

Does Transformational Leadership Influence Employees' Innovativeness and Mediate the Role of Organisational Culture? Empirical Evidence

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Abstract

This research endeavours to analyze the correlation between transformational leadership and innovative performance within the IT industry in India. It aims to explore whether the prevailing organizational culture influences this correlation. The data for this study was obtained through a comprehensive survey conducted in the Indian IT sector. The participants for the survey were employees working in the IT sector in Tamil Nadu state of India. The findings of this study illustrate that transformational leadership has a positive influence on the innovative performance of individuals. Moreover, the relationship between transformational leadership and innovative performance is moderated by the organizational culture, particularly through the mechanisms of idealized influence and inspirational motivation. These findings have the potential to inspire managers in the Indian IT sector to effectively motivate their subordinates. Furthermore, this study contributes to the existing body of research by offering empirical evidence of the relationship between transformational leadership and innovation in the context of the Indian IT industry. Additionally, it emphasizes the significance of the organizational culture. It is worth noting that no previous study has identified organizational culture as a mediating factor in this relationship within the Indian context. In order to develop the model for this study, the researchers have employed the social learning theory and have also provided suggestions and implications for future research endeavours.

Keywords: Informational technology, Innovative performance, Organizational culture, Transformational leadership, Social learning theory.

Introduction

In the contemporary era, the survival and success of organizations heavily rely on technological innovation. The impact of Transformational leadership (TFL) on organizational culture and creative performance is substantial, as it guides organizations through uncharted waters (1). Transformational leadership, which surpasses control and authority, serves as a potent organizational instrument (2). Numerous studies have provided evidence for the significant role of innovation in enhancing a country's economy and competitiveness. Leaders who exhibit transformational leadership behaviours possess the ability to inspire and motivate their teams, thereby stimulating innovative thinking and calculated risk-taking (3). Such actions hold the potential to establish a culture that fosters innovation. Transformational leaders possess the capacity to shape the organizational culture in a manner that recognizes and supports the

importance of innovation. TFL encompasses the promotion of experimentation, the acknowledgement of creativity, and the development of an environment characterized by openness and collaboration. Organizational culture, which consists of a set of universal principles and rules, fosters an environment that encourages creativity (4). The presence of a positive organizational culture that embraces and promotes innovation can lead to heightened levels of innovative performance. Employees are more inclined to generate and implement new ideas, thereby providing the organization with a competitive edge in the marketplace (5). According to a previous study, one of the essential means to cultivate organizational creativity is through leadership style, as leaders have the authority to introduce innovative concepts, establish specific objectives, and motivate subordinates' innovation activities (6).

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research that has focused on investigating the outcomes associated with transformational leadership (7).

Transformational leadership has been shown to have the ability to maximize the potential of teams, foster a sense of purpose, and encourage the pursuit of excellence (8). However, it is important to recognize that leadership style also plays a crucial role in driving innovation within organizations. In order to remain competitive and enhance their overall performance, organizations must prioritize innovation. The purpose of this study is to examine the relationship between transformative leadership, organizational culture, and innovative performance and to explore how these factors influence one another (9). Innovative performance, referred to as IP, encompasses the extent to which innovation contributes to the improvement of products and processes, ultimately enhancing firm performance. Furthermore, IP serves as a determinant of a business's competitive advantage. In order to assess an organization's intellectual property, various factors such as research and development expenses, patents, and new inventions can be considered. It is worth noting that previous research has commonly utilized research and development expenditure or intensity as an indicator of IP (10).

This study aims to examine the impact of organizational culture on followers' innovative efficiency within the organization, with the support of a transformational leadership style. The effectiveness of employees relies on the support provided by their leader and the culture they foster within the organization (11). Previous research has demonstrated that Organizational Culture plays a crucial role in facilitating the smooth functioning of individuals and groups within the organizational domain, encompassing communal principles, beliefs, and assumptions (12). Moreover, organizations that embrace innovation in the competitive global market are more likely to prosper (13). It is important to acknowledge that innovation is a complex concept that extends beyond the confines of science and technology. Additionally, many managers and management scholars concur that an organization's effectiveness is significantly influenced by its organizational culture. While there is a dearth of empirical studies that offer a

comprehensive understanding of this relationship, the assumption remains deeply ingrained in the minds of numerous researchers (14).

