

Relationship between Digital Leadership and Organizational Culture: Role of Digital Literacy

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Abstract

This study investigates the influence of digital literacy on leadership styles embraced by organizational leaders and its subsequent impact on organizational culture. The objective is to provide insights that can guide strategic decision-making and leadership development initiatives in the digital age. The research focuses on exploring the relationship between Digital Leadership and Organizational Cultural Changes, with a specific emphasis on the role of Digital Literacy. Primarily quantitative, the research relies on primary data for its insights. A meticulously designed questionnaire is administered to collect the necessary data. The results indicate that a Banking and Financial Services (BFS) manager, aged 31 to 40 years, earning a monthly income between INR 50,001 to INR 1,00,000, regardless of gender, marital status, and education, demonstrates a higher level of perceptions of digital leadership. Conversely, a BFS employee aged above 50 years, earning a monthly income up to INR 30,000, irrespective of gender, marital status, and education, exhibits a lower level of perceptions of digital leadership. Moderation analysis outcomes reveal that the primary connection between perceptions of digital leadership and organizational culture is significant. However, the moderation effect of digital literacy in the relationship between perceptions of digital leadership and perceptions of organizational culture is deemed insignificant. These findings contribute valuable insights for organizational decision-makers seeking to understand the intricate dynamics of digital leadership and its impact on shaping organizational culture in the contemporary business landscape.

Keywords: Digital Leadership, Digital Literacy, Moderation, Organizational Culture.

Introduction

In the dynamic landscape of contemporary business environments, the amalgamation of technology and leadership has given rise to a novel domain known as digital leadership. An exploration of the multifaceted concept of digital leadership, identifying key attributes and competencies required for leaders to effectively navigate the digital landscape. As organizations strive to adapt and thrive in the digital era, understanding the intricate relationship between digital leadership and organizational culture becomes imperative. A comprehensive analysis of the various dimensions of organizational culture, highlighting its fluid nature and its susceptibility to influence from digital leadership practices. This research enquires into this connection, shedding light on how digital literacy plays a pivotal role in shaping and influencing the symbiotic connection between digital leadership and

organizational culture. Digital leadership encompasses the ability of leaders to navigate, leverage, and harness the potential of digital technologies to propel their organizations forward. Digital leadership is a modern concept embraced to signify the use of digital platforms to guide and impact employees' actions toward accomplishing the strategic objectives of the organization (1). Concurrently, organizational culture represents the shared values, beliefs, and behaviors that define the identity of a workplace. Organizational culture contemplates values, beliefs, principles, and the way people work (2). The evolving technological landscape necessitates leaders to not only be proficient in traditional leadership skills but also to possess a high degree of digital literacy – the ability to comprehend, utilize, and innovate with digital technologies. A critical examination of digital literacy as a cornerstone in the relationship between digital

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leadership and organizational culture. Digital literacy isn't a novel tactic for students to acquire the requisite information and knowledge. The ability to utilize technology to access materials is a pivotal component of digital literacy. Initially, the most apparent facet of digital literacy is the internet, which has transitioned from being an auxiliary tool to a fundamental necessity in this era (3). This includes an assessment of how leaders' digital literacy levels impact their decision-making, communication strategies, and overall leadership effectiveness.

Digital literacy acts as a crucial moderator in the relationship between digital leadership and organizational culture by influencing various aspects such as understanding, adoption, innovation, collaboration, change management, communication, transparency, empowerment, and participation. Organizations that recognize the importance of digital literacy can leverage it to enhance the effectiveness of digital leadership initiatives and foster a culture that embraces digital transformation. The primary objective of this research is to investigate the relationship between digital leadership and organizational culture, with a specific focus on the pivotal role played by digital literacy. By examining how digital literacy influences the leadership styles adopted by organizational leaders and the subsequent impact on organizational culture, this study aims to provide insights that can inform strategic decision-making and leadership development initiatives in the digital age.

By investigating digital leadership, organizational culture, and digital literacy, this research aims to contribute to the growing body of knowledge on the transformative impact of digitalization on leadership and organizational dynamics. The findings are anticipated to offer practical implications for leaders, executives, and Human Resources professionals seeking to cultivate a digital-savvy leadership culture conducive to sustained success in the rapidly evolving digital landscape.

