significance of customer experience extends beyond being a secondary outcome, as it serves as a pivotal factor in facilitating effective digital changes. When organisations place a higher level of importance on and improve the entire experience of customers, they are in a more advantageous position to efficiently use digital technology.

Table 3 Impact of Customer Experience towards Digital Transformation

Features	Mean	Std. Deviation	Mean Rank
Prioritizing Cybersecurity	3.48	1.314	4.71
Data Integrity	3.33	1.172	4.69
Scalable Security Issues	2.21	1.109	3.42
Eliminating Outdated Software	3.45	1.425	4.18
Process Automation	3.34	1.112	4.26
Customer Service Re-Imagined	3.31	1.111	4.17
CRM	3.28	1.134	5.01
Integrated technology	3.79	1.234	4.28

As shown in Table 3, the importance of the customer experience in driving digital transformation is clear when the data is analyzed. The median value of CRM is 5.01. Second, it's crucial to maintain data integrity (4.71). Cybersecurity measures in at an average of 4.61 on the importance scale. In addition, the Friedman ranking is used to assess the relevance of the final ranking. Furthermore, the digital experiences provided by industry leaders have a constant influence on client expectations. Organisations that effectively undertake digital transformation recognize the significance of harmonizing their technical progressions with the demands and inclinations of their customers. This

include the implementation of Omni channel strategy, use of data analytics to provide personalized experiences, and integration of new technologies to optimize customer interactions. The link between customer experience and digital transformation may be characterized as a cyclical phenomenon. The emphasis on customer-centricity necessitates the adoption of new digital solutions, which, in turn, contribute to the improvement of the whole customer experience. In the context of the digital age, organisations must effectively navigate the intricate dynamics at play. A crucial aspect of this navigation involves comprehending and giving priority to the demands of customers. This prioritization



is essential for attaining long-term success within the competitive business environment.

Table 4 Friedman Test

N	200
Chi-Square	122.214
df	7
Asymp. Sig.	0.000

The estimated Chi-Square value is 122.214 with 7 degrees of freedom, as shown by the result. Significant at the 1% level and above. The probability level is 0.00. This leads us to conclude that position 4 in the table is correct. It's decided that customers' perceptions of the effects of the digital transformation on them are the most important factor. A favourable customer experience cultivates client loyalty, customer retention, and advocacy, establishing a strong basis for endeavors in digital transformation. In the context of digital transformation inside enterprises, the integration of smooth and user-friendly interfaces, personalized interactions, and rapid issue resolution emerges as crucial elements in augmenting the overall customer experience. Digital transformation, however, encompasses more than the mere adoption of new technology; it involves the reconceptualization and enhancement of each interaction point along the customer's journey.

Discussion

The study results will contribute to the theoretical framework of the current literature on the subject matter. Previous study has examined the effects of digital transformation (DT) on the performance of firms across several sectors [5]. However, it is crucial to further highlight the significance of customer service, particularly in the service sector, particularly in less developed countries. This study presents empirical findings that demonstrate the predictive capabilities of DT in relation to customer experience, IT innovation, and company success [1]. Furthermore, it is worth noting that a company's financial performance may be positively impacted by both technological advancements in the field of information technology and a strong emphasis on enhancing the overall customer experience. Thirdly, the role of digital technology (DT) is of utmost importance in the successful implementation of service

delivery innovation practices, especially in sectors that are focused on providing services [4]. Moreover, because to its management and organisational attributes, it has the potential to significantly enhance the overall performance of a corporation.

Conclusion

The present study offers a theoretical advancement by extending the existing understanding of the relationship between digital transformation (DT), customer experience (CX), information technology (IT) innovation, and organisational performance in the business context [3]. The competitive landscape of the service industry is undergoing transformation due to the introduction of new technology [14]. Moreover, the discovered outcomes may contribute to future research endeavors that seek to elucidate the impact of internal innovation on a company's financial performance. In the recent era, digital transformation has emerged as a pivotal force reshaping the landscape of industries and societies [12]. The rapid advancement of technology has led organizations to reevaluate and revolutionize their traditional processes, embracing digital tools to enhance efficiency, agility, and customer experience [1]. From cloud computing and artificial intelligence to data analytics and automation, businesses are leveraging a diverse array of digital technologies to stay competitive in an increasingly fast-paced and interconnected world. This transformation extends beyond mere technological adoption; it entails a fundamental shift in mindset, culture, and organizational structures [10]. Companies that successfully navigate this digital evolution find themselves better equipped to adapt to change, innovate, and meet the evolving needs of their customers [3]. As we navigate this digital age, the ability to harness the power of technology becomes not just a competitive advantage, but a necessity for long-term sustainability and growth.



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