

IMPACT OF E-LEADERSHIP ON ORGANIZATIONAL INNOVATION PERFORMANCE: ROLE OF EMPLOYEE FOLLOWERSHIP

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Abstract: *To investigate the influence of E-Leadership on organizational innovation performance (OIP), data from previous studies were analyzed, and a theoretical model containing E-Leadership, employee innovation behavior (EIB), followership, and OIP was constructed using the theoretical frameworks of the Supervisor's Organizational Embodiment (SOE) theory, social learning theory, and "social man" hypothesis. Subsequently, to investigate the interrelationships of E-Leadership, followership, and OIP, 372 questionnaire responses were collected from workers at representative Chinese foreign export enterprises, and data were analyzed using a manager-employee-matched design. Data analysis showed that: (1) The six dimensions of E-Leadership have a positive impact on OIP, (2) EIB mediates the effect of the six E-Leadership dimensions on OIP, and (3) The effects of E-Communication, E-Change, and E-Tech on EIB are negatively moderated by followership. Therefore, the findings suggest that organizations can improve innovation performance by improving managers' E-Leadership. At the same time, they should effectively influence employees' followership to prevent reductions in innovation behavior due to over-compliance with managers. This study not only provides a reference for enterprises to improve their OIP but also promotes theoretical research on E-Leadership.*

Key words: *E-Leadership, Followership, Employee innovation behavior, Organizational innovation performance, Paired data method.*

1. Introduction

The spread of COVID-19 made commuting challenging, highlighting the importance of organizational digitization and E-Leadership for organizations and

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their operational activities (Antonopoulou et al., 2021b, 2021a; Hai et al., 2021; Karakose et al., 2021). Digitization emerged as a key strategy to navigate the problems arising from this unexpected situation. Since the outbreak of the COVID-19 pandemic, Chinese exporters have faced numerous challenges, including increased freight costs, rising production costs, and decreased international orders (Haimin et al., 2021). These organizations have found it difficult to distinguish themselves by solely relying on low cost as their primary competitive strategy.

A key opportunity for foreign export enterprises to improve their organizational competitiveness lies in improved innovation performance (Trantopoulos et al., 2017). Many foreign export enterprises have struggled with adapting to the sudden changes in operational and business landscapes, and their export orders have fallen sharply. Despite China's overall export growth, several enterprises have reported reductions of 20–40% in their order quotas. Therefore, in this digitization environment, it is important to study how foreign export enterprises improve their organizational innovation performance (OIP) and thereby increase organizational competitiveness and profitability.

Existing evidence demonstrates that E-Leadership is positively correlated with organizational innovation and competitiveness (Cahyadi & Magda, 2021). Furthermore, E-Leadership positively impacts both employee innovation behavior (EIB) (Erhan et al., 2022) and OIP (Erhan et al., 2022). Moreover, according to the followership theory, managers can only influence organizational operations if employees show a certain degree of followership toward them (Maccoby, 2004). Nevertheless, there is little research into the indirect influence of E-Leadership on OIP via EIB. Given the aforementioned opinions, it is necessary to analyze the specific factors contributing to the influence of E-Leadership on OIP.

How does E-Leadership affect OIP? Are there any environmental factors that mediate these relationships? All these questions must be explored in depth to provide specific suggestions for improving OIP. At the same time, theoretical research on E-Leadership can be expanded by uncovering the pathway of the influence from E-Leadership to OIP and the role of followership in E-Leadership and EIB.

Based on the Supervisor's Organizational Embodiment (SOE) theory, social learning theory, and "social man" hypothesis, this paper deduces the effects of E-Leadership on OIP and the mediating role of EIB in these effects. Additionally, this study also explores whether EIB exerts a mediating effect in the relationship of E-Leadership with OIP and whether followership plays a moderating role.

The research strategy used in this study was as follows: (1) Based on previous findings from other researchers, the SOE theory, social learning theory, and "social man" hypothesis were adopted to propose three hypotheses regarding the mediating and moderating effects of EIB and followership, respectively. (2) Representative export enterprises in Guangdong were selected as research objects, and the organizations' employees and their direct managers were surveyed using questionnaires. Subsequently, matched (manager–employee) data were analyzed. (3) Based on the developed hypotheses, the influence of E-Leadership, followership, and EIB on OIP was investigated to clarify the role of each factor in promoting OIP. (4) After discussing the research findings, corresponding management suggestions for Chinese export enterprises were provided.

2. Literature review and theoretical hypothesis

2.1. Literature review

Avolio et al. (2000) proposed the concept of E-Leadership to describe the organizational impact of traditional leadership traits, such as attitudes and abilities, in conjunction with information technology (Avolio et al., 2000). Roman et al. (2019) defined E-Leadership as the process through which managers use E-Tech to influence employees (Roman et al., 2019). E-Leadership is a multifaceted approach and includes changing employees' attitudes, managing their emotions, optimizing their thought processes, changing their behaviors, and improving their performance. Kahai (2012) stated that information technology had changed the leadership environment, affecting the original hierarchical structure between leaders and stakeholders, resulting in flatter organizations and greater transparency (Kahai, 2012). Consequently, information technology has influenced how people perceive their leaders and colleagues. Kelley & Kelloway (2012) found that transformational leadership can moderate the relationship between contextual elements and employees' attitudes in remote environments, thereby influencing employees' perception of leadership (Kelley & Kelloway, 2012). Berman & Korsten (2014) conducted a large-scale survey among CEOs running companies of different sizes across 64 countries and 18 industries (Berman & Korsten, 2014). They found that leaders of outstanding organizations can establish an open, interconnected, and highly collaborative organizational culture in a digital setting. Studies have also shown that managers with higher E-Leadership scores have higher job satisfaction (Zeike et al., 2019). Mihardjo and Sasmoko (2019) found that E-Leadership indirectly affects business model innovation through the co-development of strategies (Mihardjo & Sasmoko, 2019). Van Wart et al. (2019) compiled a list of 15 questions for the evaluation of E-Leadership. These questions tested the effective development of E-Leadership and classified E-leadership into six abilities that digital leaders should have: E-Communication, E-Social, E-Change, E-Team, E-Tech, and E-Trust (Van Wart et al., 2019). Subsequently, Roman et al. (2019) incorporated these six factors into the Six E-Competency Model. Based on this model, they developed a set of measurement tools in which each ability could be measured by three indicators (Roman et al., 2019). Their scale has now been widely recognized and applied in research studies.

