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## Article

# Marketing from Leadership to Innovation: A Mediated Moderation Model Investigating How Transformational Leadership Impacts Employees' Innovative Behavior

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**Abstract:** In an increasingly competitive landscape, both researchers and businesses are showing growing interest in promoting employee's innovative work behavior (EIWB). Although earlier studies have highlighted the significance of transformational leadership (TL) in cultivating innovation among employees, there needs to be more understanding regarding the precise mechanisms and processes by which leaders exert their influence over the IWB of their employees. This study is based on the social exchange theory (SET) and upper echelon theory (UET) to investigate how the relationship between TL and employees' IWB is mediated by the employees' intellectual agility (EIA) and the employee's voice (EV). To the best of researchers' knowledge, this study represents the pioneering effort to examine the mediating mechanisms of EIA and EV between TL and EIWB within the specific context of small and medium Enterprises (SMEs) in a developing country. An online self-administered questionnaire was utilized to collect data from 430 SMEs in Pakistan. The proposed hypotheses were examined using partial least squares structural equation modeling (PLS-SEM). The study findings revealed a significant influence of TL on EIWB mediated by both their EIA and EV. These findings empower leaders to recognize their pivotal roles in nurturing innovation within their enterprises and crafting an optimal culture and climate conducive to innovative endeavors. Furthermore, this insight enables leaders to establish innovative environments that promote employees' confident sharing of ideas and concepts. The study also includes a comprehensive finding and their implications, limitations, and suggestions for future research directions.

**Keywords:** transformational leadership; employees' innovative work behavior; employees' intellectual agility; employee voice; innovation climate



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## 1. Introduction

In today's intense competition and rapid technological progress, innovation is pivotal [1,2]. Encouraging innovation among employees is considered a prime method to cultivate both innovation and organizational achievement [3,4]. In the realm of demanding knowledge-based work environments, the focus of researchers and practitioners has turned to the pivotal role that managers play as leaders in inspiring employees to engage in innovation. As a result, researchers have observed a growing interest in uncovering

strategies for encouraging individual employees to exhibit creative behaviors through applying transformational leadership (TL) [4,5]. Researchers assert that in the rapidly evolving landscape of modern business, organizations striving for success must refrain from leaning on obsolete management theories [6]. Instead, they emphasize that impactful leadership is the foremost catalyst for driving meaningful and effective change [7,8].

Abundant evidence exists to demonstrate that leaders possess the capability to impact employee outcomes [9–11] significantly. In enhancing an individual's creativity and innovation, scholars suggest that both their work environment and social factors play a substantial role in influencing these aspects [12]. Research on creativity indicates that among the most significant contextual factors shaping creativity are leadership and supervision [13]. Moreover, given the current competitive landscape that firms encounter, change-oriented leadership becomes imperative [14], which has the potential to cultivate employee innovation amid shifting circumstances [15]. However, how TL influences the employee's innovative work behaviors (EIWB) remains insufficiently explored in research. Although scholars have examined the link between individual perceptions of TL and employees' creativity, representing the initial stage of innovation [16,17], there has been limited focus on investigating the impact of TL on EIWB. Gaining a deeper comprehension of the mechanisms and processes by which TL influences EIWB demands a greater degree of theoretical accuracy [18].

Similarly, prospering and enduring in an increasingly knowledge-centered society based on the capacity to engage in the exploration and generation of novel inventions, manufacturing methodologies, knowledge dissemination, and corporate frameworks is also vital [19]. These competencies, called innovativeness, are considered essential assets that bridge a company's intrinsic innovation capabilities with the outcomes stemming from the innovation process [7]. Innovativeness is also considered an intangible asset within human organizational capital expertise. Nurturing the growth of employees' intellectual capacities empowers businesses to effectively convert knowledge into sought-after new product lines, processes, and services demanded by the market [20]. Multiple empirical studies have provided evidence that the ability to transform and take advantage of information enhances both innovative capacities and organizational achievement [21]. Therefore, enhancing innovation agility yields a positive impact on overall innovation in the organization. Furthermore, there needs to be more research in the existing literature that explores the relationship between TL and employee's Intellectual Agility (EIA) concerning identifying innovative work opportunities.

Employee voice (EV) is characterized by the expression of employees' opinions, thoughts, concerns, and ideas concerning various aspects of their jobs, to improve the working environment and the overall functioning of the organization [22]. It signifies an individual's inclination to engage in active discussions about change and generate ideas. Voice pertains to behavior that emphasizes the articulation of positive challenges aimed at achieving progress rather than mere criticism [23]. EV has been acknowledged as a significant factor impacting creativity and innovation at individual, group, and organizational tiers [24]. The examination of EV in relation to TL holds relevance for small and medium enterprises (SMEs), given that the compact size and relational approach of these enterprises empower leadership to inspire and encourage employees to showcase innovative behaviors [25]. Examining EV in the context of TL remains pertinent for SMEs, as the intimate scale and relational nature of these businesses enable leaders to motivate and foster innovative behaviors among employees [25]. Researchers in organization development define EV as an individual's expression aimed at problem-solving. Moreover, scholars view EV as the method through which employees can enhance an organization's operations and tackle work-related issues that impede overall innovation and performance in SMEs [26,27].

TL serves as a catalyst, motivating employees to engage in decision-making and proactively undertake initiatives as creative ideas and deal with challenges that hinder organizational learning and innovation [28]. However, even though EV plays a pivotal role in fostering innovation across various organizational types, the concept continues to need

more thorough theoretical exploration and comprehensive research within the context of SMEs [28,29]. Moreover, a scarcity of research exists concerning EVs within the context of developing countries. Therefore, taking these gaps and recent calls into consideration, we argue that employee voice represents a promising mechanism through which TL can wield its impact on innovation outcomes within SMEs of Pakistan.

The concept of innovation climate (IC) involves how employees interpret and understand reward policies, practices, procedures, support, and expectations [30]. It acts as a perceptual structure that empowers businesses and provides meaningful work environments [31]. IC is defined as the shared anticipation, perceptions, or endorsement of innovation as perceived by individuals. Further, without an IC in SMEs, employees lack the motivation, resources, supportive culture, and skills necessary to engage in EIWB. Establishing an environment that promotes and nurtures innovation is crucial for unlocking the creative potential of employees within SMEs [32]. IC is considered as an investment in resources. Further, it plays a role in facilitating the creation and application of novel ideas, ultimately leading to the development of personal resources [33]. When the organization promotes IC, employees tend to display a greater inclination toward enhancing the existing work environment through innovative means [34,35]. The study suggests that EV and EIA serve as a mediating factor between TL and EIWB. Moreover, contextual elements enhance the influence of EV and EIA on EIWB. In the presence of strong IC prevails within an organization, employees are more likely to receive encouragement and even rewards for their innovative ideas [31].

In the rapidly evolving business landscape, this study holds significance for managers. By understanding the pivotal role of TL, managers can inspire employees to engage in innovation, driving meaningful organizational change. This research study sheds light on specific mechanisms, such as fostering EV and cultivating a positive IC, which empower managers to cultivate the creative potential of their employees and teams. Furthermore, the study highlights the importance of recognizing and nurturing EIA to identify innovation opportunities effectively. Moreover, with these insights, managers can build a culture of innovation, enhance employee engagement, and ultimately contribute to organizational success in today's competitive environment. Drawing upon the social exchange theory (SET) developed by Blau [36], this study introduces a moderated mediation model. This theoretical model investigates the link through which TL influences the EIWB working in SMEs. Further, this study also considers the mediating roles of EIA and EV in the exchange of emotional resources [37]. Furthermore, the conservation of resources (COR) theory by Hobfoll [38] is incorporated as a theoretical lens to elaborate on the moderating influence of the IC.

