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The Effects of Entrepreneurial Leadership, and Transformational Leadership on Innovation Behavior



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p-ISSN: 2521-2974

e-ISSN: 2707-0093

L-ISSN: 2521-2974

Citation: Irshad, M., Ziaullah, M., & Hayyat, A. (2023). The Effects of Entrepreneurial Leadership, and Transformational Leadership on Innovation Behavior. *Global Economics Review, VIII(II)*, 317-333. [https://doi.org/10.31703/ger.2023\(VIII-II\).24](https://doi.org/10.31703/ger.2023(VIII-II).24)

Abstract: *This study examines the impact of entrepreneurial and transformational leadership on employee innovative behaviour, mediated by an innovation climate with intellectual agility and moderated by intrinsic motivation. Data from 341 full-time IT sector employees in Pakistan were collected using a self-administered questionnaire. Structural equation modelling was employed for analysis. Results indicate that both leadership styles enhance employees' intellectual agility and innovative behaviour. The study underscores the significant role of innovation climate in fostering innovative behaviour. Furthermore, intrinsic motivation moderates the relationship between transformational leadership and innovative behaviour. These findings empower leaders to foster innovation, cultivate conducive environments, and encourage open idea-sharing. The study sheds light on implications, limitations, and avenues for future research.*

Key Words: Entrepreneurial leadership, Transformational Leadership, Innovation climate, Intellectual agility, Intrinsic Motivation

JEL Classification:

Introduction

Entrepreneurial behaviour is crucial for the maintenance of inventiveness, adaptability, and innovation in the present business climate, which is challenging and uncertain. “(Anderson, B. S., Eshima, Y., & Hornsby, J. S. (2019). Li, C., Makhdoom, H. U. R., & Asim, S. (2020). Prior research (Janssen, van de Vliert and West, 2004; Birkinshaw et al., 2008)” have believed creativity is an essential part of

keeping a business competitive edge over its foes and ensuring the organization's long-term success and survival. So, a big part of how well a group does rests on how well it can come up with new ideas. (Dunne et al., 2016). In nowadays fast-paced more complicated business climate, continuous innovation is the single most important factor in a company's success, growth, and competitive advantage. The link between invention and

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entrepreneurship, however, has not been fully explored. (Landström, Åström, & Harirchi, 2013; Maritz & Donovan, 2013). Argued that innovation is the outcome of entrepreneurship rather than an instrument of entrepreneurs. Although leadership has frequently been considered in earlier assessments of creativity and invention, it is typically only briefly described or mentioned as a topic for further investigation. (Anderson et al., 2004; 2014; Rank, Pace, & Frese; Zhou & Shalley) .

Scholars and practitioners are paying more and more attention to the crucial task that leaders participate in motivating with guiding their teams' innovative behaviour. Leadership The empirical research on the responsibility of private enterprises in fostering innovation within large enterprises has garnered significant attention. The interconnection between entrepreneurship and creation is commonly portrayed as indivisible in literary works. (Fagerberg, Fossas, & Sappprasert, 2012). away from the importance of direction for managerial novelty, The primary determinant in cultivating creativity within an organisation is the presence of suitable leadership. (Oke, Munshi, & Walumbwa, 2009).

Given the different available leadership styles along with managerial Chartrastics, it is vague pardon constitutes outstanding leadership or organizational climate for start-ups looking to encourage innovative behaviour among their staff. Given the importance of start-ups to the general market and the plenty of leadership text, it is amazing to present so slight research or consensus on the organizational characteristics or leadership philosophies that work best for start-ups.

Numerous studies on leadership have recognized a collection of leadership behaviours referred to as "transformational," which have been consistently demonstrated to be more efficacious in cultivating organizational creativity compared to alternative leadership philosophies. Previous research has indicated that transformational leaders had a greater ability to uphold the values and norms of their followers, as well as

facilitate both managerial and individual transformations. (Jung, Chow, & Wu, 2003).

Transformational leaders possess the capability to facilitate organizational innovation through the growth of inspiration and aptitude among individuals in the organization, hence fostering creativity and innovation. et al., 2016). They inspire and motivate individuals to challenge conventional thinking and explore innovative approaches in order to enhance organizational effectiveness and adaptability. This leadership style fosters a culture of creativity and encourages employees to aggressively connect in problem-solving in addition to decision-making processes, leading to the generation of novel thoughts and solutions for improving managerial structures, processes, and practices.