The academic community is yet to reach a consensus regarding the definition of innovation performance. Drucker (1993) highlighted that innovation performance reflects the innovation results achieved by an enterprise (Drucker, 1993). Coombs (1996) posited that innovation performance is a measure of the extent to which technical innovation personnel participates in innovation activities, reflecting the outcomes of early investments and organizational operations (Coombs, 1996). Mumford (2000) proposed that innovation performance includes new technologies and products that enable the survival and development of an enterprise, along with all the factors that affect improvements in innovation performance due to contributions by innovative employees (Mumford, 2000). Hagedoorn & Cloudt (2003) posited that innovation performance, in a narrow sense, refers to the degree of transformation in innovation achieved by enterprises (Hagedoorn & Cloudt, 2003). In a broad sense, it encompasses both the narrow definition of innovation performance and the extended connotations generated by innovative ideas, including the degree of technological innovation and the commercialization of innovation results. Woodman et al. (1993) suggested that individual innovation, that is,

employee innovation, is at the core of organizational innovation (Woodman et al., 1993). Innovation by employees extends and transforms to generate team innovation, ultimately contributing to organizational innovation. Many scholars have studied the indicators of OIP, such as the number of new products, the number of patents, and financial indicators. Dyer & Singh (1998) used indicators such as human resource expenses and organizational output to measure enterprise innovation performance (Dyer & Singh, 1998). Meanwhile, Lovelace et al. (2001) and Jantunen (2005) used key metrics such as the speed of new product development, the success of new products, the number of new products developed, and the contribution of new product sales to total sales as measures of innovation performance (Jantunen, 2005; Lovelace et al., 2001). Finally, Katila & Ahuja (2002) and Sidhu et al. (2007) used the number of new products to measure OIP (Katila & Ahuja, 2002; Sidhu et al., 2007), Laursen & Salter (2006) and Grimpe & Sofka (2009) both chose the turnover of new products to measure OIP (Grimpe & Sofka, 2009; Laursen & Salter, 2006), and Heeley et al. (2008) adopted enterprise innovation, technological improvement, and operational performance as indicators of enterprise innovation performance (Heeley & Jacobson, 2008).

Miller et al. (2004) reported performance differences between relationship-oriented and task-oriented followers under different job pressures (Miller et al., 2004). According to their findings, relationship-oriented followers perform better under moderate pressure, while task-oriented followers perform better under high-pressure work environments. Gardner et al. (2005) study demonstrated that the degree of employees' followership toward their leaders could predict their level of trust, dedication, job satisfaction, and continuous performance improvement (Gardner et al., 2005). Interestingly, Benjamin & Flynn (2006) revealed that the fit between a leader's style and an employee's working style affects the follower's motivation and perception of the leader (Benjamin & Flynn, 2006). Consistent with these findings, Kellerman (2008) showed that a greater harmony in the relationship between leaders and followers begets a greater sharing of common values (Kellerman, 2008). This allows leaders to provide more effective and appropriate feedback to their subordinates and improves the receptiveness of the followers to this feedback. Many scholars have developed scales for measuring followership. Notably, the scale developed by Wenjie et al. (2015) — which contains six dimensions and 21 items, including Respectful Learning, Loyal Dedication, Authority Maintenance, Intention Comprehension, Effective Communication, and Active Execution — has been widely used in follower research in China (Wenjie et al., 2015).

To our knowledge, the relationship between E-Leadership and OIP has not been clearly dissected so far. However, based on the results of previous research, it appears that there may exist an association between E-Leadership and EIB and OIP, with followership playing a moderating role in the relationship between E-Leadership and EIB.

2.2. Theoretical background

Leadership is a complex process involving interaction among leaders, followers, and their environment. Denison et al. (1995) suggested that the ability to play multiple roles is leadership (Denison et al., 1995). Yukl (1998) concluded that most definitions of "leadership" emphasize that it is a process in which individuals intend to influence others (Yukl, 1998). However, according to Nahavandi (2009), leadership is an organizational phenomenon in which leaders use their influence to guide the members of the organization, and the emergence of leaders results in the

establishment of an organizational hierarchy (Nahavandi, 2009). Northouse (1999) posited that leadership refers to the process in which individuals lead other individuals in their organization through influence to realize common organizational goals (Northouse, 1999). Notably, Hernandez et al. (2011) summarized five sources and four transmission mechanisms of leadership (Hernandez et al., 2011). They believed leadership arises from the interaction, collective action, and contextual features between leaders and followers. It can affect individuals, teams, and organizations through four mechanisms: traits, behaviors, cognition, and influence. Therefore, it can be speculated that E-Leadership, as a type of leadership, may impact the innovation behavior and outcomes of organizations and employees.

Levinson (1965) first developed the concept of organizational reciprocation of leadership (Levinson, 1965). He pointed out that in organizational situations, employees often regard leaders as agents of the organization. That is, employees habitually consider the leaders' instructions, evaluations, and guidance as those of their organizations. Therefore, when employees are praised or criticized by leaders, they attribute this feedback to the organization itself. Based on this, Eisenberger et al. (2010) defined the concept of Supervisor's Organizational Embodiment (SOE), which states that employees often consider their direct managers as representatives of the organization (Eisenberger et al., 2010). In real-life organizational settings, employees form an opinion regarding this association based on the perceived degree of similarity between leaders' and organizations' actions at work. If the similarity is high, employees subconsciously regard their leaders as representatives of the organization rather than as authority figures with individual abilities and independent actions. This suggests that employees may consider the E-Leadership of their leaders as a characteristic of the organization.

Bandura (1978) developed the theory of social learning, which emphasizes the interaction between human behavior and the environment and focuses on the influence of human behavior through observational learning and self-regulation (Bandura & Walters, 1977). During observation and learning, individuals acquire symbolic representations of demonstrated activities, and these representations guide their actions. In academic and work environments and even in daily life, individuals often pay attention to others who possess similarities to them, have remarkable qualities, or are recognized as excellent. Moreover, individuals unwittingly remember the words and deeds of their role models in specific situations. When they encounter similar situations, individuals tend to mimic the behavior of their role models to achieve the same outcomes. The outside world often affirms this learned behavior, reinforcing it and encouraging individuals to continue these actions. Thus, it can be speculated that the E-Leadership of leaders may affect the innovation ability of employees.

The "social man" hypothesis by Mayo (1933) establishes a theory of interpersonal relationships (Mayo, 1933). Social people assume an employee is a "social man" who belongs somewhere, rather than in isolation. In addition to pursuing an income, the "social man" also yearns for a sense of security, belonging, respect, and friendship, both at work and in his personal life. According to this theory, interpersonal relationships and employees' sense of belonging in the organization are more effective for motivating employees than economic rewards. Therefore, EIB may be modified based on the standards of other employees.

Bandura (1978) criticized the views of behaviorism and humanism and stated that only acknowledging the one-way influence of the environment on individual behavior or the influence of individuals on the environment is myopic (Bandura, 1978). By synthesizing thoughts of behaviorism, humanism, and cognitive

psychology, Bandura (1978) posited the idea of reciprocal determinism among behaviors, humans, and the environment. The logical relationships of this concept and its differences compared with the original concept are shown in Figure 1. Reciprocal determinism includes three modes: the reciprocal relationship of behavior with individuals and the environment, that of individuals with the environment and behavior, and that of the environment with individuals and behavior.

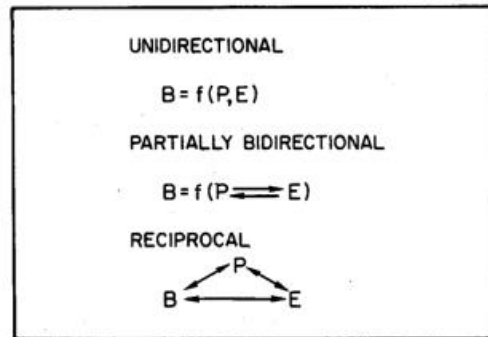


Figure 1. Comparison of reciprocal determinism with the unidirectional influence and the partial bidirectional influence theories

In the figure, B represents individual behavior, P represents individual cognition and other internal events affecting thought and behavior, and E represents the external environment. The arrow indicates the causal directions of these factors. It is obvious that individuals and the environment share a two-way interaction. The individual's cognition originates from the environment, and the individual acts according to this cognition to influence the environment. The relationship between the environment and behavior is also bidirectional. Therefore, the environment not only enables some human behaviors but also restricts some human behaviors, while the behaviors occur in response to and influence the environment as well. Finally, the two-way relationship between individuals and behavior demonstrates that behavior is dominated and guided by individual cognition. At the same time, behavior has an impact on individual cognition. Hence, EIB could be affected by followership and managers' E-Leadership.