In addition, previous research suggests that the employee's ability to innovate is contingent upon the guidance and support provided by their supervisors, as well as the training and development opportunities offered by the organization. The centralization of the organizational culture plays a mediating role in this equation, as the adoption of an innovative culture and the recognition of employees' creativity serve to enhance their performance (14, 15). The present study aims to address the existing research gap by examining how transformational leaders strengthen the commitment and actions of their followers, energize subordinates to meet industry demands and uphold the values, assumptions, attitudes, and behavioural norms that have become institutionalized. Furthermore, the study will explore the manifestation of these factors in employees' appearance, attitudes, and actions while also considering the mediating influence of organizational culture. Specifically, this research will focus on the inventive performance of employees within a specific IT sector organization in India.

This investigation has been partitioned into five discrete segments. The preliminary segment has furnished an overview of the subject matter at hand and has further delved into great detail regarding the research issues that this research endeavour aims to address. The portion devoted to examining existing literature elucidates the theoretical underpinning for the principal concepts in this particular study. The segment dealing with the materials and methods outlines the approach employed to gather and scrutinize the data, while the segment on results and discussion expounds upon the findings. In conclusion, the section entitled "Conclusion as well as Suggestions for Future Studies" explores the outcomes of this inquiry and guides future investigations.

Transformational Leadership (TFL) is a type of leadership that facilitates the exchange of ideas between leaders and subordinates. It involves the presence of idealized influence, inspiring motivation, intellectual stimulation, and

individualized consideration. TFL is generally esteemed, valued, and emulated by role models, motivating followers to abandon their preexisting perceptions and adopt ethical behaviour. This form of leadership entails a proactive leader who stimulates change, enhances collective advantages, and supports team members in achieving extraordinary objectives. Organizational Culture (OC) defined as the fundamental principles, procedures, beliefs, and assumptions that are deeply ingrained in an organization's structure by Denison in 2012. They categorized OC into four dimensions: participation, coherence, adaptability, and purpose. The Denison Organization Culture Survey (DOCS) model is widely accepted in IT organizations and is considered a foundational tool with a strong ability to predict OC. This study demonstrates a positive association between Transformational Leadership (TFL) and Organizational Commitment (OC). This association is grounded in Social Learning Theory (SLT), which posits that employees imitate their leaders, as leaders significantly influence the establishment of productive OC in the workplace. Transformational leadership fosters desired behaviour and creativity in employees. According to the SLT, individuals who observe transformational leaders perceive them as agreeable and trustworthy, leading to the emulation of their behaviour. This leadership style is characterized by fairness, truthfulness, accessibility, principles, and reliability. It entails an ideal model of a morally upright individual or leader who encourages the exchange of information and ideas among their mentees. The relationship between leaders and OC is reciprocal, as comprehending one factor necessitates considering the other.

TFL on innovative performance

Charismatic leadership, also known as transformational leadership, is a leadership style that is based on the concept of a visionary leader who can bring about change in individuals or employees. According to the principles of social learning theory, employees learn by observing the behaviour of their managers and acquiring attitudes through mutual interactions (16). Transformational leaders (TFL) fulfil their social responsibilities by promoting innovative performance. They enhance the capacity of

employees to perform by inspiring and motivating them to generate new and original ideas. As a result, these leaders are commonly referred to as motivating, influential, and inspirational. Through the use of inspirational motivation, leaders are able to enhance the performance, capabilities, and qualities of their employees. Transformational leaders also facilitate the acquisition of new perspectives by increasing awareness of the problem at hand. Palupi (2020) has argued that leadership plays a crucial role in small organizations and has a significant impact on the company's competitive advantage (17). As such, the operation of transformational leadership is now recognized as an important factor in influencing innovation. Leadership can have an impact on organizational innovation by setting clear objectives, providing innovative ideas, and encouraging innovative activities among subordinates (18).

According to study, there is a wealth of research that demonstrates the importance of leadership style in fostering creativity, particularly when working with self-directed teams. However, Jung *et al.* in 2003 have argued that the current understanding of the relationship between leadership style and the depth of innovation needs to be improved (19). It is essential for a leader to actively promote group dynamics and procedures in order to create a sense of identity that fosters the necessary elements of trust and collaboration required to transform visionary ideas into revolutionary products and services. (20). Stanescu *et al.* (2020) have emphasized the effectiveness of transformational leaders in fostering creative and innovative goals (21). Transformational leadership is said to encompass a combination of positive behavioural components that are known to enhance performance and promote innovation among followers within organizations (17, 18).