Aryee et al. [39]; Zhang et al. [40]; Hoang et al. [41]; and Kaya and Karatepe [42] investigated different leadership styles with innovation and lacking the mediating mechanisms. Similarly, Dabic et al. [43] conducted a study on the EIA and innovation in micro and small businesses and investigated entrepreneurial leadership, and their findings are limited to small businesses only. In addition to that, Alavi et al. [44] investigated two organizational characteristics, namely organizational learning and an organic structure, as the antecedents of workforce agility. However, their study focused on the structure of the organization. Similarly, Zhang et al. [45] found the TL impact on innovation through multilevel moderation. Additionally, King et al. [46] explored the relationship between TL and IC in the hospitality industry, and their findings are limited to the hospitality industry. Further, another study by Rees et al. [47] investigated only the relationship between EV and engagement, lacking on the front of leadership style impact, particularly TL. When the organizational IC is strong, employees are more likely to enhance the existing work environment through innovative practices [34]. This study lacks the moderating role of innovation.

Based on the review of the above studies, the research problem lies in the limited understanding and exploration of the impact of TL on EIWB within SMEs. Additionally, there is a lack of comprehensive research on EV and IC in developing countries, specifically in

Pakistan. This study aims to address these gaps by investigating the relationships between TL, EIA, EV, and IC, contributing crucial insights to the field of management literature.

This study presents multiple valuable contributions to the field of management literature. Firstly, this study enhances the understanding of the antecedents to EIWB by introducing TL as a pertinent catalyst. Secondly, this study sheds light on the potential mechanisms through which TL exercises its influence on EIWB. This objective is achieved by examining the ways in which TL impacts the EIA within the SMEs. Third, this study contributes to the literature on leadership and innovation by framing EV as a conceivable mediating mechanism within the link between TL and innovation outcomes. Fourth, this study contributes by highlighting the importance of the workplace climate in establishing the indirect impact of TL on EIWB. It accomplishes this by theoretically investigating and illustrating the moderating role of the IC. Fifth, this study presents empirical evidence from a developing country context, which is Pakistan.

## 2. Literature Review and Hypothesis Development

### 2.1. Definitions of Variables

#### 2.1.1. Transformational Leadership (TL)

TL is characterized by five essential elements: vision, inspirational communication, supportive leadership, intellectual stimulation, and personal recognition, as outlined by Rafferty and Griffin [48]. Vision entails articulating an idealized future aligned with organizational values. Inspirational communication involves conveying positive and motivating messages about the organization, fostering motivation and confidence [48]. Supportive leadership includes demonstrating concern for followers and addressing their individual needs. Intellectual stimulation encompasses enhancing employees' interest in and awareness of problems encouraging innovative problem-solving approaches [48]. Lastly, personal recognition entails acknowledging and rewarding efforts, such as praising accomplishments and acknowledging progress toward specific goals [48].

#### 2.1.2. Employee's Innovative Work Behavior (EIWB)

In the present study, the researcher emphasizes the significance of generating novel ideas as the fundamental starting point for innovation, aligning with Kanter's [49] perspective. Within the SME sector, EIWB has emerged as a pivotal source of competitive advantage [50]. This behavior encompasses various activities aimed at identifying, refining, altering, embracing, and executing ideas, as highlighted by De Jong and Den Hartog [51]. It refers to the proactive initiative of employees who, after analyzing work-related challenges or solutions, apply their newfound ideas, ultimately leading to innovative outcomes, as suggested by Chen et al. [52]. To excel in today's swiftly evolving landscape and enhance their operational performance, SME establishments must embrace EIWB, a necessity underscored by Hoang et al. [41]. This approach is essential for delivering superior services and ensuring sustained business growth.

#### 2.1.3. Employee Voice (EV)

In this study, EV is defined as thoughts, concerns, and ideas that employees share regarding their job-related matters, aiming to improve the working environment and overall organizational functioning [22]. It signifies an individual's inclination to engage in discussions about change and contribute novel ideas actively. More precisely, "voice" signifies behavior that emphasizes the expression of constructive challenges to facilitate progress rather than mere criticism [53].

#### 2.1.4. Employee's Intellectual Agility (EIA)

EIA is a facet of intellectual capital often considered a synonym for the wider concept of organizational agility. While organizational agility refers to the ability of firms to create new value by adjusting organizational strategies and resources [54,55], EIA is about creating an appropriate environment within organizations in which staff can invest their efforts

in the formulation of responses to organizational challenges through the modification of existing structures and the creation of innovative strategies.

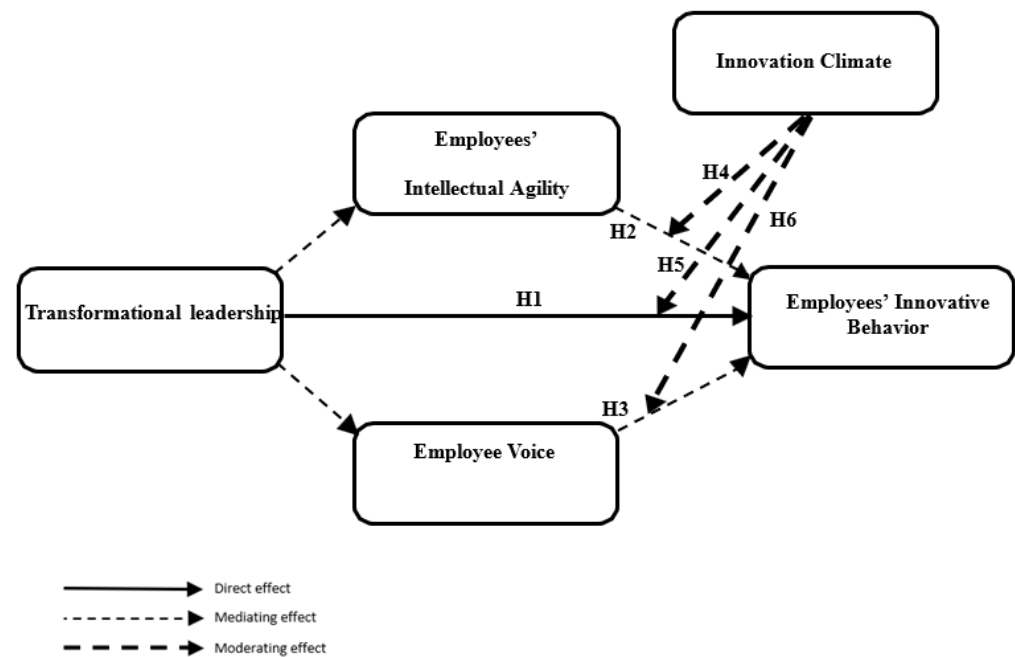
In this study, EIA involves establishing a conducive environment within organizations, enabling employees to channel their energy into developing responses to organizational challenges. This process involves modifying existing structures and devising innovative strategies. Furthermore, EIA represents a new aspect of human capital that significantly enhances a company's innovativeness. It encompasses employees' ability to adapt their thinking patterns, proactively acquire new knowledge, and generate distinctive solutions to cope with both present and future challenges [56].

#### 2.1.5. Innovation Climate (IC)

IC can be characterized as the extent to which an organization's values and norms emphasize innovation [57]. In this study, IC can be described as the shared expectations, perceptions, or encouragement for innovation as perceived by individuals. It represents an employee's outlook on the procedures, policies, and behaviors that promote the creation and implementation of new ideas in the workplace [58].