The most important reason for this research is to inspect the innovative behaviour exhibited by staff and the influential function that leaders engage in recreation in facilitating and augmenting such behaviour. Prior research has established that the extent to which individuals engage in innovative activity is heavily influenced by their interactions with colleagues inside the organizational context (Anderson et al., 2004; Zhou and Shalley, 2003). Influences generally contain a big impact on how well their team members perform.

According to Amabile's (1983) Componential Theory of Creativity, a person's Although required, intrinsic motivation is not enough for them to produce original and constructive thoughts on their own. Involvement in the innovation process has the same or greater impact on creative behaviour as disengagement. (VinarskiPeretz & Carmeli, 2011). The Theory of Regulatory Engagement, in particular, contends that a person's experiences throughout the pursuit of goals will impact the degree of course meeting and, consequently, the impact of impulse on the consequences of behaviour (Higgins, 2006; Higgins & Scholer, 2009).

The alternate categorization of contemporary several types of leadership

ethical, authentic, and servant leadership, has also been the focus of recent scientific investigations. Several researchers have The concept of servant leadership was subjected to analysis, including Wang et al. (2019), and Rego et al. (2014), with others. Javed et al. (2019) did research that centred on the topic of ethical leadership. The authors According to the authors of this study, in order for an organisation to achieve success in a complex and dynamic work environment through innovation, it is imperative for leaders to facilitate the locating and making use of entrepreneurship.

In light of this, the study's goal construct a theoretical mould that explains how EL and TFL preserve and encourage innovative behaviour to look into the parts that IC, EIA, and CSE participate as mediators of this connection. Our study fills up a number of gaps in the current knowledge. By investigating the connection between EL, TFL, plus employee inventiveness through the mediating mechanisms of IC, EIA, and CSE. This research aims to fill the gap in the literature. Our comprehension of the connection connecting TFL and EIB as well as the moderating effects of intrinsic motivation will be strengthened by this study's use of social cognitive theory (SCT).

There are four parts to this inquiry. Here is a synopsis of the various theories and notions that lend credence to the proposed model. The study's methods, samples, and quantitative and qualitative indicators are discussed below. Quantitative data, such as model fit and hypothesis testing outcomes, are presented in the preceding section. Implications, restrictions, and potential future research avenues are discussed.

Theory and Hypotheses Development

Social Cognitive Theory

We develop a study model by means the goal of this research is to improve upon the knowledge by using Bandura's (1986) social cognitive theory focusing on the mediate roles of IC and EIA in the connection involving entrepreneurial leaders and EIB. The social

cognitive theory offers a structure for comprehending, and forecasting, by altering behavioural patterns in people. In SCT, an individual's thoughts, deeds, and interpretations have an impact on how they engage with behaviour. In addition, the connection between a person and their environment frequently involves the shaping and alteration of cognitive capacities and human beliefs due to societal influences and physical features of the surroundings. The last interaction involves both the environment and behaviour and consists of how a person's actions influence the features of their surroundings, which in turn influence their actions (Bandura, 2005). Bandura's social cognitive theory, as posited in 1986, suggests that there is a dynamic and significant connection between an individual's actions and the things in their environment and themselves. Based on the existing framework, Bandura postulated that various human traits, such as thought, emotion, and physiological occurrences, engage in reciprocal relationships with behaviour, the environment, and each other; he called this concept "triadic reciprocity." When compared to other learning theories, the social cognitive theory stands out due to the importance it places on thought in the self-environment-behaviour triad. The probe was done by Hmieleski and Baron in 2009. According to Bandura, the way an individual views their own actions affects the way they interact with their surroundings, which in turn affects the course of their conduct in the future.

Entrepreneurial leadership and Innovative Behaviour

In accordance with the findings of Bagheri et al. (2013), entrepreneurial leadership is the aptitude of the leader to create a compelling vision for the company while motivating and guiding employees to work hard to fulfil the goal. A special type of leadership known as entrepreneurial leadership is essential to deal with obstacles and problems next to various phases of managerial improvement (Gupta et al., 2004). Through many the development of the organization through challenging times

and advancement, this leadership approach equips leaders to efficiently organize their teams and handle conflicts (Chen, 2007; Lydon & Swiercz, 2002). Additionally, it has a significant impact on leaders' capacity to see new prospects for improving the performance of the business (Okudan & Rzasa, 2006; Pihie et al., 2014). But there is still a lot of disagreement on what entrepreneurial leadership is and what its qualities should be (Leitch and Volery, 2017; Rangwala, 2018).