Review of the Existing Research Works

The existing research works related to digital leadership, organizational culture, and digital literacy are reviewed in this section to arrive at the research gap. To ensure sustained viability in the

market, every organization must embrace digital innovation. The contemporary workforce increasingly seeks self-organization and empowerment, necessitating the creation of novel structures that cater to the satisfaction of both employees and customers. Transparency poses a significant challenge for organizations, and this study convincingly highlights the imperative of adopting a reverse transparency approach. This approach introduces innovative structures that facilitate control, engagement, and empowerment for both employees and managers, addressing the evolving needs of the workforce (4). The research findings underscore that digital leadership plays a pivotal role in shaping both direct and indirect impacts on customer experience within the context of business model innovation. The indirect effects are mediated through the lens of customer experience orientation, highlighting the intricate relationship between digital leadership, customer experiences, and the evolution of business models (5). While there is widespread acknowledgment and appreciation for the benefits of digitalization in contemporary business environments, managers concurrently grapple with a spectrum of challenges linked to the rapid pace of digitalization and innovation (6). Organizations are recognizing the pivotal role of digitalization and innovation in gaining a competitive advantage. To address this, there is a growing emphasis on identifying and filling the workforce gap with employees possessing digital skills (7). A digital leader is an individual who assumes the roles of a strategist, innovator, and driver within an organization. To effectively fulfill these responsibilities, the digital leader must prioritize the establishment of a robust foundation for these key roles (7).

In contemporary organizations, cultural shifts are a prevalent phenomenon, with many undergoing notable transformations. This study reveals shifts in employee relationships, leading to a reduction in conflicts among employees. The organizational dynamics also show a diminished communication gap between leaders and managers as a result of these changes. Furthermore, there is an observed improvement in overall performance attributed to the cultural shifts within the organization. The

research underscores that the sustainability of these cultural changes is facilitated by the systematic implementation of strategic human resource management practices (8). As the leader of the organization, it is incumbent upon him or her to instigate a culture where employees are encouraged to embrace and assimilate new information and knowledge, ultimately enhancing their efficiency and effectiveness (9).

Organizational culture stands out as a key determinant shaping the behavior of employees within a company. The study discerns a robust connection between this culture and the level of job satisfaction experienced by employees. Additionally, the research identifies several variables – such as pay, promotion, supervision, fringe benefits, contingent rewards, nature of work, and communication – that significantly impact employee job satisfaction. The findings reveal a moderate correlation between these variables and the overall satisfaction levels of employees (10). Digital literacy extends beyond mere awareness of existing technology; it involves imparting critical knowledge on how to use technology effectively. Challenges encountered in this domain include issues related to connectivity, knowledge access, attitudes, and commitment (3).

Digital transformation serves as both a source and a challenge for fostering greater innovation among employees. The evolving landscape of technology is reshaping the workforce, necessitating employees to continuously develop their skill sets for a successful journey in the business realm (11). The infusion of technology not only catalyzes growth but also enhances transparency, promotes eco-friendly practices, and facilitates knowledge creation (12).

In contemporary times, digital literacy has become an essential prerequisite for employment opportunities, routine economic activities, and investments (13). This proficiency empowers consumers to navigate a certain level of risk in their various endeavors. As internet facilities continue to advance, digital transformation is reaching its zenith. The study suggests that digital literacy amplifies the likelihood of engaging in risky investments in the markets (13). Moreover, digital literacy plays a crucial role in maintaining social distance,

particularly during times of pandemics. Organizational culture can vary significantly across different industries, sectors, and organizational contexts. Similarly, the effectiveness and implementation of digital leadership strategies may also vary depending on the specific organizational culture. In such cases, it might be hypothesized that the relationship between digital leadership and organizational culture is not consistently significant across diverse organizational contexts. Digital leadership and organizational culture are complex constructs influenced by various factors beyond digital literacy. While digital literacy is important for leveraging digital tools and technologies, it may not be the sole determinant of how digital leadership initiatives impact organizational culture. Other factors such as leadership style, organizational structure, and employee attitudes may also play significant roles. Thus, it could be hypothesized that digital literacy alone does not significantly moderate the relationship between digital leadership and organizational culture.