### 2.2. Theoretical Frameworks

In line with the SET, upper echelon theory (UET), and COR theory, this study explores the link between TL and EIWB, along with the mediating and moderating mechanisms that underlie this association (see Figure 1).



**Figure 1.** Conceptual framework.

#### 2.2.1. Social Exchange Theory (SET)

In this study, SET can offer an impactful framework for comprehending EIWB. SET is conceptualized as a social exchange process instigated by individual employees within an organization, involving reciprocal actions that create a sense of obligation to reciprocate a favor or benevolent gesture, thus establishing symmetry in the deal or transaction [23]. SET emphasizes the mutual reliance between individuals within a relationship [59], prompting employees to exert additional efforts in contributing to the organization and fostering longer-term commitment [23]. SET is widely recognized as one of the dominant theories in the field of management due to its capacity to explicate the reciprocal interplay between employees and organizations [60].



Several studies within the domain of management literature have employed SET to scrutinize the link between TL and EIWB [61]. This examination involves the link between TL and EIWB [33,62]. Additionally, the mediating impact of EV and EIA has been substantiated in prior research [23,28]. Therefore, the present study employs the SET to investigate the link between TL within the SMEs and EIWB. This study examines both the direct and indirect impacts of TL on EIWB, encompassing the mediating mechanism of EV and EIA.

### 2.2.2. Upper Echelon Theory (UET)

This study draws upon the UET to put forward the notion that TL influences EIWB within SMEs using EV. The UET posits that an organization authentically mirrors its top leadership, molding both its operational level procedures and strategic level, along with its resulting outcomes [28]. Additionally, the theory asserts that leadership influences employee behaviors to align them in accordance with the organization's strategic trajectory and desired performance targets. In the context of SMEs, the UET holds relevance as it elucidates the methods by which a business led by an owner or entrepreneur aligns its progressions and employee behaviors with the strategic orientation and desired objectives set by top management. This study utilizes the theoretical perspective presented by the UET to conceptualize how top leadership influences entrepreneurial mindset and behaviors, thereby promoting innovation within SMEs.

### 2.2.3. Conservation of Resources (COR) Theory

This study also incorporates the COR theory alongside SET and UET to provide an explanatory framework for the research model. The COR theory posits that individuals consistently strive to safeguard and preserve their resources while also seeking to avert potential threats that could result in resource depletion [38]. Moreover, resources have been characterized as encompassing items, personal attributes, energies, or situations that individuals hold value in or the means through which they can access these resources [38]. Therefore, through the allocation of additional resources, individuals have the capacity to alter the existing situation, fostering a cycle of growth and ultimately resulting in a more advantageous situation.

COR theory, as emphasized by Wen et al. [63], remains one of the paramount theories in management and is frequently employed to scrutinize the link between contextual factors such as leadership and innovation [64]. This study investigates the mechanism through which TL enhances EIWB by mediating the role of EV and EIA. Furthermore, this study also explores how this relationship is influenced by the moderating impact of the IC, thereby extending the scope of the COR theory.

## 2.3. Transformational Leadership (TL) and Employee's Innovative Work Behavior (EIWB)

TL comprises five essential attributes, specifically visionary outlook, motivational communication, encouraging leadership, intellectual stimulation, and individual acknowledgment [48]. TL inspires followers through their visionary guidance and motivates them through delegating autonomy, acknowledging recognition, and encouraging them to think in alignment with the broader organizational goals [4,9,65]. TL engages both the organization and its members in critical and innovative thinking, playing a vital role in building positive change and innovation within the organizational context [28,66]. TL has been recognized as a strong organizational strategy for stimulating organizational innovation [67], employee behaviors, and performance beyond their roles [68]. Furthermore, TL molds followers' sense of security in their work and presents an appealing vision for the future [61]. In such scenarios, followers may demonstrate a keen inclination to embrace novel approaches for accomplishing their tasks [69].

Innovation entails the creation, dissemination, and application of novel ideas to improve workplace tools and processes [70]. Distinguishing between innovation and creativity, creativity involves the generation of fresh and valuable ideas [71]. However, innovation

is centered on execution rather than solely generating ideas [71]. It entails the deliberate introduction and application of novel and enhanced approaches to tasks and processes [72]. Hence, implementation constitutes an inherent component of innovation, serving to convert creativity into tangible actions or outcomes [23]. In this study, the process of developing new ideas as a fundamental element is regarded as the inception of innovation [49]. In the SMEs, EIWB has emerged as a crucial driver of competitive advantage [28]. For SMEs to deliver high-quality services and enhance their business performance, the adoption of EIWB is imperative to thrive in a rapidly evolving environment [28]. Drawing from the SET, TL engages followers in social exchange processes rooted in companionship and strong interpersonal trust. Therefore, employees who experience personalized care and support from TL exhibit a high dedication to generating, advocating for, and actualizing daily ideas aimed at elevating individual service levels. TL effectively promotes innovative behavior at a personal level. The following hypothesis has been proposed:

**H1.** *TL has a positive relationship with EIWB.*

#### *2.4. The Mediating Role of Employee's Intellectual Agility (EIA)*

SMEs are frequently recognized as the primary catalysts for driving economic growth. Thriving and enduring within an increasingly knowledge-oriented society based on the capacity to actively engage in the exploration, generation, and experimentation of novel innovations, product lines, manufacturing methodologies, knowledge dissemination, and corporate frameworks [43]. These capabilities, often referred to as innovativeness, are esteemed as crucial assets that serve as the bridge connecting a firm's innate innovation capacities with the results generated by the innovation process [7,21]. Innovativeness is considered an intangible asset ingrained within the expertise of human organizational capital. Nurturing employees' intellectual potential empowers organizations to transform accumulated knowledge into new lines of products, services, or processes that align with market demands [20].

The significance of knowledge management has been acknowledged for over three decades within academic literature. Knowledge is embedded within the human capital of organizations, and it is the organizational challenge to effectively develop and utilize the capacity of individual knowledge in the process of value creation. Within the realm of organizational dynamics, the repository of organizational human capital takes center stage, thereby underscoring the pivotal role of comprehending the inherent agility within human resources. This comprehension is instrumental in unlocking a comprehensive grasp of organizational agility in its entirety. This type of agility is referred to as EIA [43]. EIA is the establishment of forward-looking incentives to promote individual learning encompassing shifts in structure and systems. Moreover, the recent literature on knowledge management recognized the importance of cultivating an environment conducive to optimizing employee effort and innovation. These initiatives involve diverse realms, such as supporting knowledge and skills, nurturing self-assurance, and proficiency, cultivating enthusiasm and motivation to confront challenges, and advancing the removal of potential barriers. Moreover, multiple empirical studies have provided evidence that adeptness in transforming and harnessing information enhances both innovative capacities and overall organizational accomplishments [7]. Therefore, enhancing EIA produces a positive impact on overall organizational innovation.