We propose with the intention of entrepreneurial leaders should empower plus give confidence to their staff to be familiar with and moreover take advantage of business opportunities in the place of work (i.e., innovate) as well as act in an entrepreneurial manner. The examination is conducted through the framework of social cognition theory, as proposed by Bandura (1986, 1988). In the current research, the concept of entrepreneurial leadership (EL) is employed to refer to a strategy in which leaders not only foster and endorse the entrepreneurial behaviour of their employees but also act as exemplars by doing it themselves. Given these theoretical underpinnings, we recommend the hypothesis:

H1: Entrepreneurial leadership positively correlated with innovative behaviour.

Entrepreneurial Leadership and Innovation Climate

According to Schneider (1983), Research on office climate focuses on how human resources' perceptions of their surroundings influence their behaviour and attitudes. When assessing the impact on employees, early climate scholars frequently used wide, worldwide conceptualizations of "work climate." However, there was little agreement on how it ought to be described and considered. According to Glick (1985), James (1982), and James, Joyce, and Slocum (1988), as well as whether it is suitable, to sum up each person's perceptions next to the set or managerial level (Glick, 1985). As a result, experts in occupation climate started to centre more carefully on the exact types of work

climates, like the justice climate. (Naumann & Bennett, 2000), protection climate (Zohar, 2000), and innovation climate (Anderson & West, 1998). The issue of definitional and theoretical ambiguity surrounding global work climate metrics has been partially resolved with the implementation of this limiting emphasis. (Schneider, 1983).

The term "innovation climate" (besides referred to by other academics as the concept of a "climate for innovation" or an "innovation-supportive climate" refers to the environmental conditions and factors that foster and encourage creativity within an organization or society (Khalili, 2016; Sarros, Cooper, & Santora, 2008). How many groups (or managerial) practices support and facilitate creativity? (Anderson & West, 1996, 1998).

Furthermore, Kang et al. (2015) posited that a firm's creative atmosphere is positively associated with EL behaviour, hence influencing employees' behaviour inside the workplace. This climate encourages employees to engage in inventive endeavours and discourages them from being only reactive. As a result, entrepreneurial leaders establish a conducive environment for fostering innovation. This environment not simply enables save for also motivates their subordinates to engage in inventive thinking and discover imaginative solutions to the various issues encountered within the workplace. (Mehmood et al., 2019). We draw the hypothesis:

H2: Entrepreneurial leadership has significant effects on the innovation climate.

Innovation Climate and Innovative Behaviour

The idea of "IC" was initially introduced by JK Galbraith in 1969, wherein it was conceptualized as a collection of talents that have the ability to impact an organization's future decisions and behaviour. Since Stewart's initial definition of "intellectual capital" (IC) since the collective knowledge possessed by individuals that can provide a competitive advantage to a company, there

has been significant progress and refinement in the understanding and application of the IC idea (Stewart, 1991, 1997). As a result, the concept of IC has evolved from a one-dimensional view that was primarily using the concept of human capital to one that encompasses human beings, structural, and relational capital (Edvinsson & Malone, 1997; Kujansivu, 2005)

Additionally, solitary of the relations in social cognitive theory suggests to people learn about also apply information from their professional environment prior to making decisions about how to respond. As a result, Entrepreneurial leaders cultivate a conducive climate that is conducive to innovation and growth. conducive to innovation. The organization not just grants permission yet also actively promotes and fosters a culture that encourages its staff process of problem-solving, individuals are encouraged to engage in creative thinking in order to generate innovative and unique solutions workplace. For instance, Kang et al. (2016) it was shown that fostering a culture of collaborative innovation within a team positively influenced an employee's enthusiasm for generating new ideas. Furthermore, the correlation between an environment that encourages inventiveness and an employee's love for innovation became more pronounced as the organization's proactive culture, characterized by a willingness to take risks, increased. Using the evidence from these studies, we suggest the hypothesis:

H4: Innovation climate has a significant impact on employees' innovative behaviour.

H5: Innovation climate moderates the relationship between entrepreneurial leadership and innovative behaviour.