2.3 Impact of E-Leadership on OIP

According to leadership theory, leader traits, behaviors, cognition, and influence can affect individuals, teams, and organizations. Subsequently, individuals in the organization can realize the common goals of the organization. Accordingly, E-Leadership by managers may affect the digital prowess of the organization. Digitalization is rapidly changing the business environment today, and technologies such as the Internet, machine learning, digital platforms, social media, artificial intelligence, and big data are rapidly becoming critical components of business infrastructure. Thus, enterprises are constantly seeking digital transformation to improve OIP.

According to the six dimensions of E-Leadership described by Van Wart et al. (2019), digital leaders should have six abilities: E-Communication, E-Social, E-Change, E-Tech, E-Team, and E-Trust. E-Leaders with better digital communication skills can increase the quality of communication within the organization (Van Wart

Impact of E-leadership on organizational innovation performance: Role of employee... et al., 2019). This could lower the cost of communication, improve communication efficiency, and contribute to better OIP. Similarly, it could be inferred that better performance in E-Communication and the other five competencies can improve the innovation performance of the organization.

Hence, it can be hypothesized that:

H1a: E-Communication positively influences OIP.

H1b: E-Social positively influences OIP.

H1c: E-Change positively influences OIP.

H1d: E-Team positively influences OIP.

H1e: E-Tech positively influences OIP.

H1f: E-Trust positively influences OIP.

2.4 Mediating role of EIB

According to Berman and Korsten (2014), when managers have stronger E-Leadership skills across all six competencies, their innovation ability becomes stronger (Berman & Korsten, 2014). The social learning theory (Bandura & Walters, 1977) suggests that employees may subconsciously remember and imitate the specific behaviors of their managers in certain contexts, which can enhance their innovation ability. According to the leader-organization embodiment theory (Eisenberger et al., 2010), employees perceive the E-Leadership abilities of managers across various dimensions as organizational characteristics. The stronger the E-Leadership of managers, the stronger the employees' perception of the organization's digital capability and awareness and the stronger their innovation ability and awareness (Mihardjo & Sasmoko, 2019). The "social man" hypothesis (Mayo, 1933) indicates that employees naturally try to improve their innovation performance to enhance their organizational belongingness. Together, this indicates that managers' E-Leadership abilities serve as a foundation of skills, exemplary demonstrations, and motivation for EIB. Ultimately, EIB translates to the desired OIP that managers hope to achieve. Hence, it can be hypothesized that:

H2a: EIB mediates the influence of E-Communication and knowledge-sharing behavior (KSB) on OIP.

H2b: EIB mediates the influence of E-Social and KSB on OIP.

H2c: EIB mediates the influence of E-Change and KSB on OIP.

H2d: EIB mediates the influence of E-Team and KSB on OIP.

H2e: EIB mediates the influence of E-Tech and KSB on OIP.

H2f: EIB mediates the influence of E-Trust and KSB on OIP.

2.5 Moderating effect of followership

According to Jehn & Bezrukova (2004), followership reflects a series of behaviors by subordinates who follow leaders and the relationship between leaders and followers (Jehn & Bezrukova, 2004). Followership is defined as the series of behaviors that establish the relationship between leaders and subordinates and confer the characteristics of personnel orientation. Followership provides an environment where leaders and subordinates can work together to achieve a unified goal within an organization or business.

In the digital era, E-Leadership is considered necessary for innovation. According to Bandura's (1978) reciprocal determinism theory, environmental and internal individual factors jointly influence individual behavior (Bandura, 1978). Internal factors, such as skill, motivation, emotion, and goal orientation, are fundamental determinants of individual behavior and govern individuals' behavioral patterns and

intensity. For employees, managers' E-Leadership affects the entire organization (Yukl, 1998) and establishes the work environment. Meanwhile, employees' followership is an internal factor. According to the "social man" hypothesis (Mayo, 1933), to maintain good relationships with their colleagues, employees often try to act in a manner that is consistent with the behavior of their peers. When employees have low followership, the stronger the manager's E-Leadership, the stronger the overall organizational innovation climate (OIC), and the stronger the EIB. Conversely, when the OIC is weaker, EIB will be low (Northouse, 1999). However, employees with high followership tend to execute their manager's instructions and support them to maximize organizational benefits. In this case, stronger E-Leadership by managers could make employees think that executing the manager's instructions alone can maximize organizational benefits. This makes them less likely to engage in innovative behavior (Hernandez et al., 2011). If employees perceive their manager's E-Leadership to be poor, they will improve upon the leader's instructions to promote the maximization of organizational benefits and demonstrate their support for the manager, enabling the emergence of innovative behavior (Denison et al., 1995; Northouse, 1999). Therefore, it can be inferred that followership could play a negative moderating role in the effect of managers' E-Leadership on EIB.

Hence, it can be hypothesized that:

H3a: The influence of E-Communication on EIB is negatively moderated by followership.

H3b: The influence of E-Social on EIB is negatively moderated by followership.

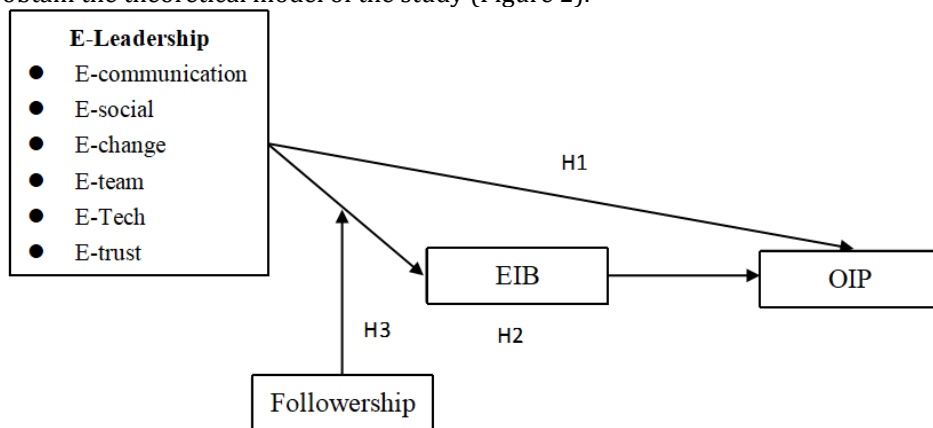
H3c: The influence of E-Change on EIB is negatively moderated by followership.

H3d: The influence of E-Team on EIB is negatively moderated by followership.

H3e: The influence of E-Tech on EIB is negatively moderated by followership.

H3f: The influence of E-Trust on EIB is negatively moderated by followership.

The theoretical analyses and hypotheses mentioned above can be summarized to obtain the theoretical model of the study (Figure 2).



Note: The control variables are gender, age, and highest education

Figure 2. Hypothesized conceptual model.

3. Study design

3.1. Study contents and methods

Regression analysis was used to test the hypothetical relationships among E-Leadership, followership, EIB, and OIP. This study aimed to examine the effect of E-Leadership on OIP and the mediating role of EIB and verify the moderating role of followership in the effect of E-Leadership on EIB.