H1: Transformational leadership positively impacts innovative performance

TFL on Organizational culture

In the available literature, a considerable number of articles have provided evidence of a strong and significant correlation between transformational leaders and Organizational Culture (OC) (22–25). Conversely, the positive connection between Transformational Leadership and Organisational Culture was derived from the framework of Social

Learning Theory (SLT), as proposed by Bandura and Adams in 1977. This theoretical concept posits that individuals acquire new knowledge by observing the behaviours of others and subsequently replicating those behaviours within an organizational context. Thus, it can be inferred that employees within an organization are inclined to emulate their leaders, as leaders wield substantial influence over the establishment of an effective OC within the workplace. Additionally, a reciprocal relationship exists between the leader and the OC, as both components are interdependent and must be understood in conjunction with one another. This notion is further supported by the findings of (26), who confirm that transformational leaders contribute to the enhancement of organizational culture in Dubai's service sector.

Furthermore, Shea et al. (2023) conducted a study that directly linked TFL to OC, revealing that transformational leaders play a crucial role in fostering an effective OC (14). Likewise, Firdaus et al. (2023) examined the significant association between TFL and OC at Harapan Mulia Hospital. Although limited research has been conducted on the impact of TFL style and OC on employees' innovative performance, a few studies have discovered that TFL and OC exert a positive influence on innovative processes in both Western Culture and India (27). In a comprehensive review conducted by Newman and Ford in 2021, the authors elucidated the strategies through which leaders can cultivate a sustainable OC by valuing innovative ideas and actively involving team members, thereby implementing a corporate values declaration that promotes innovative performance (28).

H2: TFL positively impacts on Organizational Culture

Organizational culture on innovation performance

The influence of workplace culture on the working environment is of great significance. In the KBV theory on organizational culture, personal ideas are regarded as valuable intangible assets that make a substantial contribution to corporate development (29). Organizational culture encompasses the value placed on employee initiative and positive approaches, as well as the observable characteristics exhibited by the organization (14). Although creativity is

inherent in individuals or teams, it is through organizational change that it can be effectively harnessed. Hence, organizational culture plays an indispensable role in facilitating knowledge-sharing and nurturing creative minds to achieve organizational success (15). An alternative perspective suggests that a culture of this nature would eliminate any activities or management practices that impede innovation, such as rigidity, predictability, and stability.

Moreover, it symbolizes the dynamic nature of employees, with communication and reinforcement occurring through language, behaviour, relationships, emotions, tangible objects, physical environments, and symbolism (30). Research has established that the potential for innovation only emerges when an innovative culture is fostered within groups. Novel approaches must be implemented to enhance creativity within the organization to ensure the effectiveness of this process (31). The correlation between advancements in products and services is intricately linked to the requirements of the intended clientele and the level of demand in the market, both of which must be promptly met (31). The impact of organizational culture on crucial outcomes, such as productivity, innovation, and financial performance, is significant (22). A strong organizational culture is characterized by motivating individuals to actively seek solutions to challenges and foster collaboration through the exchange of information and commitment to cultural norms (24). By promoting employee creativity and creative behaviour, a strong organizational culture can greatly enhance innovation as a pivotal element of the organization (31). Given its association with innovation, it is advisable to minimize formal rules and regulations and instead create an open and receptive environment that fosters the flourishing of creative ideas (32).

H3: Organizational culture positively significant on innovative performance

Methodology

The proposed research inquiries in a cross-section are addressed by the existing research, and data from the respondents is collected using a purposive sampling technique. This research aimed to evaluate the determinants of Organizational Culture on the innovation