Transformational Leadership

According to Avolio et al. (1999), transformational leadership is characterized by the leadership framework addicted to which leaders identify a desired change and assist staff members in realizing a vision by inspiring and motivating them. Through higher ideals like fairness, justice, and freedom, they

motivate the team and increase subordinates' awareness (Woods, 2007) Service Research has demonstrated that the development and upkeep of an atmosphere in service contexts depend heavily on transformational leaders (Bowen & Schneider, 2014; Liao & Chuang, 2007). The concept of fostering innovation inside the organization pertains to the extent to which an organization fosters a supportive and encouraging environment that enhances employees' inclination to proactively take initiative and explore novel ideas. The utilization of Transformational Leadership (TFL) by leaders significantly affects how people view the organization's climate by their subordinates. (Sarros, Cooper, & Santora, 2008; Scott & Bruce, 1994). The atmosphere in question encompasses two significant factors that influence the process of the hopes for innovation in service at the company level set by the organization about innovative behavior, and the potential results resulting from such activity. (Amabile, 1988; Scott & Bruce, 1994). The aforesaid signal exerts an influence on Employee psychology and boosts innovation. Transformational leaders (TFL) have been shown to create an innovative workplace. Have studied this topic. Sarros et al. (2008) suggest that TFL (transformational leadership) improves frontline employees' views of the corporate climate for innovation. This supports our idea of monitoring individual innovation activity. We suggest the following hypothesis based on these theoretical foundations:

H5: Transformational leadership is positively related to employees' innovative behaviour.

Transformational Leadership and Creative Self-efficacy

Transformational leaders exhibit the characteristic of information sharing, wherein they disseminate their expertise, foster the generation of novel concepts, and motivate their subordinates to engage in innovative thinking (Jyoti & Dev, 2015; Prasad & Junni, 2016). Furthermore, influential push their followers toward challenging conventional ways of thinking and confront their concerns

about risk, which encourages high levels of creativity. Leaders inspire their team members and win by romanticized influence. Transformational leaders inspire followers by setting a vision and path to their objectives. Employees that are intellectually stimulated perform more creative work. (Bass & Avolio, 1995).

The notion that one has the power to develop creative outcomes is referred to as creative self-efficacy (Tierney & Farmer, 2002, 2011). Based on the scholarly investigations conducted by Bandura and Locke about the self-efficacy hypothesis, it has been posited that possessing a resilient perception of efficacy is crucial for maintaining the required persistence in the challenging endeavour of striving for innovation and excellence (2003, p. 97). Several studies have found that this particular motivating variable significantly increases creative output. Tierney and Farmer (2011), for instance, postulated that a belief in one's ability to be creative might encourage that feature by lessening the potential negative outcomes of doing so. As reported by Gong et al. Shows that workers who People who have faith in their own imaginative capacities are more likely to strive for ambitious creative goals, which in turn correlates favourably with their actual creative output. Therefore, it is crucial to investigate the connection linking innovation confidence and action in the service industry.

H6: Transformational leadership will be positively related to employees' creative self-efficacy.

H7: Creative Self-efficacy mediates the relationship between transformational leadership and innovative work behaviour.

Moderating Role of Intrinsic Motivation

Worker interest in a work for its own sake, as opposed to interest in the task's external results or incentives, is referred to as intrinsic motivation. (Deci and Ryan, 1985). One of the vital elements of Creativity is self-motivated (Amabile, 1983). Workers are more likely to show remarkable devotion, exploration, and experimentation with a task

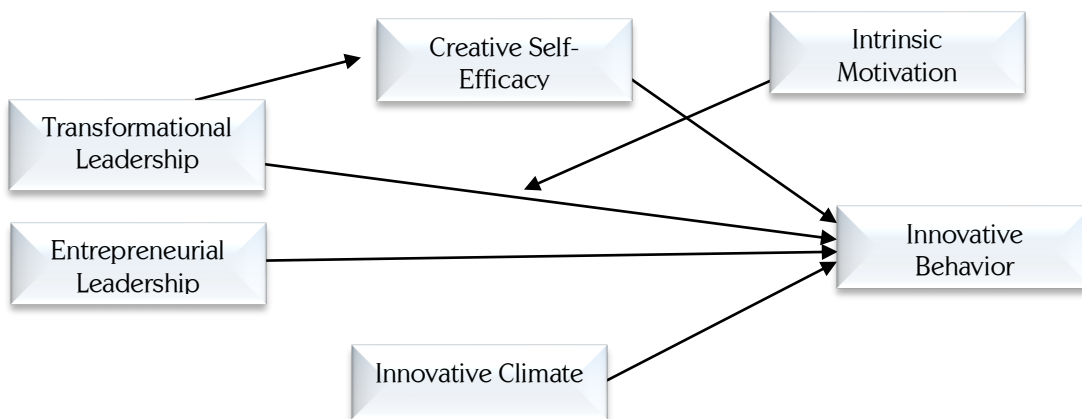
when they possess an inherent inclination towards it, leading to an increase in creative behaviour. Moreover, empirical research has shown evidence that individuals who possess intrinsic motivation exhibit enhanced levels of creativity in their work performance (Tierney et al., 1999; Jaussi and Dionne, 2003). Oldham and Cummings (1996) in their report highlight the significance of supportive supervision as a crucial factor influencing intrinsic motivation and creativity inside the workplace.