The dependent variable (DV) in this study was OIP. Hence, employees working at import and export enterprises were selected as survey respondents. Since the relationships among OIP, E-Leadership, and KSB were the focus of this study, the respondents were individuals within the organization. Considering these characteristics, it was necessary to select organizations of a certain size where employees could imbibe innovation in their work.

3.2. Questionnaire design and sampling

The questionnaire survey method was used to collect data, and the likert scale was used to measure the variables involved based on the relevant research questionnaire design (Cheng et al., 2009; Yu et al., 2010). The three demographic variables — age, gender, and highest education — were used as control variables (CV).

In order to avoid homologous errors, the survey used a paired data method. Employees were administered tests to measure E-Leadership, followership, and OIP, and their managers were surveyed to measure EIB. The questionnaires used coding to record matching information. After the questionnaires were collected, the coded information (for matching) was recorded in the database. To improve questionnaire quality and ensure that respondents understood all items, researchers or designated personnel were assigned to each enterprise to guide the respondents and enable questionnaire completion and collection.

Purposive sampling was adopted, and OIP was the DV. The total import and export volume of Guangdong Province has been the highest among all provinces, autonomous regions, and municipalities in China for 36 consecutive years. In 2021, one-third of the top 100 import and export enterprises in China were from Guangdong. Hence, import and export enterprises from Guangdong were considered very representative in terms of China's imports and exports, and employees from these enterprises were selected as respondents for the questionnaire survey. According to the Guangdong Provincial Bureau of Statistics, in the first three quarters of 2022, Guangdong's total import and export volume was RMB 6.1 trillion. The top four regions among the 21 prefectures and cities were Shenzhen, Dongguan, Guangzhou, and Foshan, with import/export volumes of RMB 2.61 trillion, RMB 1.09 trillion, RMB 760 billion, and RMB 510 billion, respectively. The total import and export volume of these four prefectures and cities accounted for 81.48% of the total import/export volume of Guangdong Province. Hence, enterprises from these four prefectures and cities were chosen.

There are many import and export enterprises in Guangdong, with 35700 in Shenzhen alone. The total number of import and export enterprises in the above four regions is about 68000. Because the population is too large and the population parameters and statistics of the research sample are unclear, it is impossible to calculate the number of samples required based on a finite population. Sample size calculations performed according to the quantity of research variables dictate that the number of samples should be eight times the number of independent variables

(IV) plus 50. According to this standard, the required sample size for our study was more than 90 (Tabachnick et al., 2007). In general formal sampling for questionnaire-based research, the number of required samples is generally considered to be at least 350 (Creswell, 2002). Thus, this study required no less than 350 participants. Considering the possibility of invalid or incomplete questionnaires during the survey, we distributed more than 400 questionnaires. According to the proportion of total imports and exports, 230, 100, 70, and 45 copies of the questionnaire were distributed in Shenzhen, Dongguan, Guangzhou, and Foshan, respectively, after the investigators selected enterprises in the main industrial zones of each prefecture or city.

3.3. Variable measurement

The measurement scale used in this study was the maturity scale, which is used by many studies, and the variables were measured using the Likert scale method. Responses from "strongly disagree" to "strongly agree" were assigned scores of 1 to 7, respectively. More positive attitudes corresponded to higher scores.

First, E-Leadership was measured using the Six E-Competency Model scale (Roman et al., 2019), in which E-Leadership consists of six competencies, namely, E-Communication, E-Change, E-Social, E-Team, E-Tech, and E-Trust (Cronbach's α values of 0.667, 0.761, 0.787, 0.938, 0.745, and 0.903, respectively). Each competency was measured based on three items, and the mean of the three items was the score for the competency. Hence, a total of 18 items were examined.

Secondly, for measuring followership, we used the 21-item Scale of Followership in the Chinese context developed by Wenjie et al. (2015), with items such as "I admire and learn from the leader's ability in business and management" (Wenjie et al., 2015). The Cronbach's alpha coefficient for this scale was 0.929.

Thirdly, for measuring EIB, we used the 6-item scale developed by Scott & Bruce (1994), with items such as "Searches out new technologies, processes, techniques, and/or product ideas" (Scott & Bruce, 1994). The Cronbach's alpha coefficient for this scale was 0.89.

Finally, for measuring organizational innovation performance, we used the 6-item scale developed by Wei & Zheng (2013), with items such as "The team often introduces new technology to improve the production process of products" (Wei et al., 2013). The Cronbach's alpha coefficient for this scale was 0.84.

4. Data analysis

4.1. Questionnaire and descriptive statistics

A total of 422 questionnaires were sent out, and 408 were collected. After excluding questionnaires with missing responses and those with the same response selected for all questions, 372 valid questionnaires were retained, yielding an effective recovery rate of 88.2%. Among the questionnaires deemed valid, the gender distribution of respondents was 30.6% male and 69.4% female. Regarding age distribution, 57.3% of the respondents were < 25 years old, 29.6% were 25–35 years old, 10.5% were 35–45 years old, and 2.7% were > 45 years old. In terms of the respondents' highest educational qualifications, 3.5% held doctorates, 5.9% held master's degrees, and 64.8% held bachelor's degrees. Moreover, 25.8% of the respondents had other educational backgrounds. The details are shown in Table 1.

Table 1. Demographic characteristics

Gender distribution (%)		Age distribution (%)				Educational background distribution (%)			
Male	Female	<25	25–35	35–45	>45	Doctorate	Master's	Bachelor's	None
30.6	69.4	57.3	29.6	10.5	2.7	3.5	5.9	64.8	25.8

The scores for relevant questionnaire items were counted, and the mean scores for each item on the scale were calculated. The descriptive statistics are shown in Table 2.

Table 2. Descriptive statistics for questionnaire variables

	N	Max	Min	Mean	SD	Variance
E-Communication	372	1	7	4.68	1.02	1.05
E-Social	372	1	7	4.75	1.16	1.34
E-Change	372	1	7	4.83	1.31	1.73
E-Team	372	1.33	7	4.35	0.91	0.83
E-Tech	372	1.67	7	4.82	1.04	1.08
E-Trust	372	1	7	5.24	1.26	1.58
Followership	372	1	6.86	5.00	0.96	0.92
EIB	372	7	1	5.05	1.28	1.64
OIP	372	7	1	4.80	1.17	1.37

4.2. Confirmatory factor analysis

The results are shown in Table 3, Table 4, Table 5, and Figure 3.

4.2.1. Construct validity

Table 3. Overall goodness-of-fit test results

χ^2/df	RMSEA	GFI	AGFI	CFI	IFI	TLI
3.984	.073	.907	.912	.921	.923	.936
(<5)	(<0.08)	(>0.9)	(>0.9)	(>0.9)	(>0.9)	(>0.9)

As shown in Table 3, χ^2/df is 3.984, which is less than 5. Hence, based on the relevant standards for factor analysis (Lin, 2007; Ryu et al., 2003), the fitness of the research model was deemed acceptable. The RMSEA is 0.073, which is lower than 0.08, indicating that the result was acceptable. GFI is 0.907, AGFI is 0.912, CFI is 0.921, IFI is 0.923, and TLI is 0.936. All these values indicated that the model fitted well.