Materials and Methods

The research is dedicated to examining the relationship between Digital Leadership and Organizational Cultural Changes, with a specific emphasis on the influence of Digital Literacy. Employing a quantitative approach, the study gathers data through a survey research method, combining both retrospective and prospective analyses. This research is predominantly quantitative, relying on primary data for its insights. To collect the necessary data, a meticulously designed questionnaire is administered. The unit of analysis is employees in the Banking and Financial Services (BFS) sector. The following scales are used to measure the variables. Scales are adopted and employed in the study making no changes in them. For this research, the sample units are bank employees from various banks and employees from the financial services sector, chosen to provide insights into the relationship between digitalization, digital leadership, organizational cultural changes, and the enhanced levels of digital literacy among employees. The study focuses on bank employees and employees from the financial services sector in Bengaluru city, treating them as an infinite

population. Following the recommendations of Krejcie & Morgan (1970) and Malhotra (2009), a sample size of 384 cases is deemed to be universally applicable. The study employs judgment sampling as its chosen sampling technique. This method falls under the category of non-probability sampling

methods. In judgment sampling, the selection of the sample is guided by a specific motive, and the choice of sampling units is entirely based on the preferences and judgment of the researcher. The non-probability sample method has been employed which has a limitation of non-generalization of the results.

Table 1: Variable Measurements

| Scale | No. of Items | Source |
|---------------------------------|--------------|---------------------------------------|
| Organizational Cultural Changes | 30 | Sashkin, M. & Rosenback, W. E., 2013. |
| Digital Leadership | 6 | Sabrina Zeike, 2019 |
| Digital Literacy | 27 | Sabel Rodríguez-de-Dios, 2016 |

Results

The collected data is coded and analyzed using the appropriate statistical tools. The results convey the personal characteristics of the respondents. The sample is even between males and females, with each gender representing 50%. In terms of age distribution, 57.3% fall within the 21 to 30 age bracket, 22.1% are aged 31 to 40, 12% belong to the 41 to 50 age group, and 8.6% are over 50 years old. Educationally, 64.6% have completed graduation, 32.3% have finished post-graduation, and 3.1% have attained qualifications such as the Certified Associate of Indian Institute of Bankers (CAIIB), and Doctor of Philosophy (PhD), among others. In terms of job roles, 56.5% are categorized as "Assistant Managers," 30.5% as "Employees," 6.8% as "Senior Managers," and 6.3% as "Managers." In marital status, 56.2% are "single," while 43.8% are "married." Regarding monthly income, 28.4% earn between INR 30,001 to INR 50,000, 25.5% earn between INR 50,001 to INR 1,00,000, 26.8% earn over INR 1,00,000, and 19.3% earn up to INR 30,000 per month. The gathered data underwent normality testing to ascertain its distribution characteristics. The determination of whether the data is normally distributed or not holds significance in selecting appropriate statistical tools for analysis. Results from both the Kolmogorov-Smirnov and Shapiro-Wilk tests reveal that perceptions of organizational culture, digital leadership, and digital literacy exhibit a normal distribution, as evidenced by p-values exceeding 0.05.

Differences in the perspectives of BFS employees regarding digital leadership are examined based on their characteristics through the application of independent sample t-test and One-way ANOVA. The statistical results reveal the disparities in perceptions of BFS employees regarding digital leadership based on their characteristics using independent sample t-tests and One-way ANOVA. The findings indicate that a BFS manager, regardless of gender, marital status, and education, aged between 31 to 40 years and earning a monthly income of INR 50,001 to INR 1,00,000, exhibits higher perceptions of digital leadership. Conversely, a BFS employee, regardless of gender, marital status, and education, aged above 50 years and earning a monthly income of up to INR 30,000, displays lower perceptions of digital leadership. Further, The findings indicate that a female BFS manager, regardless of marital status, education, and monthly income, aged between 21 to 30 years, exhibits higher perceptions of organizational culture. Conversely, a male BFS senior manager, irrespective of marital status, education, and monthly income, aged above 50 years, displays lower perceptions of organizational culture. The data suggests that a female BFS manager, regardless of marital status, education, and monthly income, aged between 21 to 30 years, demonstrates a higher level of perception regarding digital literacy. Conversely, a male BFS senior manager, irrespective of marital status, education, and monthly income, aged above 50 years, exhibits a lower level of perception regarding digital literacy.