Aligned with this notion, transformational leaders exhibit an authentic apprehension for the emotional well-being and individual needs of their employees. They actively foster the growth of their subordinates' abilities, guide them towards the attainment of organizational objectives, and demonstrate unwavering faith in their capabilities. (Bass, 1990b) It is probable that organizations will experience an increase in their employees' motivation towards their assigned responsibilities. This study posits that employees who are subjected to this form of supportive leadership are People are more likely to show signs of high degrees of intrinsic motivation, which is associated with increased levels of originality. As a result of the leader's motivational oratory, followers should feel more invested in their job and have a greater appreciation for its significance. A leader with transformative skills can adopt customized attention, which is expected to lead to progress. Employee motivation and performance, as employees are more likely to be willing to concentrate on their tasks and improve their performance to new heights. Additionally, it is anticipated that the intellectual stimulation delivered by the leader will inspire employees to investigate various aspects of their tasks, leading to increased interest and engagement. Amabile (1983) posited that these factors contribute to an augmentation of intrinsic motivation towards the work at hand and subsequently result in elevated levels of creative accomplishments.

H8: Intrinsic motivation Moderate the link between creative self-efficacy and transformational leadership.

Research Framework

Figure 1



Data Collection

The researchers obtained primary data by administering structured questionnaires to the selected participants. The questionnaires were distributed to individuals occupying top managerial positions, middle-level managerial positions, and owners since they possess direct engagement when it comes to choosing choices that contribute to the expansion of the organization. The utilization of a questionnaire offered several notable benefits, including the ability to effectively reach a broader demographic, its cost-effectiveness, practicality, and the ease with which the obtained data could be quantified in a prompt and straightforward manner.

Measurement

A three-item test was developed by Renko et al. (2015) to gauge and evaluate entrepreneurial leadership. "Creates ideas for radically bettering the goods and services we offer," for example. Transformational leadership was measured by utilizing a The Likert scale employed in this study is a five-point scale, with a rating of 1 indicating a strongly disagree and 5 signifies a strongly agree. The measurement of this construct was conducted using a set of five items derived from the MLQ Form 5x that Bass and Avolio created in 1997, is being referred to the MLQ

Form 5x The concept comprises four discrete dimensions, specifically idealized influence, inspiring drive, intellectual stimulation, and personalized consideration. Scott and Bruce devised a three-item scale that was developed in order to assess the climate of innovation. the year 1994. One example of an item is the statement "The promotion of creativity is actively encouraged within this context." The concept of innovation climate refers to the prevailing conditions and factors that influence the generation and implementation of novel ideas and practices inside an organization The replies of the participants were evaluated utilizing a Likert-type scale comprising five points, where a 1 meant there was strongly disagree and a 5 meant there was strong agreement. The measurement of employees' innovative behaviour was conducted using a scale consisting of six items, which was originally designed by Hu et al. (2009). One example of a statement provided by the participant is "In the workplace, I generate innovative and creative ideas." The measurement of employees' inventive behaviour was conducted using a Likert-type scale consisting of five points, a score of 1 signifying "Strongly Agree" and a score of 5 signifying "Strongly Disagree." The present study employed five items that came out of the study by Tierney, Farmer, and Graen (1999). These items were subsequently

utilized in the current investigation. Measure the intrinsic drive of employees to be innovative. On a scale from 1 to 5, the constructs were scored according to how strongly they agreed or disagreed with the statement. For the purpose of evaluating this measure, this research made use of The Creative Self-Efficacy Scale developed by Tierney and Farmer (2002) consists of three questions. The participants' responses to statements helped the researchers evaluate the participants' creative capacities. Was evaluated using a Likert scale with a maximum score of five, with 1 indicating strong disagreement and 5 indicating strong agreement.

Analyses and Results

The procedure process of analyzing and interpreting data to check the relationships and direction is commonly referred to as data evaluation. the research used. SEM or structural equation modelling was utilized to look into the connections between the variables of interest, and PLS was the approach of choice. Our structural model's

direct and indirect links were analyzed. was conducted after a review of the measurement model.