Leaders and managers play a pivotal role in cultivating an innovation-friendly atmosphere, EIA and capabilities invariably contribute to achieving innovation's success [43]. EIA involves the process of comprehending the challenges encountered by firms and subsequently translating this acquired knowledge into actionable steps within a business context. Further, it involves adapting the skills and expertise inherent to the business to effectively address the evolving demands of a dynamic environment [7]. As a result of such investments, employees develop a sense of appreciation towards their respective organizations for endowing them with invaluable resources encompassing new knowledge,



skills, abilities, and various other attributes (KSAOs). Once equipped with these resources, employees are motivated to disseminate them amongst their peers and colleagues, thereby encouraging a culture of knowledge management behaviors. Moreover, engagement in firm-specific knowledge management behaviors stimulates employees to cultivate, advocate for, and execute novel concepts and methodologies, which elevate their capacity for innovation. Thus, this study proposes the following hypothesis:

**H2.** *EIA mediates the relationship between TL and EIWB.*

### *2.5. The Mediating Role of Employee Voice (EV)*

EV incorporates the input of employees, comprising their remarks, reflections, concerns, and ideas related to their job roles to enhance the overall organizational operations and work environment [22]. It indicates an individual's inclination to actively discuss change and generate ideas. Moreover, it is referred to as a behavior that emphasizes the articulation of constructive challenges to facilitate progress rather than mere criticism [53]. As integral members of the organization, employees contribute their perspectives and recommendations to enhance the operational aspects of the organization, thereby offering their input to make the organization more competitive [23]. EV includes the voluntary or structured communication of ideas, viewpoints, recommendations, or alternative strategies directed toward a particular recipient within or outside the organization. This communication is driven by the intention to rectify an undesirable situation and enhance the present functioning of the organization, group, or individual [73]. Scholarly literature uniformly agrees that "voice" constitutes a behavior rooted in problem-solving, change-driven, and improvement-focused actions. Further, it also includes activities like speaking up and whistleblowing, all of which contribute to many favorable outcomes, including organizational innovation [28,29]. Therefore, it is significant for organizations to make dedicated endeavors to establish such mechanisms that promote an environment where employees can actively participate in voice behaviors [74,75].

Existing literature indicates that leadership holds significance in shaping innovation within organizations. However, there remains a scarcity of research investigating the specific mechanisms through which TL impacts EIWB [28,76], particularly in SMEs [77,78]. TL can engage in personal interactions and communication with each employee, explicating the necessity and path towards innovative work [34]. Moreover, they can inculcate a sense of confidence among employees, assuring them that their ideas and suggestions will be duly acknowledged and considered for top management agenda points for decision-making. Incorporating employees' ideas and suggestions into the organizational decision-making process empowers SMEs to enhance innovation and EIWB [65].

TL has the capacity to encourage open communication and whistleblowing behaviors, enabling the identification and reporting of practices that impede organizational innovation [79]. The inspirational communication skills of a TL have the potential to build confidence in employees, motivating them to highlight errors and offer suggestions for innovation without hesitation. Recognition, trust, and encouragement in leadership have been firmly established as pivotal factors that influence the development of EV behaviors that promote innovative practices [28,80]. Based on SET, the initial behaviors of support are instrumental in shaping the reciprocal interactions within social exchange processes [60]. TL purposefully conveys a belief in the capabilities of followers and inspires them to strive for a more promising future [81]. TL is characterized by a willingness to comprehend followers' concerns and take suitable measures to address specific individuals' needs [82]. TL can achieve this by actively listening, engaging in direct conversations with staff members, fostering an environment where they can express themselves freely, and providing support for voice behavior [34]. Building upon the foundation of the review, this study proposes the following hypothesis:

**H3.** *EV mediates the relationship between TL and EIWB.*

### 2.6. The Moderating Role of Innovation Climate (IC)

IC refers to the way employees perceive various aspects of organizational activities, such as organizational support, practices, reward policies, procedures, and expectations within the organization [30]. It serves as a perceptual framework through which businesses can create purposeful work environments that yield the desired outcomes for employees [31]. The organizational climate holds a crucial and strategic role in shaping and influencing innovation [23]. Innovation paves the way for a culture that promotes creative thinking while also embracing the notion of learning from previous mistakes [83]. Moreover, IC signifies an environment where individual ideas hold significance, facilitating both individual and organizational growth [84]. Similarly, it is an environment that fosters and amplifies novel ideas while also nurturing a high degree of adaptability [85].

In line with the COR theory, a fundamental requirement for individuals to safeguard against resource depletion and accumulate resources is the necessity to invest in them [86]. This implies that individuals possessing a greater abundance of resources exhibit greater proficiency in orchestrating and accumulating resources, which leads them towards less vulnerability and resource attrition. When the IC within an organization is robust, employees exhibit a heightened inclination toward enhancing the existing work environment through innovative efforts [34]. Moreover, they can tap into a broader array of internal resources by effectively integrating, managing, and judiciously harnessing emotions. With the same notion, a diminished IC within the organization can result in the exhaustion of emotional resources among employees. In situations where these lost resources are not replenished, employees may curtail the corresponding behaviors to avert further resource diminishment [86].

First, this study posits that EIA serves as a mediator between TL and EIWB. However, contextual factors magnify the influence of EIA on EIWB. In the presence of IC, employees are more prone to receive encouragement and potential rewards for their innovative ideas within the business [31]. An empirical study unveiled that employees who possess EIA align themselves closely with the organization's goals and values, demonstrating a willingness to exceed standard expectations in furthering those objectives [7]. Furthermore, these individuals derive greater job satisfaction and perceive their capabilities to perform their work more effectively [7]. Therefore, firms that encourage a strong IC are more inclined to prioritize the cultivation and implementation of innovative concepts [31]. A work environment conducive to innovation fosters norms and practices that are endorsed and incentivized by organizations prioritizing dynamic shifts and assuming added responsibilities [87]. Therefore, in an environment where innovation and risk-taking are endorsed, employees experience a sense of empowerment and attribute their accomplishments to their voluntary involvement in novel endeavors [88]. Second, the organizational climate conducive to innovation strongly underscores the values of learning, sharing, advocating, and articulating novel ideas while also facilitating a high level of adaptability [89]. This, in turn, reinforces their sense of self-determination and confidence, prompting them to appraise the outcomes of their efforts more positively [90]. Such a perspective facilitates employees' access to additional resources and amplifies their involvement in innovative activities [91].

Third, previous studies have highlighted the necessity of cultivating a positive climate to foster innovation and creativity within an environment that champions a robust and influential EV [80]. Particularly, an IC is characterized by the appreciation of individual ideas, creating an environment conducive to flourish [84]. In scenarios where an organization boasts a high level of IC, there is a pronounced exchange of information, resources, and support between the leader and members. These interactions between leaders and members are characterized by loyalty, amicability, reciprocal trust, and a profound appreciation for each other's competencies [92]. Thus, employees are likely to display a higher level of resilience towards vulnerability, driven by their high positive anticipations of the conduct and initiatives of TL. In such a context, employees are more inclined to vocalize their thoughts and translate concepts into innovative outcomes. This inclination is nurtured

by a strong IC, which motivates them to convert their ideas into tangible innovation practices [93]. Furthermore, this climate inspires fellow employees to generate more pragmatic solutions for the firm's challenges [93]. Building upon the literature review, this study proposes the following hypotheses:

**H4.** *TL influences EIWB through its relationship with EIA, and the indirect effect will be stronger when the IC is strong rather than weak.*

**H5.** *IC moderates the relationship between TL and EIWB, such that the relationship is stronger when there are higher rather than lower levels of IC.*

**H6.** *TL influences EIWB through its relationship with EV, and the indirect effect will be stronger when the IC is strong rather than weak.*

### 3. Methodology

In this study, 550 SMEs were contacted through e-mail, inviting them to participate. Out of these invitations, 430 SMEs agreed to participate in this study. To collect data, an online questionnaire was administered using a convenience sampling technique. The researchers chose this approach for two key reasons. First, it offers a straightforward, cost-effective, and time-efficient data collection process, as highlighted by Stratton [94]. Given the considerable distances between various geographical regions in Pakistan, employing an online survey method proved to be a more economical and efficient choice [26]. Second, this sampling technique has seen extensive use in the field and, particularly in the SMEs, as evidenced by the studies conducted by Rashid et al. [95], and Shafique et al. [32]. A questionnaire was electronically disseminated to a total of 1200 employees working in the 430 distinct SMEs registered with the Small and Medium Enterprise Development Authority (SMEDA) [96], as well as chambers of commerce and industry associations across Pakistan. Moreover, the survey was specifically designed to be completed by heads of departments, as they were presumed to possess a greater comprehension of the prevailing top leadership style, EV behaviors, EIA, and EIWB within the organizations. Out of the 1200 e-mailed questionnaires, a total of 450 responses were received from 430 distinct SMEs within one month. This culminated in a response rate of 37.5 percent, which is aligned with prior research conducted in Pakistani SMEs [28,97]. Out of 450 responses, fifteen were dropped because of the missing information, and during the normality assessment of the data, 20 outlier responses were also removed, and the usable sample size was 415 responses. Furthermore, the sample size is according to the guidelines of Krejcie and Morgan [98], as they recommended that for a population equal to or above 100,000, the sample size should be 384.