4.2.2. Convergent validity

Table 4. Convergent validity test results

	Path	Estimate	Average Variance Extracte	Composite reliability
A5_3	<--- E-Communication	0.755		
A5_2	<--- E-Communication	0.735	0.582	0.807
A5_1	<--- E-Communication	0.798		
A5_6	<--- E-Social	0.831		
A5_5	<--- E-Social	0.707	0.645	0.844
A5_4	<--- E-Social	0.863		
A5_9	<--- E-Change	0.901		
A5_8	<--- E-Change	0.906	0.753	0.901
A5_7	<--- E-Change	0.792		
A5_12	<--- E-Team	0.851		
A5_11	<--- E-Team	0.812	0.589	0.809
A5_10	<--- E-Team	0.620		
A5_15	<--- E-Tech	0.834		
A5_14	<--- E-Tech	0.888	0.672	0.859
A5_13	<--- E-Tech	0.730		
A5_18	<--- E-Trust	0.799		
A5_17	<--- E-Trust	0.866	0.701	0.876
A5_16	<--- E-Trust	0.846		
A6_3	<--- Followership	0.713		
A6_2	<--- Followership	0.681		
A6_1	<--- Followership	0.690		
A6_4	<--- Followership	0.760		
A6_5	<--- Followership	0.760		
A6_6	<--- Followership	0.730		
A6_7	<--- Followership	0.669		
A6_8	<--- Followership	0.769		
A6_9	<--- Followership	0.594		
A6_10	<--- Followership	0.725		
A6_11	<--- Followership	0.779	0.565	0.964
A6_12	<--- Followership	0.755		
A6_13	<--- Followership	0.831		
A6_14	<--- Followership	0.789		
A6_15	<--- Followership	0.800		
A6_16	<--- Followership	0.683		
A6_17	<--- Followership	0.797		
A6_18	<--- Followership	0.799		
A6_19	<--- Followership	0.811		
A6_20	<--- Followership	0.816		
A6_21	<--- Followership	0.785		
A9_1	<--- EIB	0.822		
A9_2	<--- EIB	0.825	0.697	0.932
A9_3	<--- EIB	0.866		

	Path		Estimate	Average Variance Extracte	Composite reliability
A9_4	<---	EIB	0.816		
A9_5	<---	EIB	0.864		
A9_6	<---	EIB	0.813		
A10_6	<---	OIP	0.914		
A10_5	<---	OIP	0.890		
A10_4	<---	OIP	0.868	0.750	0.947
A10_3	<---	OIP	0.892		
A10_2	<---	OIP	0.796		
A10_1	<---	OIP	0.832		

As shown in Table 4, the factor loads of the 51 items corresponding to four latent variables are all greater than 0.5. Hence, these topics corresponding to latent variables are very representative. Furthermore, the average variance extracted (AVE) value of the four latent variables is greater than the standard of 0.5, and the composite reliability (CR) of each latent variable is higher than the standard of 0.8. The results showed that the convergent validity of all four latent variables met the required standards.

4.2.3. Discrimination validity

Table 5. Discriminant validity test results

	E-Comm unicatio n	E-Soci al	E-Chan ge	E-Team	E-Tech	E-Trus t	Follow ership	EIB	OIP
E-Communica tion	.807								
E-Social	.526**	.844							
E-Change	.519**	.561**	.901						
E-Team	.413**	.467**	.547**	.809					
E-Tech	.518**	.533**	.585**	.508**	.859				
E-Trust	.473**	.516**	.531**	.570**	.580**	.876			
Followership	.03	.058	.130*	.172**	.146**	.194**	.964		
EIB	.404**	.421**	.613**	.427**	.604**	.494**	.599**	.932	
OIP	.286**	.357**	.490**	.326**	.426**	.369**	.411**	.617**	.947
Square root of AVE	.763	.803	.868	.767	.820	.837	.752	.835	.866

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided). The diagonal data represents the average variance extracted (AVE).

Table 5 shows a significant correlation among the dimensions of E-Leadership, followership, EIB, and OIP. In addition, the correlation coefficients between all four variables were less than 0.7 and lower than the square root of the corresponding AVE. Hence, the results demonstrated the presence of a certain correlation between the four latent variables, as well as a certain degree of differentiation. This indicated that the discriminant validity of the four scales was acceptable.

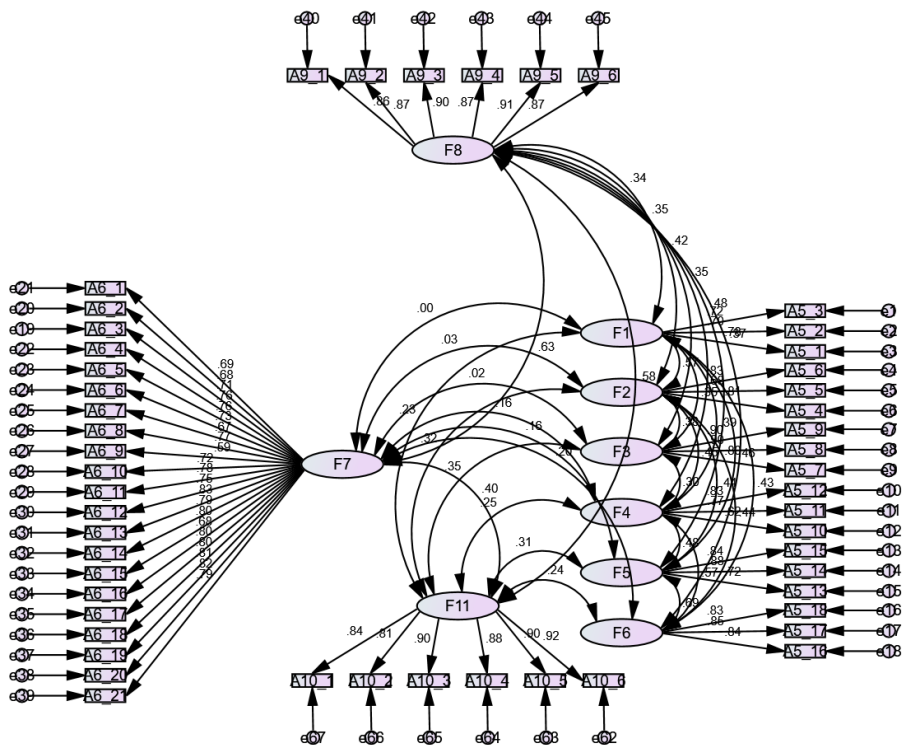


Figure 3. Confirmatory factor analysis

4.3. Model path analysis

The research data were used to analyze the path of the theoretical model; the results are illustrated in Figure 4. The analysis results demonstrated that followership adjusted the effect of E-Leadership on EIB. E-Leadership positively impacted OIP in a direct manner and positively impacted OIP through the mediating effect of EIB. Therefore, a research model was established.