Smart PLS 4.0 was utilized to examine research hypotheses using PLS-SEM (Ringle et al., 2015). Structural equation modelling (SEM) can be done covariance- or variance-based. The former requires data to follow a normal distribution, while the latter does not (Hair et al., 2014; Garson, 2016).

Construct Reliability and Validity

In the field of social science research, the evaluation of internal consistency reliability is commonly conducted through the utilization of "Cronbach's alpha." However, it is important to note that using this strategy within the framework of PLS-SEM (partial least squares structural equation modelling) often yields a more cautious judgment. Prior studies have investigated the utilization of "Composite Reliability" as a potential alternative. (Bagozzi and Yi, 1988; Hair et al., 2012) have been cited in the literature. According to the study conducted by Bagozzi and Yi in 1988,

Table 1

Construct reliability and validity	Cronbach's alpha	Composite reliability	The average variance extracted (AVE)
CSE	0.730	0.832	0.553
EL	0.663	0.817	0.599
IWB	0.826	0.873	0.536
IC	0.688	0.827	0.614
IM	0.776	0.848	0.527
TL	0.727	0.830	0.550

Note: "CSE" Creative self efficacy "EL" Entrepreneurial Leadership, "IWB" Innovative work behavior, "IC" Innovation climate, "IM" Intrinsic Motivation, "TL" Transformational Leadership

Fornell-Larcker criterion

Fornell and Larcker (1981) advised that the average variance extracted is square root (AVE)inside each latent variable and be computed to be employed as a means to verify discriminant validity, provided that this value surpasses the other correlation values among the latent variables. In order to accomplish this task, a table is generated whereby the square

root of the average variance extracted (AVE) is computed manually and thereafter emphasized by being placed in bold font along the diagonal of said table.

Fornell and Larcker (1981)It is advised that the average variance extracted (AVE) square root for the differences between each latent variable and their correlations ought to be higher.

Table 2

Fornell-Larcker criterion	CSE	EL	IWB	IC	IM	TL
CSE	0.744					
EL	0.552	0.774				
IWB	0.562	0.605	0.732			
IC	0.578	0.585	0.572	0.784		
IM	0.548	0.522	0.580	0.589	0.726	
TL	0.557	0.625	0.596	0.546	0.564	0.742

Note: "CSE" Creative self efficacy "EL" Entrepreneurial Leadership, "IWB" Innovative work behavior, "IC" Innovation climate, "IM" Intrinsic Motivation, "TL" Transformational Leadership

Predictive Power of The Model

The coefficient of determination (R2) is a statistical metric that quantifies the accuracy of predictions and represents the collective impact of outer latent constructs on each endogenous variable (Hair et al., 2014). The R2 rate continues to be the most commonly utilized metric for assessing the predictive accuracy of the PLS-SEM model. (Hair et al.

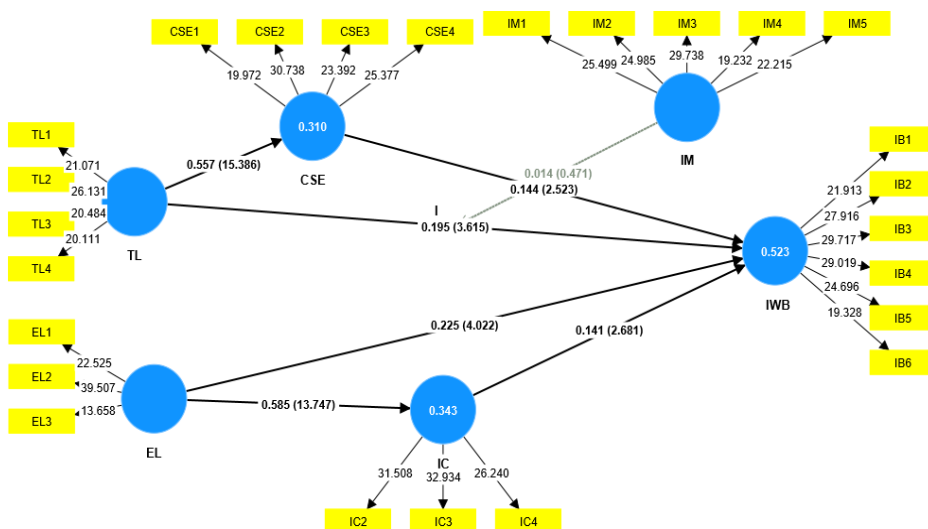
2014) demonstrated that the R2 coefficient range from 0 to 1, indicating the extent to which the predicted values align with the actual values. This coefficient serves as a measure of the greatest accuracy of predictions within the parameters of R2. According to Hair et al. (2014), the R2 standards of 0.25, 0.50, and 0.75 can be classified as weak, moderate, and strong interpretations, respectively.