#### *Data Collection Instruments*

All measurements utilized in this study were drawn from existing literature and exhibited strong internal consistency, as indicated by high Cronbach's alpha scores. Participants were requested to provide their responses using a five-point Likert-type scale. TL items were adopted from Rafferty and Griffin [48], which contained 15 items. EV was assessed using a set of six items adapted from Van Dyne and LePine's [53] scale. The IC was evaluated through nine items, which were adapted from the scales developed by Zhengang et al. [99]. EIWB was assessed using a set of six-item Scott and Bruce [100], and a 15-item scale was employed to assess EIA developed by Alavi et al. [44].

### 4. Analysis and Results

#### *4.1. Assessment of Measurement and Structural Model*

This study employed a technique called variance-based partial least squares structural equation modeling (PLS-SEM), distinguishing it from other covariance-based approaches like AMOS. The key factor in opting for this choice was the adaptability of PLS-SEM to

accommodate both types of research, which are confirmatory and exploratory [101]. PLS-SEM is an approach particularly advantageous for complex models with multiple levels, as it operates without imposing specific constraints related to data normality. PLS-SEM can also be effectively applied in analyzing datasets that are limited [102]. As a result, the empirical data analysis in the current study adopts the PLS-SEM approach with the utilization of Smart PLS software (v.4.0.9.6). The results of a study grounded in PLS-SEM undergo assessment in two phases: initially, a model measurement stage, followed by an evaluation of the structural model. Within the measurement model phase, the constructs' reliability and validity are analyzed, while in the structural model phase, the connections among the proposed hypotheses are examined. The “*t*” statistic and “*p*” values serve as tools to determine whether a hypothesis should be accepted or rejected.

The measurement findings include assessments of both model reliability and validity. In this study, the model's reliability was validated through the utilization of metrics such as Cronbach's alpha, roh\_A, composite reliability, and average variance extract (AVE) [103]. These values are presented in Table 1. In this study, Cronbach's alpha values of all constructs exceeding 0.70, which are considered acceptable values [104], are presented in Table 1. The observance of all Cronbach's alpha and composite reliability values to accepted standards serves as an indication of the model's reliability. roh\_A values, AVE, and VIF are also within acceptable range, presented in Table 1. Discriminant validity in this study is assessed through the utilization of the Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratios. Both approaches hold a strong reputation within the scientific community. Values are within acceptable range, and Table 2 provides the presentation. Furthermore, to meet the required criteria, an examination of the HTMT values was also conducted. Based on the findings outlined in Table 3, the HTMT values for the constructs are all below 0.85. This suggests that the model employed in this investigation has effectively achieved discriminant validity. Moreover, Figure 2 represents the measurement model.

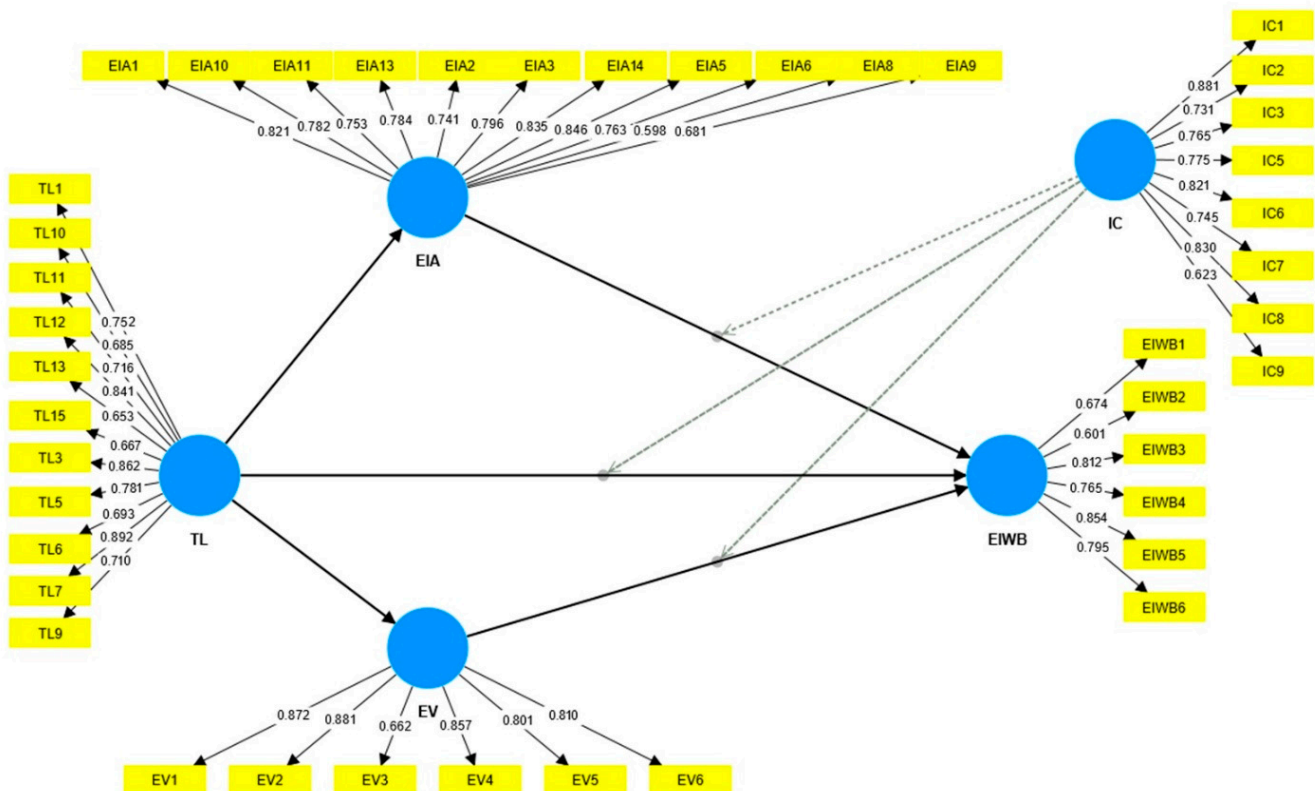


Figure 2. Measurement model.