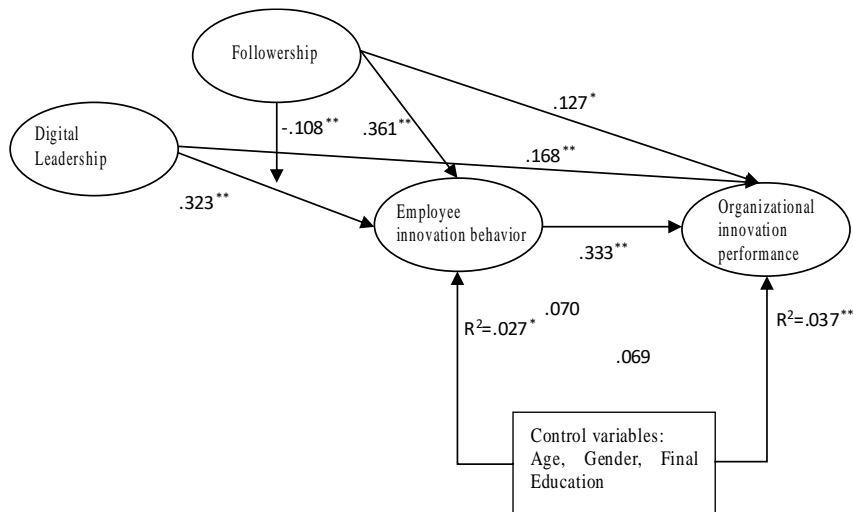


Figure 4. Path analysis results

4.4. Hypothesis testing

4.4.1. Effect of E-Leadership on OIP

According to the hypotheses in H1a, H1b, H1c, H1d, H1e, and H1f, E-Communication, E-Social, E-Change, E-Team, E-Tech, and E-Trust were considered IV. Gender, age, and highest education were considered CV, and OIP was taken as the DV. Accordingly, linear regression analysis was performed.

Table 6 shows two regression analysis models, where M1 represents the regression of OIP to the CV, and M2 represents the regression of OIP to E-Communication under the CV. The test results indicating the impact of E-Communication on OIP can be seen in Table 6.

Table 6. Impact of E-Communication on OIP

	DV: OIP	
	M1	M2
CV		
Gender	.017	-.008
Age	.186**	.144**
Highest education	.110*	.088
IV		
E-Communication		.263**
R2	.037**	.104**
ΔR2	.029**	.094**
F	4.689**	10.627**
ΔF	4.689**	27.429**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 7 shows two regression analysis models, where M1 represents the regression of OIP to the CV, and M2 represents the regression of OIP to E-Social under the CV. The test results indicating the impact of E-Social on OIP can be seen in Table 7.

Table 7. Impact of E-Social on OIP

DV: OIP		
	M1	M2
CV		
Gender	.017	-.028
Age	.186**	.121*
Highest education	.110*	.050
IV		
E-Social		.337**
R2	.037**	.142**
ΔR2	.029**	.133**
F	4.689**	15.231**
ΔF	4.689**	45.168**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Two regression analysis models are shown in Table 8, where M1 represents the regression of OIP to the CV, and M2 represents the regression of OIP to E-Change under the CV. The test results indicating the impact of E-Change on OIP can be seen in Table 8.

Table 8. Impact of E-Change on OIP

DV: OIP		
	M1	M2
CV		
Gender	.017	-.001
Age	.186**	.116*
Highest education	.110*	.051
IV		
E-Change		.473**
R2	.037**	.254**
ΔR2	.029**	.245**
F	4.689**	31.160**
ΔF	4.689**	106.538**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Two regression analysis models are shown in Table 9, where M1 represents the regression of OIP to CV, and M2 represents the regression of OIP to E-Team under

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the CV. The test results indicating the impact of E-Team on OIP can be seen in Table 9.

Table 9. Impact of E-Team on OIP

		DV: OIP	
		M1	M2
CV			
	Gender	.017	.036
	Age	.186**	.155*
	Highest education	.110*	.069
IV			
	E-Team		.309**
	R2	.037**	.130**
	$\Delta R2$.029**	.121**
	F	4.689**	13.708**
	ΔF	4.689**	39.300**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 10 shows two regression analysis models, where M1 represents the regression of OIP to the CV, and M2 represents the regression of OIP to E-Tech under the CV. The test results indicating the impact of E-Tech on OIP can be seen in Table 10.

Table 10. Impact of E-Tech on OIP

		DV: OIP	
		M1	M2
CV			
	Gender	.017	-.016
	Age	.186**	.109*
	Highest education	.110*	.079
IV			
	E-Tech		.406**
	R2	.037**	.196**
	$\Delta R2$.029**	.187**
	F	4.689**	22.309**
	ΔF	4.689**	72.437**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 11 shows two regression analysis models. M1 represents the regression of OIP to the CV, and M2 represents the regression of OIP to E-Trust under the CV. The test results indicating the impact of E-Trust on OIP can be seen in Table 11.

Table 11. Impact of E-Trust on OIP

DV: OIP		
	M1	M2
CV		
Gender	.017	.020
Age	.186**	.112*
Highest education	.110*	.063
IV		
E-Trust		.344**
R2	.037**	.149**
ΔR^2	.029**	.140**
F	4.689**	16.068**
ΔF	4.689**	48.394**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Tables 6 to 11 show that after controlling for the effects of demographic variables, the regression coefficients of OIP on E-Communication, E-Social, E-Change, E-Team, E-Tech, and E-Trust, respectively, are significant and positive. Based on the regression results, we can conclude that the hypotheses H1a, H1b, H1c, H1d, H1e, and H1f are all valid and can be accepted.

4.4.2. Impact of E-Leadership and EIB on OIP

Statistical methods (Baron & Kenny, 1986) state that variable X can be considered to affect variable Y through the mediating effect of variable M if variable X satisfies three conditions: First, the change in variable Y can be explained by a change in variable X; second, a change in variable M can explain the change in variable Y; and third, when the effect of variable M on variable Y is controlled, the effect of variable X on variable Y is zero (complete mediation) or significantly reduced (partial mediation).

Based on the hypotheses corresponding to H2a, H2b, H2c, H2d, H2e, and H2f, the research data were analyzed using linear regression. E-Communication, E-Social, E-Change, E-Team, E-Tech, and E-Trust were considered the IV; gender, age, and highest education were the CV; EIB was the mediator; and OIP was the DV.

Five regression analysis models are shown in Tables 12–17. M1 represents the regression of OIP to the CV; M2 represents the regression of OIP to DV considering the CV; M3 represents the regression of OIP to EIB under the CV; M4 considers the regression of OIP to digital communication under the CV and EIB; and M5 considers the regression of a certain dimension of E-Leadership to KSB under the CV.

Table 12. Mediating role of EIB in the influence of KSB and E-Communication on OIP

	DV: OIP				DV: EIB
	M1	M2	M3	M4	M5
CV					
Gender	.017	-.008	.012	.009	-.080
Age	.186**	.144**	.106*	.102*	.114
Highest education	.110*	.088	.030	.029	.194*
IV					
KSB		.263**		.032	.392**
E-Communication					
Mediator			.603**	.392**	
EIB	.037**	.104**	.391**	.383**	.175**
R2	.029**	.094**	.384**	.387**	.166**
ΔR^2	4.689**	10.627**	58.903**	47.157**	19.498**
F	4.689**	27.429**	213.424**	106.813**	19.498**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 13. Mediating role of EIB in the influence of KSB and E-Social on OIP

	DV: OIP				DV: EIB
	M1	M2	M3	M4	M5
CV					
Gender	.017	-.028	.012	-.002	-.046
Age	.186**	.121*	.106*	.091*	.054
Highest education	.110*	.050	.030	.016	.059
IV					
KSB		.337**		.106*	.411**
E-Social					
Mediator			.603**	.562**	
EIB	.037**	.142**	.391**	.400**	.184**
R2	.029**	.133**	.384**	.392**	.175**
ΔR^2	4.689**	15.231**	58.903**	48.763**	20.629**
F	4.689**	45.168**	213.424**	110.681**	20.629**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 14. Mediating role of EIB in the influence of KSB and E-Change on OIP