Table 3

Predictive Power Of The Model	R-square	R-square adjusted
CSE	0.610	0.609
IWB	0.523	0.516
IC	0.543	0.541

Note: "CSE" Creative self-efficacy, "IWB" Innovative work behaviour, "IC" Innovation climate,

Figure 2



Nevertheless, due to the limited number of research studies exploring the correlation connecting entrepreneurial leadership with innovative behaviour exhibited by employees. Specifically in the context of high-tech services like IT service organization, there exists a gap in knowledge regarding the mechanisms by which entrepreneurial leadership and transformational Leadership has an important outcome on innovative employee behaviour here order to contribute in the direction of the advancement of academic knowledge, this research set out to learn how different styles of leadership (entrepreneurial, transformational, and traditional) affect creative problem-solving.

Furthermore, several theoretical perspectives were used to evaluate the various mediating mechanisms as the primary goal of the study. From analyzing data from 421 workers in IT service organizations in Pakistan, we can see to entrepreneurial leadership is optimistically correlated with employee inventive behaviour. Furthermore, the association between these factors is mediated by the innovation climate and creative self-efficacy. Additionally, intrinsic drive serves as a moderator in the aforementioned interaction. The subsequent sections highlight the theoretical contributions and practical consequences of these results, while also proposing potential directions for further research.

Summary of Structural Model Assessment and Hypothesis Significant

Table 4

Hypothesis	Relationship	Hypothesis Statement	Assessment
H1	Entrepreneurial leadership and innovative behaviour	Entrepreneurial leadership has a significant effect on innovative behaviour.	Significant $\beta=0.225$ $P=0.000$
H2	Entrepreneurial leadership and innovation climate	Entrepreneurial leadership is positively related to the innovation climate.	Significant $\beta=0.585$ $P=0.000$
H3	Mediating variable innovation climate	Innovation climate mediates the relationship between entrepreneurial leadership and innovative behaviour.	Significant $\beta=0.343$ $P=0.000$
H4	Transformational Leadership and innovative behaviour	Transformational leadership has a significant impact on innovative behaviour.	Significant $\beta=0.195$ $P=0.000$
H5	Transformational Leadership and creative Self-efficacy	Transformational Leadership will be positively related to creative self-efficacy.	Significant $\beta=0.557$ $P=0.000$
H6	Mediating variable creative self-efficacy	Creative self-efficacy mediates the relationship between transformational leadership and innovative behaviour.	Significant $\beta=0.310$ $P=0.000$
H7	Intrinsic motivation	Intrinsic motivation moderates the relationship between transformational leadership and innovative behaviour.	Significant $\beta=0.471$ $P=0.000$

Implications for Theory

The study results present an extra intricate approach to conceptualizing the relationship connecting entrepreneurial leadership, transformational leadership, plus individual occupational behaviour. Specifically, our research paper revealed a mediated leadership and innovative work behaviour (IWB) are related to innovation climate and creative self-efficacy serving as intermediate factors. Consequently, we present a comprehensive model elucidating the indirect impact of entrepreneurial leadership along with transformational leadership on innovative work behaviour (IWB). Moreover, our research results provide theoretical backing for the social interchange and work demands-resources paradigm. Initially, we suggest that the degree of supervisors' transformational leadership behaviour's impact on subordinates' innovative work behaviour (IWB) is contingent upon the level of flexibility with latitude granted to them for exploring and implementing innovative ideas. Therefore, taking into consideration the job demands-resources (JD-R) paradigm, we contend that creative self-efficacy is a crucial resource within a challenging work environment. This resource enhances employees' perception of accountability and fosters their inclination to engage in innovative behaviours within the organizational setting. Similarly, the sense of support from management by subordinates positively influences their motivation to engage in innovative work behaviours (IWBs). This study combines the societal exchange theory along with the JD-R structure to elucidate the indirect mechanisms via which innovation climate and creative self-efficacy influence the connection between exemplary leadership and individual work behaviour. The potential cause for this occurrence could be attributed to the exclusion of certain items in accordance with the psychometric qualities employed in the research.