**Table 1.** Reliability and convergent validity.

Construct	Item	Outer Loadings	VIF	Alpha	roh_A	Composite Reliability	AVE
TL	TL 1	0.752	2.34	0.865	0.901	0.952	0.705
	TL 3	0.862	2.68				
	TL 5	0.781	2.71				
	TL 6	0.693	1.89				
	TL 7	0.892	1.87				
	TL 9	0.710	1.62				
	TL 10	0.685	2.89				
	TL 11	0.716	2.61				
	TL 12	0.841	2.52				
	TL 13	0.653	2.91				
	TL 15	0.667	2.34				
EIA	EIA 1	0.821	2.91	0.827	0.843	0.863	0.788
	EIA 2	0.741	1.92				
	EIA 3	0.796	1.75				
	EIA 5	0.846	1.69				
	EIA 6	0.763	2.57				
	EIA 8	0.598	2.35				
	EIA 9	0.681	2.89				
	EIA 10	0.782	1.99				
	EIA 11	0.753	2.66				
	EIA 13	0.784	2.71				
	EIA 14	0.835	2.99				
EV	EV 1	0.872	2.01	0.883	0.826	0.864	0.698
	EV 2	0.881	1.45				
	EV 3	0.662	1.59				
	EV 4	0.857	2.82				
	EV 5	0.801	2.74				
	EV 6	0.810	2.62				
IC	IC 1	0.881	2.94	0.795	0.904	0.963	0.765
	IC 2	0.731	2.70				
	IC 3	0.765	1.65				
	IC 5	0.775	1.94				
	IC 6	0.821	1.67				
	IC 7	0.745	2.55				
	IC 8	0.830	2.79				
	IC 9	0.623	2.44				
	EIWB	EIWB 1	0.674				
EIWB 2		0.601	2.99				
EIWB 3		0.812	1.38				
EIWB 4		0.765	1.65				
EIWB 5		0.854	1.99				
EIWB 6		0.795	2.88				

TL = Transformational Leadership; EIA = Employees' Intellectual Agility; EV = Employee Voice; IC = Innovation Climate; EIWB = Employees' Innovative Work Behavior.

**Table 2.** Discriminant validity (Fornell–Larker Criteria).

Construct	TL	EIA	EV	IC	EIWB
TL	0.848				
EIA	0.356	0.819			
EV	0.255	0.368	0.826		
IC	0.220	0.304	0.529	0.872	
EIWB	0.323	0.356	0.563	0.621	0.821



**Table 3.** Discriminant validity (HTMT).

Construct	TL	EIA	EV	IC	EIWB
TL	-	-	-	-	-
EIA	0.379	-	-	-	-
EV	0.263	0.408	-	-	-
IC	0.245	0.338	0.617	-	-
EIWB	0.380	0.405	0.636	0.750	-

#### 4.2. Hypothesis Testing

The empirical investigation for this study was conducted by employing the method of bootstrapping with 5000 bootstrap samples [104]. Table 4 presents the findings for all conceivable pathways, including both direct and indirect links. In this current investigation, the “t” values and corresponding “p” values of the statistical analysis were considered to ascertain the acceptance or rejection of hypotheses. The results are shown in Table 5. The results of Hypothesis 1 ( $t = 2.041$ ,  $p = 0.042$ ) revealed that TL has a positive and significant effect on EIWB. Moreover, the beta value for hypothesis 1 suggests that a unit change in the independent variable corresponds to a 0.119 unit alteration in the dependent variable, resulting in the acceptance of H1. Moreover, Figure 3 represents the structural model.

**Table 4.** Direct, indirect, and total path estimates.

Direct Path	Beta	SD	t	p
IC → EIWB	0.062	0.049	1.285	0.201
IC × EV → EIWB	0.252	0.072	3.591	0.000
IC × EIA → EIWB	0.133	0.060	2.201	0.029
TL → EIWB	0.119	0.056	2.041	0.042
TL → EV	0.302	0.085	3.581	0.000
TL → EIA	0.355	0.088	3.995	0.000
EV → EIWB	0.252	0.064	3.954	0.001
EIA → EIWB	0.229	0.067	3.374	0.002
Indirect Path	Beta	SD	t	p
TL → EV → EIWB	0.077	0.033	2.331	0.021
TL → EIA → EIWB	0.082	0.033	2.531	0.012
Total Path	Beta	SD	t	p
IC → EIWB	0.062	0.049	1.285	0.201
IC × EV → EIWB	0.252	0.072	3.591	0.000
IC × EIA → EIWB	0.133	0.060	2.201	0.029
TL → EIWB	0.274	0.056	3.877	0.000
TL → EV	0.302	0.085	3.581	0.000
TL → EIA	0.355	0.088	3.995	0.000
EV → EIWB	0.252	0.064	3.948	0.001
EIA → EIWB	0.229	0.067	3.367	0.002

This study also included the investigation of EIA and EV as mediators between TL and EIWB; H2 and H3 are the hypotheses. As per hypothesis 2, EIA serves as a mediator in the link between TL and EIWB. The result of H2 ( $t = 2.531$ ,  $p = 0.012$ ) reveals that EIA positively mediates the link between TL and EIWB. Furthermore, the route value of 0.082 substantiates the acceptance of the H2 hypothesis in this study. The third hypothesis of the study postulates that the EV acts as a mediator in the relationship between TL and EIWB. The results ( $t = 2.331$ ,  $p = 0.021$ ) demonstrate that an EV effectively mediates the positive relationship between TL and EIWB. The beta value of 0.077 for H3 supports the acceptance of the third hypothesis in this research study. The present research further considers the moderating influence of IC on the relationships between TL and EIWB, between EIA and EIWB, as well as between EV and EIWB. The empirically postulated hypotheses of the

study are H4, H5, and H6. Similarly, H4 ( $t = 2.201, p = 0.029$ ) portrays that an IC positively moderates the relationship between EIA and EIWB. The results of hypothesis 5 ( $t = 2.041, p = 0.042$ ) reveal that an IC positively moderates the relationship between TL and EIWB. With the same notion, H6 ( $t = 3.591, p = 0.000$ ) shows the positive moderates the relationship between EV and EIWB. As a result, the following hypotheses are accepted: H4, H5, and H6 presented in Table 5.

Table 5. Hypotheses testing.

Hypotheses	Path	Coefficient (Beta)	SD	t	p	Status
H1	TL → EIWB	0.119	0.056	2.041	0.042	Supported
Mediation Hypotheses		Coefficient (Beta)				
H2	TL → EIA → EIWB	0.082	0.033	2.531	0.012	Supported
H3	TL → EV → EIWB	0.077	0.033	2.331	0.021	Supported
Moderation Hypotheses		Coefficient (Beta)				
H4	IC × EIA → EIWB	0.133	0.060	2.201	0.029	Supported
H5	IC × TL → EIWB	0.125	0.056	2.041	0.042	Supported
H6	IC × EV → EIWB	0.252	0.072	3.591	0.000	Supported

TL = Transformational Leadership; EIA = Employees' Intellectual Agility; EV = Employee Voice; IC = Innovation Climate; EIWB = Employees' Innovative Work Behavior.