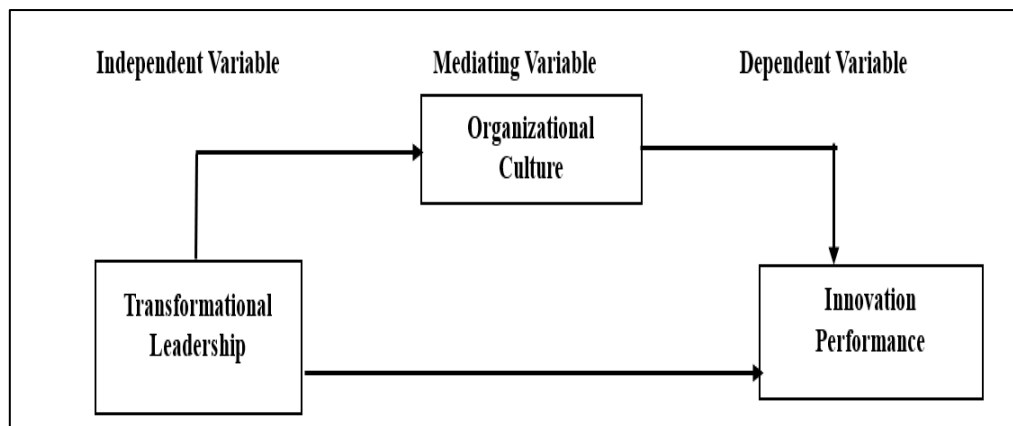


Figure 1: Conceptual model

performance of the Information technology or Indian software industry (Nasscom the Trade Association of Indian IT-BPM Industry, 2023). The measurement of organizational culture in this study utilized a two-item measurement to assess OC (33-35). Likewise, the assessment of innovation performance in this particular study was conducted using a scale consisting of three items (36-38). The transformational leadership scale employed six questions from (34). The data collection process involved the administration of a well-designed questionnaire to employees working in software companies nationwide through Google Forms. A total of 389 responses were found to be complete and were used as a sample for the current investigation. Prior to distribution, experts carefully reviewed and evaluated the actual instrument. The survey was conducted between June and September 2023. To explore the interrelationship among variables, PLS-SEM 3 was utilized. The measuring tools previously published for organizational culture,

innovation performance, and transformational leadership were all integrated into this study. In this survey, a five-point Likert scale was used to gauge the level of agreement or disagreement, a commonly employed tool in previous studies examining the correlation between Transformational leadership, organizational culture, and innovation performance.

Results and Data analytics

The evaluation of the outer model of the measuring model using PLS-SEM constitutes the preliminary stage in the analysis of the research model. The present investigation employed a reflective model to assess first-order constructs. The measurement model is appraised through two approaches, specifically, first-order construct and second-order construct. First-order measurement models are statistical models employed in research to represent the relationship between a latent variable and observable indicators (38, 39).

Table 1: Measurement items assessment

| Variable | IP | OC | TL | α | Mean | VIF | St. dev |
|-----------------------------|-------|-------|-------|----------|-------|-------|---------|
| Innovative Performance | 0.859 | | | | 3.69 | 1.695 | 1.011 |
| | 0.826 | | | 0.799 | 3.658 | 1.638 | 1.044 |
| | 0.847 | | | | 3.65 | 1.826 | 1.007 |
| Organizational Culture | | 0.840 | | | 3.638 | 1.307 | 0.998 |
| | | 0.882 | | 0.753 | 3.638 | 1.307 | 1.033 |
| Transformational Leadership | | | 0.743 | | 3.564 | 1.487 | 0.957 |
| | | | 0.724 | | 3.547 | 1.537 | 0.963 |
| | | | 0.779 | | 3.658 | 1.695 | 0.936 |
| | | | 0.749 | | 3.638 | 1.645 | 0.941 |
| | | | 0.799 | | 3.69 | 1.503 | 0.903 |
| | | | 0.711 | 0.814 | 3.635 | 1.362 | 0.947 |

Factor loading is a statistical measure utilized to assess the alignment between an item and an underlying concept. It is generally recommended to have a factor loading of at least 0.70. However, in the field of social science research, it is often observed that lower outer loadings are present. In such cases, indicators with a factor loading of 0.50 or below should be excluded unless there is compelling evidence to justify their inclusion based on measurement theory. The findings presented in Table 1 illustrate that factor loading serves as an indicator of how first-order construction factors are associated, surpassing the threshold of 0.70. Furthermore, the assignment of dimensional indicators, such as organizational culture, transformational leadership, and innovative performance, proved to be predictive of these constructs.