	DV: OIP				DV: EIB
	M1	M2	M3	M4	M5
CV					
Gender	.017	-.001	.012	.006	-.014
Age	.186**	.116*	.106*	.094*	.044
Highest education	.110*	.051	.030	.022	.058
IV					
KSB		.473**		.170**	.603**
E-Change					
Mediator			.603**	.501**	
EIB	.037**	.254**	.391**	.409**	.380**
R2	.029**	.245**	.384**	.401**	.373**
ΔR2	4.689**	31.160**	58.903**	50.644**	56.276**
F	4.689**	106.538**	213.424**	115.211**	56.276**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 15. Mediating role of EIB in the influence of KSB and E-Team on OIP

	DV: OIP				DV: EIB
	M1	M2	M3	M4	M5
CV					
Gender	.017	.036	.012	.016	.034
Age	.186**	.155**	.106*	.103*	.092
Highest education	.110*	.069	.030	.024	.078
IV					
KSB		.309**		.071	.414**
E-Team					
Mediator			.603**	.574**	
EIB	.037**	.130**	.391**	.395**	.194**
R2	.029**	.121**	.384**	.387**	.186**
ΔR2	4.689**	13.708**	58.903**	47.812**	22.129**
F	4.689**	39.300**	213.424**	160.411**	22.129**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 16. Mediating role of EIB in the influence of KSB and E-Tech on OIP

	DV: OIP				DV: EIB
	M1	M2	M3	M4	M5
CV					
Gender	.017	-.016	.012	.006	-.040
Age	.186**	.109*	.106*	.098*	.019
Highest education	.110*	.079	.030	.030	.087*
IV					
KSB		.406**		.069	.600**
E-Tech					
Mediator			.603**	.562**	
EIB	.037**	.196**	.391**	.394**	.372**
R2	.029**	.187**	.384**	.386**	.365**
ΔR^2	4.689**	22.309**	58.903**	47.587**	54.419**
F	4.689**	72.437**	213.424**	119.808**	54.419**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Table 17. Mediating role of EIB in the influence of KSB and E-Trust on OIP

	DV: OIP				DV: EIB
	M1	M2	M3	M4	M5
CV					
Gender	.017	.020	.012	.013	.014
Age	.186**	.112*	.106*	.096*	.028
Highest education	.110*	.063	.030	.025	.067
IV					
KSB		.344**		.068	.483**
E-Trust					
Mediator			.603**	.571**	
EIB	.037**	.149**	.391**	.394**	.248**
R2	.029**	.140**	.384**	.386**	.240**
ΔR^2	4.689**	16.068**	58.903**	47.663**	30.329**
F	4.689**	48.394**	213.424**	148.253**	30.329**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

Tables 12 to 17 show that after controlling for the influence of demographic variables, when EIB was not considered (i.e., regression results of the M2 model), the regression coefficients of KSB and DV were significant and positive. After the introduction of the EIB variable (i.e., regression results of the M4 model), the regression coefficient of DV decreased or lost statistical significance, while the regression coefficient of EIB was significant and positive. Hence, both partial and

complete mediating effects were observed. The regression results showed that the hypotheses H2a, H2b, H2c, H2d, H2e, and H2f were all valid and could be accepted.

4.4.3. Moderating effect of followership

To test moderating effects, we must first calculate the interaction term between the IV and moderator variable. Then, the interaction term should be added to the regression model of DV to the IV and moderator variable. If the regression coefficient of the interaction term is significant, a moderating effect is present (Yan, 2014).

Based on the hypotheses represented by H3a, H3b, H3c, H3d, H3e, and H3f, EIB was taken as the DV, and followership as the moderator variable. E-Communication, E-Social, E-Change, E-Team, E-Tech, and E-Trust were taken as IV, and gender, age, and highest education were taken as CV. Subsequently, a three-level multiple linear regression analysis was carried out.

The models of data analysis were generated, as shown in Tables 18 to 23 and Figure 5 to 7. Here, M1 represents the regression of EIB to the CV; M2 represents the regression after adding followership and IV; and M3 represents the regression of the interaction terms with followership and IV. The results of the data analysis are shown below.

Table 18. Moderating effect of followership in the influence of E-Communication on EIB

		DV: EIB		
		M1	M2	M3
CV				
	Gender	.008	-.005	-.009
	Age	.133*	.020	.032
	Highest education	.133*	.063	.067
IV				
	E-Communication		.381**	.374**
Moderator				
	Followership		.584**	.590**
Interaction item				
	E-Communication×Followership			-.112**
	R2	.027*	.512**	.524**
	ΔR2	.019*	.505**	.516**
	F	3.389*	76.786**	67.045**
	ΔF	3.389*	181.886**	9.463**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

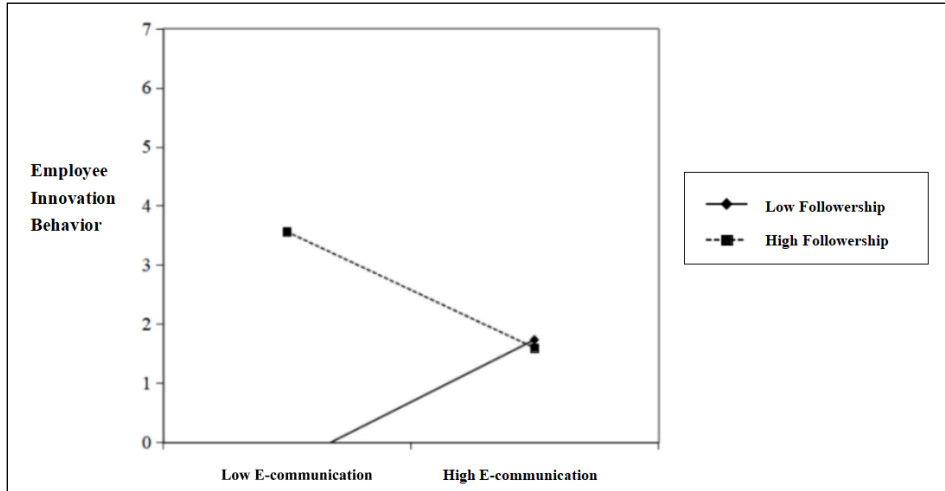


Figure 5. Moderating effect of followership in the effect of E-Communication on EIB

The data in Table 18 show that after controlling for the influence of demographic variables, the regression coefficient of the interaction between E-Communication and followership was significant but negative. Hence, from the data analysis, it can be concluded that H3a can be verified. That is, the influence of managers' E-Communication ability on EIB is negatively regulated by followership.

Table 19. Moderating effect of followership in the influence of E-Social on EIB

	DV: EIB		
	M1	M2	M3
CV			
Gender	.008	-.020	-.020
Age	.133*	.008	.009
Highest education	.133*	.026	.026
IV			
E-Communication		.385**	.385**
Moderator			
Followership		.575**	.575**
Interaction item			
E-Social×Followership			-.006
R2	.027*	.510**	.510
ΔR2	.019*	.503**	.502
F	3.389*	76.058**	63.217
ΔF	3.389*	180.114**	.026

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

The data in Table 19 show that after controlling for the influence of demographic variables, the regression coefficient of the interaction between E-Social interaction and followership was not significant. That is, H3b failed the test and was rejected.