Managerial Implications

The outcomes of this study possess numerous practical implications. The results underscore

the significance of entrepreneurial leadership and transformational leadership within the high-tech services sectors, in contrast to the prevailing authoritarian leadership style observed in developing nations such as Pakistan. This aligns with fresh meta-analytic research conducted by Lee et al. (2020). Hence, it is imperative for organizations to prioritize entrepreneurial attributes in selecting individuals for managerial roles, with the aim of enabling employees to question established norms and make valuable contributions to organizational innovation by engaging in risk-taking behaviours. In line with this notion, it is imperative for organizational leadership development programs to prioritize the cultivation of managers' entrepreneurial competencies, including the enhancement of their creative acumen and cognitive flexibility (Cai et al., 2019). In order to address the contemporary obstacles associated with managing innovation, specifically within the realm of high-tech services, it is imperative for educational institutions focused on leadership development to incorporate comprehensive knowledge and appreciation of entrepreneurial leadership competencies within their curriculum. The second observation reveals a strong impact of the innovation climate, creative self-efficacy, and intrinsic desire on employee innovation behaviour. Hence, to optimize employee innovation, it is imperative for firms and leaders to establish a conducive environment and exhibit behaviours that foster employees' inclination towards innovation and their belief in their own creative abilities.

Limitations and Recommendations for Future Research

There are some limitations to the current investigation that are consistent with previous research and suggest new avenues for exploration. The assessment of creative actions via self-report is the study's main weakness. This method has the potential to introduce common method bias and may exaggerate the strength of associations observed. While there are theoretical and

empirical justifications for utilizing self-report measures of innovative behaviour, as outlined in the methodology section, it is important to note that future research should aim in the direction of duplicating our findings via incorporating supervisor-rated or purposeful actions of innovative behaviour. This will contribute to a more robust comprehension of the relationships under investigation. Furthermore, the validity of our conclusions about the causation of the observed associations is uncertain, primarily because a cross-sectional study strategy was used. Our research is confirmatory in nature, and our theories are grounded in prior research and cross-sectional. (Madrid and Patterson, 2020; Iqbal et al., 2020). However, it is advised that future researchers gather data in numerous iterations and reassess the proposed study model in order to establish causation between correlations and corroborate our findings. Furthermore, to examine the proposed research model, data was gathered from individuals employed within a specific high-tech services sector in Pakistan. The limitation of conducting research inside a single sector and culture is that it may hinder the generalizability of our findings to different sectors and cultures. Hence, it is necessary to do further research that encompasses a diverse range of industries and cultures in order to provide more validated and applicable insights. In order to uphold the principle of parsimony in our study model, we deliberately refrained from incorporating any boundary conditions. According to the situational strength hypothesis, it is posited that many situational conditions have the potential to either amplify or diminish the impact of leadership on the outcomes experienced by employees. (Meyer et al., 2010). Hence, it is imperative that researchers incorporate boundary circumstances, such as the provision of encouragement of innovation. (1994; Scot and Bruce) The goal of this study is to determine the extent to which particular elements function as a buffer in the relationship between innovative employee

behaviour and entrepreneurial leadership. Mahmood et al., 2019; Hughes et al., 2018).

Conclusion

In the contemporary and highly competitive work setting, the capacity of companies to facilitate and propel innovative endeavours is closely intertwined with the leadership present within the business. One of the major elements causing the failure of numerous businesses in fostering innovation is the leadership of these organizations. The persons who are entrusted with the responsibility of leading innovative initiatives a significant part in deciding the success or failure of such endeavours, as their competence and motivation, or lack thereof, significantly impact the outcome. Nevertheless, there is a dearth of research on the specific processes by which entrepreneurial leadership and transformational leadership behaviours facilitate staff creativity. Our study involved the formulation of a theoretical framework and the subsequent empirical validation of the relationship between leadership behaviours exhibited by managers or immediate supervisors and their impact on subordinates. We found that the individual employee processes of climate for innovation and creative self-efficacy participate a crucial role in transmitting this effect. The use of an interactive whiteboard (IWB) is likely due to the fact that creative self-efficacy contributes to a sense of empowerment and fosters an innate motivation necessary for engaging in creative endeavours. (Hennessey and Amabile, 2010). An innovative climate rather than physical organizational aspects reflects employees' psychologically significant judgments (Brown and Leigh, 1996). Together, the findings of our study and earlier studies point to the necessity for additional investigation if we are to advance our comprehension of how entrepreneurial leadership and transformational leadership affect IWB. Our research is intended to generate interest in this field of study.

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