The Heterotrait-Monotrait (HTMT) ratio is a frequently employed method for evaluating the discriminant validity of lower-level constructs in a measurement model. Discriminant validity refers to the degree to which a construct can be differentiated from other constructs under investigation and is a pivotal factor in ensuring

construct validity. An HTMT ratio value below 0.9 indicates satisfactory discriminant validity, whereas a value equal to or greater than 1.0 suggests a lack of validity. The HTMT Criterion values for Discriminant Validity necessitate that each construct possesses an HTMT ratio below 0.9, thus indicating the presence of discriminant validity within the study.

The researchers provided supporting evidence to establish the validity of convergence by illustrating that all of the items pertaining to the construct displayed outer loadings that exceeded the threshold of 0.5. Furthermore, the extracted average variance (AVE) in each construct exceeded the same threshold. Additionally, the composite dependability ratings surpassed the recommended value of 0.7. The AVE was utilized to evaluate the extent to which the latent construct accounts for the variability in the overall indicators. The values presented in Table 3 demonstrate that these measurements ranged from 0.532 to 0.635, which is higher than the suggested threshold of 0.5. Consequently, the measurements exhibit a substantial level of convergence validity.

Table 2: HTMT correlation ratio

| Variable | IP | OC | TL |
|-----------------------------|-------|------|----|
| Innovative Performance | | | |
| Organizational Culture | 0.726 | | |
| Transformational Leadership | 0.824 | 0.88 | |

Note: IP = Innovation Performance; OC = Organization Culture; TL = Transformational Leadership

Table 3: Construct reliability and validity assessment

| Variable | Cronbach's Alpha | rho_A | CR | AVE |
|-----------------------------|------------------|-------|-------|-------|
| Innovative Performance | 0.799 | 0.805 | 0.881 | 0.713 |
| Organizational Culture | 0.653 | 0.662 | 0.851 | 0.741 |
| Transformational Leadership | 0.814 | 0.827 | 0.865 | 0.517 |

Note: The acronym AVE represents Average Variance Extracted, while CR represents Composite Reliability.

Table 4: Valuation of impacts and effect sizes

| Measure | F square | | | R Square | Adjusted R ² | Q square |
|-----------------------------|----------|-------|-------|----------|-------------------------|----------|
| | TL | OC | IP | | | |
| Transformational Leadership | - | 0.744 | 0.479 | - | - | - |
| Organizational Culture | - | - | 0.178 | 0.427 | 0.425 | 0.312 |
| Innovative Performance | - | - | - | 0.644 | 0.642 | 0.449 |

Structural Model Assessment

The structural model showcases the components suggested in the analysis framework. The significance of a structural model is determined through the implementation of paths. The PLS-SEM methodology utilizes four distinct techniques, namely SRMR, coefficients of correlation R^2 , F^2 for evaluating the effect size testing, and Q^2 to assess predictive relevance.

The quantification of R^2 enables a quantitative assessment of the variability of the dependent variable that can be attributed to the independent variable within the established framework. A value of 0 denotes the absence of variability, while a value of 1 signifies the entirety of the variation. F-square functions as a measure of the strength of the correlation between a categorical predictor variable and a continuous outcome variable. In accordance with (40-41), F^2 is commonly

employed to indicate the magnitude of the effect, with values such as 0.02 signifying a minor effect, while a value of 0.15 is associated with a medium effect. Lastly, a value of 0.35 is observed as a strong effect. F^2 can range from 0 to infinity, with larger values indicating a more pronounced impact. The assessment of a model's predictive relevance, Q^2 , serves as a technique for evaluating its predictive value once it has been confirmed to be reliable and suitable for use by external parties. The predictive value of a model is evaluated through Cross-Validated Communality (CVComm) and Cross-Validated Redundancy (CV-Red). A score of 0.26 is considered statistically significant, while a score of 0.13 represents a moderate level, and a score of 0.02 is considered minor. These metrics serve to uphold the reliability and validity of the model when applied in external contexts.