The primary objective of this study is to examine the moderating influence of digital literacy on the core relationship between perceptions of digital leadership and perceptions of organizational culture. The moderation analysis in this study employs Andrew F. Hayes's macro analysis. Specifically, Model 1 of Andrew F. Hayes's macro has been utilized to scrutinize the moderating role of digital literacy in the primary association between perceptions of digital leadership and perceptions of organizational culture (refer to Figure 1)

The model summary presented in Table 2 elucidates the correlation between digital leadership and the organizational culture perceived by the respondents. The findings from Table 2 indicate that the perceptions of digital leadership among respondents contribute to 38.8% of the variance in their perceptions of organizational culture. However,

according to Table 3, the impact of digital leadership perceptions on organizational culture is significant, given the p-value of 0.000. Also, the impact of digital literacy perceptions on organizational culture is considered significant, with a p-value of 0.047. Additionally, the interactive impact of both digital leadership perceptions and digital literacy perceptions on organizational culture is found to be insignificant, reflected by a p-value of 0.397.

Table 4 illustrates the moderation effect of digital literacy in the connection between digital leadership perceptions and organizational culture perceptions. In instances where digital literacy acts as a moderator in the relationship between digital leadership perceptions and organizational culture perceptions, there is a minimal change in R² (0.12%), and the moderation effect is deemed insignificant, as indicated by a p-value of 0.397.

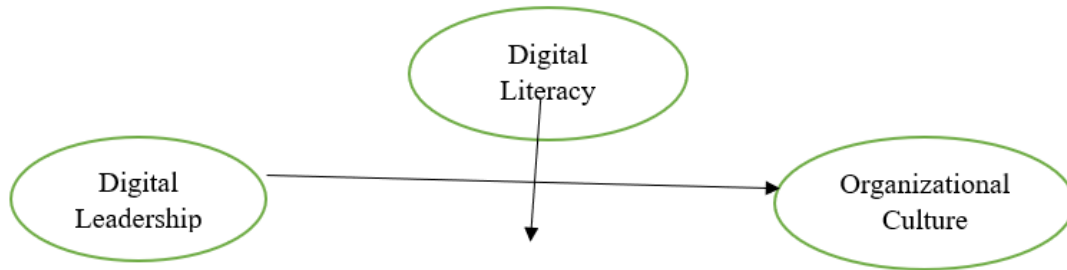


Figure 1: Moderation Analysis

Table 2: Model Analysis

| R | R ² | MSE | F | P |
|--------|----------------|--------|---------|-------|
| 0.6299 | 0.3880 | 0.1324 | 80.3110 | 0.000 |

Outcome Variable: Organizational Culture

Table 3: Model Results

| Particulars | Coefficients | SE | t | P |
|--------------------|--------------|--------|--------|-------|
| Constant | 1.8946 | 0.7641 | 2.4793 | 0.013 |
| Digital Leadership | -0.0743 | 0.2026 | -.3669 | 0.000 |
| Digital Literacy | 0.4097 | 0.2058 | 1.9905 | 0.047 |
| Interaction Term | 0.0451 | 0.0532 | 0.8472 | 0.397 |

Output variable: Organizational Culture

Table 4: Test of Highest-order Unconditional Interaction

| Particulars | R ² Change | F | P |
|---------------------------------------|-----------------------|--------|-------|
| Digital Leadership X Digital Literacy | 0.0012 | 0.7177 | 0.397 |

The results of the moderation analysis, conducted using Andrew F. Hayes's macro and presented in

Tables 2 to 4, indicate that the main relationship between perceptions of digital leadership and

perceptions of organizational culture is meaningful. Additionally, the tables show that the moderating influence of digital literacy on the connection between perceptions of digital leadership and perceptions of organizational culture is not significant.

Discussion and Conclusion

The results of the study provide valuable insights into the perspectives of BFS (Banking and Financial Services) employees regarding digital leadership, considering various demographic characteristics. The statistical analysis conducted on perceptions of BFS employees regarding digital leadership, organizational culture, and digital literacy provides valuable insights into the relationship between personal characteristics and these constructs. As far as digital leadership is concerned, the results underscore the significance of age and income level. BFS managers aged between 31 to 40 years and earning a moderate to high monthly income demonstrate heightened perceptions of digital leadership. This suggests that individuals in this age group and income bracket may possess the necessary skills, experience, and exposure to digital technologies, enabling them to embrace and understand digital leadership initiatives more effectively. Conversely, BFS employees aged above 50 years and earning lower incomes exhibit lower perceptions of digital leadership, indicating potential challenges in adapting to digital transformations or a lack of exposure to digital leadership strategies. Next, the findings regarding organizational culture reveal gender and age as significant factors. Female BFS managers aged between 21 to 30 years exhibit higher perceptions of organizational culture, suggesting that this demographic may be more attuned to the values, norms, and dynamics shaping the organizational environment. In contrast, male BFS senior managers aged above 50 years display lower perceptions of organizational culture, possibly indicating a disconnect or less engagement with the cultural aspects of the organization. Finally, regarding digital literacy, the results highlight gender, age, and managerial level. Female BFS managers aged between 21 to 30 years demonstrate higher levels of perception regarding digital literacy,