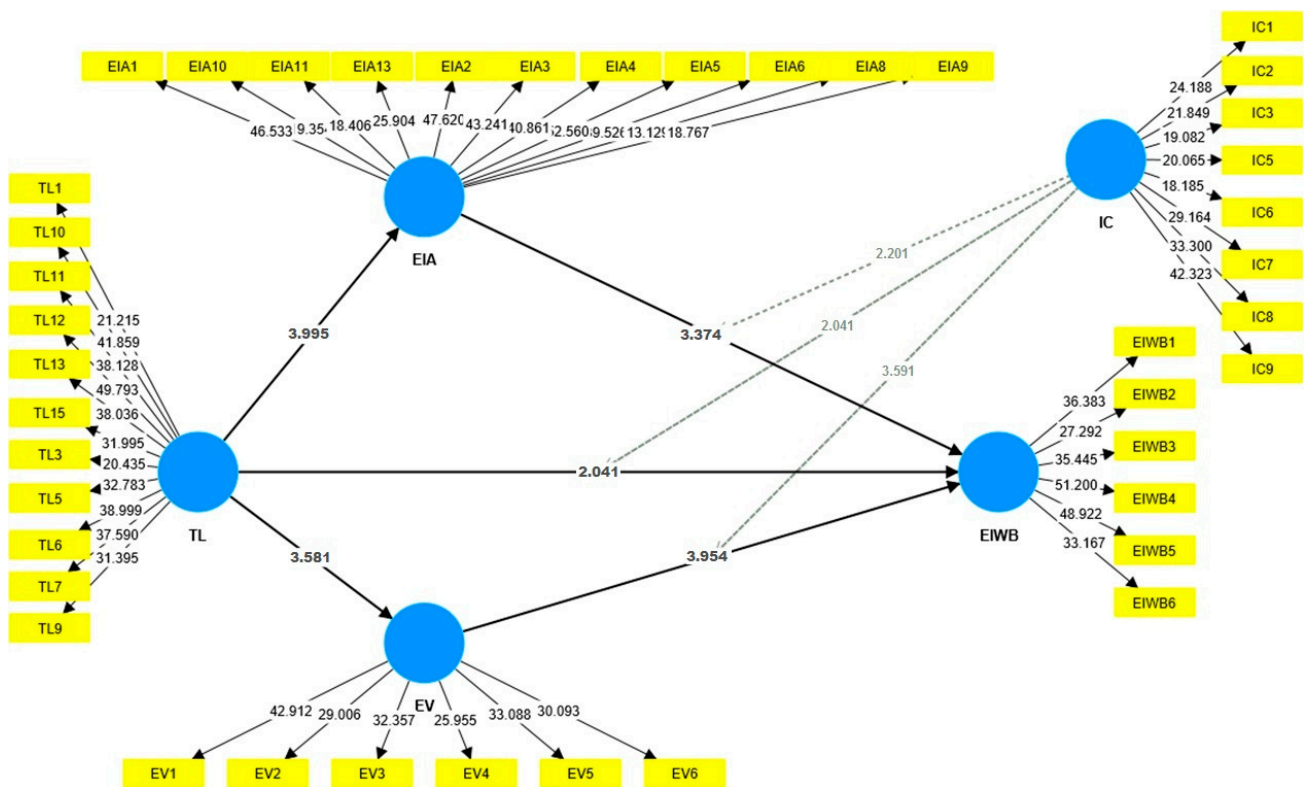


Figure 3. Structural model.

### 5. Discussion

#### 5.1. Summary of the Research Findings

The present study investigates the impact of TL on promoting EIWB through EV enhancement of EV and of their EIA. Across both direct and indirect effects, all the hypothesized relationships align with the descriptions found in existing literature. In addition to the establishment of the IC relationship, which played a moderating role in the mediated relationship between TL and EIWB through the pathways of EIA and EV. Furthermore, the data unveiled substantial coefficients of determination, underscoring the robustness

of the model in explicating EIWB within the context of TL. Further, the results indicated that TL possessed the ability to amplify the EIWB of SME employees (H1) directly and indirectly encouraged it through the mediation of EIA and EV (H2 and H3) as compared to the studies by Aryee et al. [39]; Zhang et al. [40]; Hoang et al. [41]; Kaya and Karatepe [42], they investigated different leadership styles with innovation and lacking the mediating mechanisms. Moreover, the indirect link between TL and EIWB is in line with previous study findings of Amankwaa et al. [69]. Their research similarly suggested that TL can influence EIWB by engaging various mediating mechanisms. Similarly, Dabic et al. [43] conducted a study on the EIA and innovation in micro and small businesses and investigated entrepreneurial leadership; their findings are limited to small businesses only as compared to this study, the findings presented the empirical evidence from small and medium enterprises, particularly through TL which is lacking in the literature. Furthermore, the results indicated that the IC was found to be a substantial moderating influence, impacting the link between EIA and EV/EIWB. Moreover, it strengthened the mediating impact of EV/EIWB in the relationship between TL and EIWB. The above-mentioned relationships exhibited greater strength in instances where the IC was more pronounced, as opposed to situations with a less pronounced IC.

This study considered the moderating role of IC as compared to the study conducted by Svendsen and Joensson [34]. Their study advocated that when the organizational IC is strong, employees are more likely to enhance the existing work environment through innovative practices, but their study lacks the investigation of the moderating role of IC between the TL and EIWB, while our findings presented the empirical evidence which was lacking in the previous studies. Moreover, the outcomes concerning the moderating role of the IC between EIA and EIWB were like those in Yu et al. [31]. Similarly, H5 findings are in line with the study findings of Afsar and Umrani [105], and found the moderating role of IC between TL and EIWB. Finally, this study further revealed the moderating function of the IC in the relationship between EV and EIWB. This finding aligns with the findings of Chen and Hou [80], who concluded that the IC acts as a moderator in the mediated link between ethical leadership and creativity through the EV (H6). Employees are more likely to be involved in creative work that extends beyond their job roles when they perceive their leaders as creative, conscious, and supportive. This support includes being open to discussions about objectives, exploring innovative approaches, providing guidance on creative work concerns, and being receptive to suggestions regarding innovative work. These findings emphasize the opportunity for organizations to use TL as a driving force to enhance their EIWB.

### *5.2. Theoretical Implications*

This study has several significant theoretical implications. Firstly, the escalating importance of leadership within SME literature has spurred researchers to investigate the intricate mechanisms embedded in leadership roles. The emphasis on cultivating innovation has drawn researchers' attention toward leadership as a fundamental precursor to innovation endeavors. Despite the considerable amount of research on TL, there remains a need for comprehensive testing of the precise mechanisms through which TL influences distinct job-related outcomes [7,106]. Therefore, through the identification of the predictive influence exerted by TL on EIWB, this study contributes to the advancement of the literature on leadership and innovation by developing and testing models in the context of SMEs. The findings indicate that leadership styles characterized by TL stimulate individuals' inclination towards EIWB. These results are consistent with previous research that also highlights the positive role of TL in nurturing EIWB [7,88]. Hence, a notable gap exists within the SME literature [29]. SEM enterprises require the inculcation of TL, particularly given that these organizations encounter elevated levels of stiff competition.

Secondly, this study contributes to the field of SMEs by identifying and explaining two mediating mechanisms, thereby enhancing our understanding of the intricate link between leadership and EIWB. This study broadens the scope by introducing additional

mediating processes [7]. This study enhances the value of the SME industry literature by unveiling the mediating function of EIA between TL and EIWB within an SME context [28]. This mediating mechanism aligns with the findings of Demartini and Beretta [20], who also proposed that EIA can serve as a mediator between TL and innovation. This underscores the notion that leaders play a pivotal role in shaping employees' affiliation with the organization [107]. Furthermore, this study offers distinct and valuable insights by showcasing how TL empowers employees to cultivate a mindset of intellectual agility. These leaders encourage employees to recognize business challenges, actively seek solutions, generate fresh and valuable perspectives, and propose innovative remedies through the nurturing of an environment conducive to innovation.

This study effectively explored the previously unexplored "black box" that lies between TL and the connection to EIWB. Through this integration, this study contributes to the ongoing discourse on the influence of EV on organizational outcomes, with a specific focus on SMEs, as highlighted by Bashshur and Oc [73]. Furthermore, this study makes a meaningful contribution to the UET [108] by expanding its theoretical foundations. Specifically, this study illustrates that the attributes of TL, such as vision, support, stimulation, recognition, communication, and, assume a pivotal role in promoting EV [109]; this translates into the EIWB in SMEs [110]. Through its explanation of how TL can facilitate SMEs in attaining innovation outcomes via EV, this study imparts valuable insights into the realm of innovation management frameworks within developing country SMEs. Through its explication of how TL can facilitate SMEs in attaining innovation outcomes, this study imparts valuable insights into the realm of innovation management frameworks within developing country SMEs. When EV is appropriately encouraged and harnessed by leaders of SMEs, it has the potential to contribute to the enhancement and introduction of novel technologies and products. This, in turn, can lead to a better EIWB.