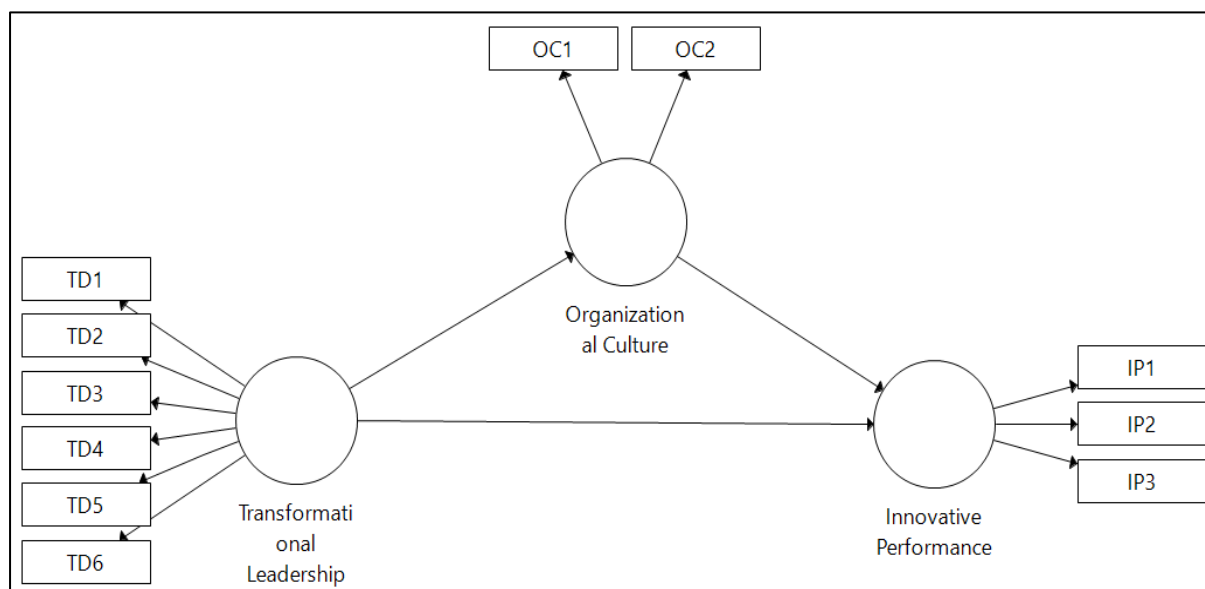


Figure 2: A structural model assessment

Table 5: Direct effect

| Hypotheses | B | Mean | ST.D | T Stat | P Values | Decision |
|---|-------|-------|-------|--------|----------|----------|
| Organizational Culture -> Innovative Performance | 0.332 | 0.332 | 0.06 | 5.503 | 0 | Accepted |
| Transformational leadership -> Innovative Performance | 0.545 | 0.546 | 0.058 | 9.322 | 0 | Accepted |
| Transformational leadership -> Organizational Culture | 0.653 | 0.655 | 0.034 | 18.964 | 0 | Accepted |
| Transformational leadership -> Organizational Culture -> Innovative Performance | 0.217 | 0.218 | 0.043 | 4.999 | 0 | Accepted |

Research on the current topic has been conducted by (14, 42, 43). Furthermore, the participation of transformational leaders plays a vital role in establishing a positive environment by actively engaging employees in promoting innovative performance. Additionally, the path analysis discovered a noteworthy and positive connection between transformational leadership and organizational culture, providing support for Hypothesis 2 (P value = 0.000, b = 0.653). This positive correlation suggests that transformational leaders demonstrate intelligence in fostering trust at high levels through organizational principles, such as screen declarations, value statements, and other symbols, in order to uphold the organizational culture. The findings are consistent with previous studies conducted by (9,44,45). Moreover, the findings demonstrated a significant and favourable relationship between organizational Culture (OC) and innovative performance (IP), supporting Hypothesis 3 ($\beta = 0.332$, p-value = 0.001). This positive relationship indicates that organizational culture plays a crucial role in facilitating the successful implementation of innovative performance. These results align with prior research (46).

The present investigation utilized the bootstrapping approach in order to quantify the indirect effects of the theoretical mediation model, which was recognized and developed by (46). The structural model of the study is depicted in Figure 2, which also illustrates the indirect

mediating influence as well as all of the components that loaded the variables and indicators. The parameter estimations for the direct influence of the proposed model are displayed in Table 5. Initially, the findings of the analysis revealed a robust positive association between TFL and IP (b = 0.546, p-value = 0.000, H1 supported as valid). This affirmative relationship indicates that IP can effectively enhance employees' trust in a novel situation, particularly when inspirational managers possess the ability to inspire followers through individual attention and the recognition of their value. Previous research has also provided support for this conclusion (47).