indicating their proficiency and comfort with digital tools and platforms. Conversely, male BFS senior managers aged above 50 years exhibit lower levels of perception regarding digital literacy, which may reflect challenges in adapting to or fully embracing digital technologies. These findings underscore the importance of considering personal characteristics such as age, gender, income, and managerial level when examining perceptions of digital leadership, organizational culture, and digital literacy within BFS organizations. Understanding these disparities can inform targeted interventions and training programs to enhance digital competencies and foster a supportive organizational culture conducive to digital transformation.

The results of moderation analysis indicate that there is a significant relationship between perceptions of digital leadership and perceptions of organizational culture. This implies that how BFS employees perceive digital leadership has a meaningful relationship with their views on organizational culture. The analysis using Andrew F. Hayes's macro suggests that the moderation effect of digital literacy in the relationship between perceptions of digital leadership and perceptions of organizational culture is not statistically significant. In other words, the influence of digital literacy on shaping the link between digital leadership and organizational culture is not found to be meaningful in this study.

The study has the following implications.

- The findings underscore the impact of managerial age and income on how digital leadership is perceived within the BFS sector. Younger managers with higher income levels may have more positive views of digital leadership.
- The study highlights the importance of digital leadership in shaping organizational culture within the BFS industry. This suggests that fostering effective digital leadership may contribute to a positive organizational culture.
- The insignificant moderation effect of digital literacy suggests that, in this context, digital literacy does not play a substantial role in modifying the relationship between digital leadership and organizational culture.

These results provide an understanding of the factors influencing digital leadership perceptions and their implications for organizational culture within the BFS sector. Further research and contextual considerations may be necessary to fully comprehend the dynamics at play. By investing in digital literacy training, promoting a culture of learning and experimentation, leading by example, implementing digital leadership principles, utilizing technology for collaboration and communication, and measuring progress, organizations can foster a digitally literate workforce and effectively implement digital leadership ideas to drive success in the digital age.

By embracing digital leadership strategies such as agile leadership and visionary leadership, organizations can cultivate cultures that are primed for the digital age and capable of driving long-lasting organizational change. Effective leadership is essential for navigating the complexities of digital transformation and positioning the organization for success in an increasingly digital and competitive marketplace.

Digital transformation and leadership have fundamentally transformed the banking sector, leading to improved customer experience, operational efficiency, innovation, and market competitiveness. However, banks must continue to adapt and evolve in response to ongoing technological advancements, changing customer expectations, and regulatory requirements to stay relevant in the digital age.

The comprehensive examination of differences in perspectives among BFS (Banking and Financial Services) employees regarding digital leadership, coupled with the results obtained from independent sample t-tests, One-way ANOVA, and moderation analysis using Andrew F. Hayes's macro, yields important insights into the dynamics of digital leadership within this sector. The study reveals a clear distinction in perceptions between BFS managers and employees based on various characteristics. Specifically, BFS managers aged 31 to 40 years, irrespective of gender, marital status, and education, earning a monthly income between INR 50,001 to INR 1,00,000, exhibit a notably higher level of perceptions of digital leadership. On the contrary,

BFS employees aged above 50 years, regardless of gender, marital status, and education, earning a monthly income up to INR 30,000, display a lower level of perceptions of digital leadership. The outcomes of the moderation analysis underscore a significant primary relationship between perceptions of digital leadership and perceptions of organizational culture. This signifies the pivotal role of digital leadership in shaping how employees perceive the organizational culture within the BFS sector. Notably, the analysis indicates that the moderation effect of digital literacy in the relationship between perceptions of digital leadership and perceptions of organizational culture is statistically insignificant. This suggests that, in the context of this study, digital literacy does not play a substantial role in modifying the link between digital leadership and organizational culture.

Abbreviation

Banking and Financial Services (BFS); Certified Associate of the Indian Institute of Bankers (CAIIB); Doctor of Philosophy (PhD).

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Conflict of Interest

The authors have no conflicts of interest to declare.

Ethics Approval

The authors received the consent of the BFS employees to administer the questionnaires from the concerned organization and the concerned individuals.

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