Finally, this study contributes by establishing the link of IC within the realm of SMEs by underscoring its role as a moderator. It enhances the connection between TL and EIWB in SMEs. This study confirms the indirect impact of TL on EIWB through the mediating factors of EIA and EV. This study's findings provide the necessary amount of evidence that contributes to offering valuable theoretical insights. Thus, this study presents additional evidence supporting the moderating function of the IC in the relationships among TL, EIA, EV, and EIWB. It explains the mechanism through which the effects of TL are transmitted and delineates the contextual limits within which these effects operate. To the extent of the researchers' knowledge, previous studies rarely investigated the moderating influence of IC on the link between TL and EIWB. Similarly, the moderating impact of the IC on the effects of TL via mediating variables has remained largely unexplored. This is significant given the earlier emphasis on the importance of fostering an environment conducive to employees' IC. Therefore, SMES must synchronize the interests of their employees with those of the company and its stakeholders. This alignment fosters motivation and cultivates an environment where employees feel secure and empowered to voice their opinions. Leaders play a continuous role in shaping the work environment and establishing the atmosphere within the organization they operate in, which extends to creating an IC for encouraging innovation [7]. Thus, within the domain of SMEs, this study marks the first investigation into the relationship, thereby making a significant and notable contribution to the pertinent literature.

### 5.3. Practical Implications

The outcomes of this study carry implications for business leaders and practitioners. These findings emphasize the importance for business leaders and entrepreneurs to foster a culture of innovation among their employees actively. This proactive approach is crucial for maximizing the long-term growth and competitiveness of their organizations. First, the findings of this study offer valuable insights into the specific roles played by TL in the initiation and direction of innovation within their organizations. Additionally, they shed light on the creation of an optimal environment for promoting innovation

within these organizational settings. Considering the predictive influence demonstrated by TL, managers within SME firms can effectively stimulate and encourage their EIWB by embracing and implementing TL practices. This style of leadership can inspire and empower staff members to explore and experiment with innovative ideas, such as novel welcoming experiences, eco-friendly initiatives, or customized services. It encourages them to seek out and capitalize on emerging business opportunities actively and to be willing to take calculated risks. Furthermore, leaders can leverage the insights gleaned from this study to advocate for the adoption of TL. This approach can be instrumental in establishing innovative environments that encourage an atmosphere where employees are emboldened to share new ideas and concepts in a secure and supportive environment. Secondly, this study sheds light on the mediating role of EIA within the connection between TL and EIWB. It underscores that cultivating EIA among SMEs employees can serve as a catalyst for Promoting EIWB. Employees must recognize that their intellectual agility holds a substantial influence over their level of innovation in their roles. Hence, they should actively cultivate their capacity to perceive and assess diverse viewpoints, analyze evolving factors, and continually formulate new solutions. This approach is vital for stimulating a culture of continuous innovation. TL plays an essential role in attaining this objective. TL articulates a clear vision and inspires employees at all organizational levels to take ownership of their responsibilities. They demonstrate an understanding of employee concerns, create a positive work atmosphere, and facilitate confidence-building workshops that contribute to the development of stronger EIA. Thirdly, this study explores the mediating mechanism wherein EV mediates between TL and EIWB.

SME firms can stimulate the culture of EIWB by actively promoting and valuing the EV. Based on this study's findings, it is recommended that SME managers place a strong emphasis on recognizing and encouraging EV. Furthermore, seeking external support from organizational leaders can be instrumental in enhancing and nurturing EIWB. Hence, managers should prioritize cultivating a deeper level of care and interaction with their employees, promoting an environment where employees feel accepted and engaged in their work [111]. Such an approach will empower employees to express themselves and contribute to innovative endeavors freely. Finally, the finding highlights that the influence of TL on EIWB via the pathway of EIA/EV is further strengthened when subjected to the moderating effect of a high IC. This research provides managers and leaders with a strong foundation upon which they can establish a conducive and supportive IC. Furthermore, the findings indicate that companies that foster an innovation climate experience amplified benefits from the practice of TL. Therefore, the researchers propose that organizations raise their expectations regarding employee contributions, such as nurturing an IC. This can be achieved by motivating employees to generate fresh ideas and explore novel avenues in areas like technologies, processes, or products, as emphasized by Yu et al. [31]. Furthermore, SMEs managers play a pivotal role in cultivating an IC within the workplace [62]. To accomplish this, managers must serve as exemplars, leading by their innovative actions and motivating employees to embrace and demonstrate EIWB. This study also presents significant implications for the top managers/management of the SME industry in Pakistan. This is particularly crucial given that the SME sector in Pakistan is acknowledged as a contributing factor to climate change. This is primarily due to the substantial industrial and energy-related infrastructure development in the country, especially within the context of the Pakistani SMEs.

## 6. Conclusions

This study thoroughly examined the influence of TL on enhancing EIWB, focusing on the amplification of EV and EIA. The research confirmed both direct and indirect effects, aligning with existing literature in the field. Further, this study established the pivotal role of IC as a moderator, significantly impacting the relationship between TL and EIWB. The findings provided empirical evidence that TL not only directly stimulated innovation among SME employees but also indirectly encouraged it through the mediation of EIA



and EV. Unlike previous studies that explored diverse leadership styles in innovation without considering these specific mediating mechanisms, this research provided empirical evidence from SMEs that were previously ignored. This study addresses a significant gap in the existing literature. Additionally, this study's results indicated that the strength of these relationships was particularly distinct in contexts with a more substantial IC role as a moderator. This research contributes valuable insights, shedding light on the complex interplay between TL, IC, and EIWB, thus enriching our understanding of organizational dynamics in fostering innovation within SMEs.

#### *Limitations and Future Research Directions*

This study, like any research, is not exempt from limitations. Firstly, the empirical investigation solely employed a sample of SMEs situated in four provinces in Pakistan. Therefore, in order to enhance generalizability and enable replication across diverse industries, future research could strengthen its methodology by examining the model in regions beyond these specific provinces and exploring various work settings beyond SMEs. In addition, a comparison with other countries like Austria, Germany, Sweden, or United Kingdom could give a broader insight and understanding of cultural differences. Secondly, despite meticulous efforts to collect data from a wide range of sources, the current findings might not comprehensively cover the enduring impact of TL on EIWB over the long term. Therefore, future research could consider adopting a longitudinal approach, conducting experimental investigations to ascertain the causal relationship between these constructs, or comparing cultural differences. Lastly, this study needs to unveil the extent to which TL contributes to innovation at the team level. It solely explored the connection between TL and EIWB at the individual level. Therefore, it is recommended that future studies approach this association from a different perspective and investigate its implications at broader levels.

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**Institutional Review Board Statement:** The study complied with the Declaration of Helsinki and followed its ethical codes for individuals, samples, and data collection involved in each research procedure. Before the initiation of this study, we presented the study topic to the Ethics Committee of Bahria University and submitted a proposal stating the purpose of the study, sample, data sources, and details of written informed consent for respondents. All of the above documents were approved by this committee.

**Informed Consent Statement:** Prior to the questionnaire, the researchers asked the respondents to read the written informed consent carefully, introduced the purpose of the study to the respondents, and explained that the data would be used for research only and that all information about the respondents would be kept confidential. All respondents were informed and volunteered to complete the questionnaire.

**Data Availability Statement:** The original contributions presented in the study are included in the article; further inquiries can be directed to the corresponding author.

**Conflicts of Interest:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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