This affirmative organization has concluded that Organizational Commitment (OC) plays a partial role in acting as a mediator between Transformational Leadership (TFL) and Innovative Performance (IP), thus addressing the existing gap in research. The observation above indicates that leaders who demonstrate transformational characteristics possess the ability to manage the performance of their employees effectively and efficiently innovatively. This managerial approach encompasses elements such as involvement, adaptability, consistency, and a focus on the mission. Furthermore, it is expected that the behaviour of leaders will have a significant impact on motivating and influencing employees to incorporate cultural aspects into the implementation of innovative performance.

Table 6: Indirect effect

| Hypotheses | B | Mean | STDEV | T Stat | P Values | Decision |
|---|-------|-------|-------|--------|----------|----------|
| Transformational leadership -> Organizational Culture -> Innovative Performance | 0.217 | 0.218 | 0.043 | 4.999 | 0 | Accepted |

Table 7: Total effect

| Hypotheses | β | Mean | St.D | T Stat | P Values | Decision |
|---|---------|-------|-------|--------|----------|----------|
| Organizational Culture -> Innovative Performance | 0.332 | 0.332 | 0.06 | 5.503 | 0 | Accepted |
| Transformational leadership -> Innovative Performance | 0.762 | 0.764 | 0.03 | 25.12 | 0 | Accepted |
| Transformational leadership -> Organizational Culture | 0.653 | 0.655 | 0.034 | 18.96 | 0 | Accepted |

Discussion

The study makes a quadruple contribution, which can be identified in the following manner. Firstly, it contributes to the existing knowledge domain of Innovative performance by providing theoretical inference through the utilization of social cognitive theory (9, 42, 47). This particular assumption establishes a connection between Transformational Leadership (TFL) and Innovative Performance (IP). Secondly, within the Indian IT industry, organizational culture is defined as a major intervenor between TFL and IP, and this study confirms the empirical model that supports this relationship (48–50). The validation of this model is based on the principles of social learning theory (SLT) and simplifies the mediation effect of organizational culture. The social learning theory argues that individuals acquire knowledge by observing the outcomes of others' actions (51). Thirdly, our research contributes to the existing body of research on the growing significance of organizational culture as a mediating factor in the relationship between TFL and IP in Western countries (18, 27, 50). The research mentioned earlier plays a crucial role in advancing knowledge in the fields of human resource management and organizational behaviour within the unique context of India. Moreover, the exploration of innovation culture within the IT sector remains an unexplored area in current studies, thus limiting their relevance. These findings have significant implications for future researchers in their endeavours. From a pragmatic perspective, the current investigation provides valuable insights into the increasing significance of organizational culture for scholars and practitioners. This phenomenon becomes more discernible and prominent through the astute actions of senior management. Initially, these courses can be utilized by information technology (IT) to plan for future workforce development and educate leaders about desirable traits (25). Subsequently, this study offers implications for top-level management to design training initiatives that cultivate appropriate leadership styles and foster a positive work culture that embraces change. Furthermore, this study will create future leaders who will enhance their innovative performance by incorporating strategies that promote effective leadership and foster a favourable organizational culture, thus

facilitating the smooth implementation of organizational change initiatives. In contemporary times, technology plays a pivotal role in optimizing efficiency; therefore, focused technology training courses and professional development at work may successfully build leadership skills and create an effective organizational culture, thereby enhancing employee performance creatively (11). Lastly, it is also recommended that the IT sector utilize leadership abilities equipped with critical qualities to act as an advocate and mentor for other departments. In conclusion, it can be argued that the successful implementation of Innovative Performance requires strong support from transformational leaders and a fully developed organizational culture.

Theoretical and practical implications

This study carries significant theoretical implications for the body of literature on transformational leadership, worker innovation efficiency in the IT industry, and organizational culture in the field of Information Technology. The present findings deepen our understanding of the factors that influence leaders' decisions to engage in innovative performance. This is because transformational leadership underscores behaviour that is considerate towards others, thereby stimulating followers to contribute their ideas and actively participate in the decision-making process (52). Moreover, it highlights the importance of cultivating an inspiring and thought-provoking demeanour that encourages analytical thinking and the development of unique solutions (24). By leveraging the support of the organizational culture, leaders can establish an environment that fosters the emergence of creative ideas (17). This can be accomplished by motivating followers to generate novel ideas, displaying confidence in their abilities, and refraining from assigning blame in the event of idea failure (18). The Social Exchange theory also alludes to the reciprocal exchange of socio-emotional resources between leadership and followers (53). In accordance with this theory, employees who perceive that they have supportive relationships with the organization are more likely to exhibit positive attitudes and engage in behaviours that contribute to its overall performance (8).

The findings of this study have practical implications for managers in terms of leadership practices that can be advantageous for employees (2). These practices include instilling inspirational motivation, effectively communicating a vision for the future workplace, actively soliciting employee input in the planning and execution process, and providing personalized opportunities for workers to address their concerns (54). In order for an organization to successfully implement a transformation, its culture must align with the change, and management must provide a clear and persuasive rationale for why the transition is necessary and how it will benefit employees (25). To achieve optimal outcomes, it is imperative to supplement the top-down approach, as exemplified by the primary case, with bottom-up idea-sharing and the encouragement of employee innovative performance (9).

Limitations and Future directions

The study has limitations in certain aspects. The study's conclusions cannot be extended to different locations and mixed performance since only employee innovative efficiency was considered. Future studies should include a larger sample size. The researchers only focused on fundamental structures and did not analyze other facets. Future studies could explore facet-wise analysis. The current research overlooks positive correlations and the mediation effect of factors in performance and culture. Future research could incorporate innovative cultures and other teams. The study uses a cross-sectional approach, so cause and effect cannot be explored. Findings from a longitudinal analysis could be different. The research is limited to the top 10 IT firms in a specific area. Future studies could expand to include the Asia-Pacific region. Future research could use more advanced instruments and include more constructs. Future studies could examine different approaches to leadership and their impact on team efficiency and creative performance decision-making. The present research focused on the impacts of transformational leadership on creative performance within the organizational culture framework. Future research should also focus on knowledge analysis and training.

Conclusion

Numerous research endeavours have extensively examined the relationship between transformational leadership, organizational culture, and employees' innovative performance. However, despite a limited number of studies conducted in the IT sector in India regarding innovational performance, there is still a pressing need for a comprehensive exploration of this subject. The significance of the current study lies in its novelty, as no previous study has investigated the role of organizational culture as a mediator in the relationship between innovative performance and transformative leadership, specifically focusing on workers in the Indian IT industry who are involved in innovation. While most prior studies have primarily concentrated on the impact of employees on influencing variables in innovative performance, neglecting the crucial roles of leaders or both have been equally explored in this study. This study has significantly advanced our understanding of organizational culture by actively contributing and rigorously validating an empirical and conceptual framework. This valuable theoretical inference builds upon previous research in this field.

Furthermore, it has emerged as a critical intervening variable, effectively bridging the gap between the independent variables and the outcome of innovative performance within the IT sector. Team members must interact and assess information promptly to make the most suitable decision for enhancing innovation performance. Including knowledgeable employees is essential in achieving sustainable innovation performance and effective decision-making in today's rapidly evolving global markets. Followers possess trust, admiration, loyalty, and reverence towards their leader, enabling them to effortlessly surpass the expected workload. Leaders, utilizing their charisma and intelligence, bring about changes and inspire their followers.

Abbreviations

IT: Information Technology
 TFL: Transformational Leadership
 IP: Innovative Performance
 OC: Organizational Culture
 DOCS: Denison Organization Culture Survey
 SLT: Social Learning Theory

PLS-SEM: Partial Least Square Structural Equation Modelling

HTMT: Heterotrait-Monotrait

AVE: Extracted Average Variance

SRMR: Standardized Root Mean Squared Residual

CR: Composite Reliability

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Authors' contributions

Dinesh Babu has initiated this study by formulating the introduction and conducting a comprehensive analysis of the relevant literature. He has devised a questionnaire and additionally formulated the discussion and conclusions pertaining to this study. The collection, organization, and purification of data were also undertaken by him.

Bijay Prasad Kushwaha has formulated the study and devised the research framework. He has further undertaken the data analysis and provided interpretations thereof. The complete manuscript has been meticulously reviewed and revised by him.

Conflict of interest

The authors declare no conflict of interest.

Ethical approval

Not applicable

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