Table 20. Moderating effect of followership in the influence of E-Change on EIB

	DV: EIB		
	M1	M2	M3
CV			
Gender	.008	.008	.013
Age	.133*	.007	.025
Highest education	.133*	.030	.031
IV			
E-Communication		.541**	.549**
Moderator			
Followership		.528**	.522**
Interaction item			
E-Change×Followership			-.104**
R2	.027*	.652**	.662**
ΔR2	.019*	.647**	.657**
F	3.389*	136.916**	119.188**
ΔF	3.389*	328.169**	11.293**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

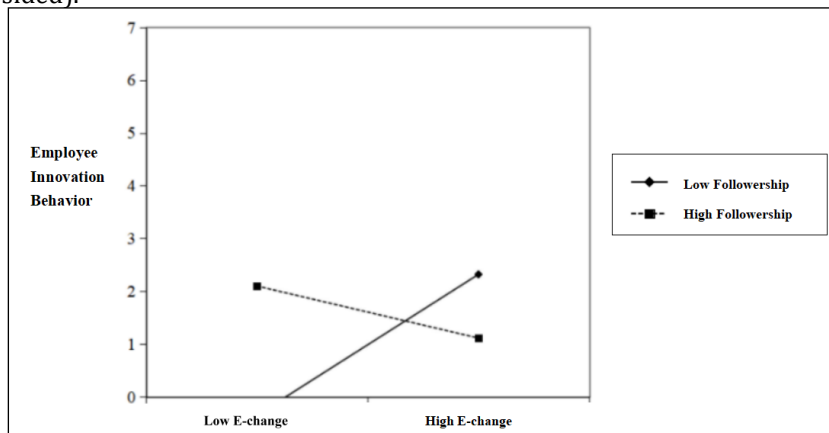


Figure 6. Moderating effect of followership in the effect of E-Change on EIB

As shown in Table 20, after controlling for the influence of demographic variables, the regression coefficient of the interaction between E-Change and followership was significant. However, the coefficient was negative. Hence, based on the data analysis, H3c passed the test and was accepted. That is, the influence of managers' E-Change ability on EIB is negatively regulated by followership.

Table 21. Moderating effect of followership in the influence of E-Team on EIB

	DV: EIB		
	M1	M2	M3
CV			
Gender	.008	.050	.049
Age	.133*	.053	.056
Highest education	.133*	.053	.054
IV			
E-Communication		.328**	.328**
Moderator			
Followership		.539**	.541**
Interaction item			
E-Team×Followership			-.024
R2	.027*	.474**	.475
ΔR2	.019*	.467**	.466
F	3.389*	66.031**	54.996
ΔF	3.389*	155.721**	.379

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

As shown in Table 21, after controlling for the influence of demographic variables, the regression coefficient of the interaction between E-Team and followership was not significant. Hence, H3d failed the test.

Table 22. Moderating effect of followership in the influence of E-Tech on EIB

	DV: EIB		
	M1	M2	M3
CV			
Gender	.008	-.014	-.004
Age	.133*	-.013	-.001
Highest education	.133*	.058	.059
IV			
E-Communication		.528**	.511**
Moderator			
Followership		.520**	.542**
Interaction item			
E-Tech×Followership			-.122**
R2	.027*	.635**	.649**
ΔR2	.019*	.630**	.644**
F	3.389*	127.537**	112.682**
ΔF	3.389*	305.352**	14.640**

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

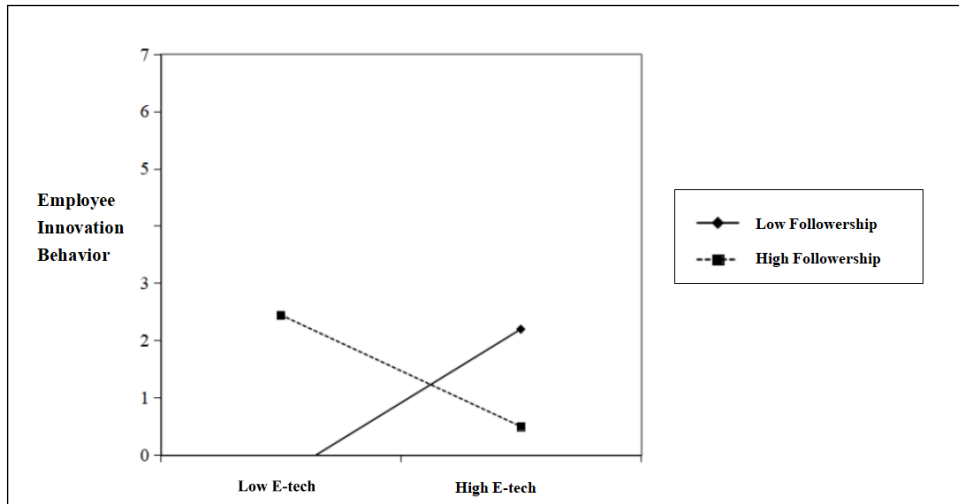


Figure 7. Moderating effect of followership in the effect of E-Tech on EIB

The data in Table 22 show that after controlling the influence of demographic variables, the regression coefficient of the interaction between E-Tech and followership was significant but negative. Hence, data analysis revealed that H3e passed the test and could be accepted. That is, the influence of managers' E-Tech ability on EIB is negatively regulated by followership.

Table 23. Moderating effect of followership in the influence of E-Trust on EIB

	DV: EIB		
	M1	M2	M3
CV			
Gender	.008	.033	.032
Age	.133*	.003	.000
Highest education	.133*	.045	.045
IV			
E-Communication		.389**	.386**
Moderator			
Followership		.523**	.523**
Interaction item			
E-Trust×Followership			.028
R2	.027*	.511**	.512
ΔR2	.019*	.504**	.504
F	3.389*	76.429**	63.716
ΔF	3.389*	181.017**	.584

Note: * and ** significantly correlated at the 0.05 and 0.01 levels, respectively (two-sided).

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The data in Table 23 show that after controlling for the influence of demographic variables, the regression coefficient of the interaction between E-Trust and followership was not significant. Hence, we can assume that H3f failed the test.

The regression results demonstrate that H3a, H3c, and H3e are valid hypotheses, whereas H3b, H3d, and H3f are not.

5. Conclusions

5.1. Theoretical contribution

Based on the data analysis in this study, three main conclusions can be drawn: (1) The six dimensions of E-Leadership have a positive impact on OIP, (2) EIB plays a mediating role in the effect of these six E-Leadership dimensions on OIP, and (3) The effects of E-Communication, E-Change, and E-Tech on EIB are negatively moderated by followership.

Mihardjo and Sasmoko (Mihardjo & Sasmoko, 2019) found that E-Leadership positively influences business model innovation. Consistent with these findings, our data showed that E-Leadership positively impacts OIP and can thus be leveraged to promote organizational competitiveness (Contreras et al., 2020), organizational performance (Fernandez & Jawadi, 2015; Mustajab et al., 2020), and employees' performance (Wiradendi Wolor et al., 2020). Therefore, the present study promotes research on the interaction between E-Leadership and OIP (Benitez et al., 2022; DasGupta, 2011).

Followership is typically considered an antecedent variable (P. Wang & Rode, 2010) or mediator in the field of organizational research (Kong et al., 2019; Thuan & Thanh, 2020). However, the present study examined the role of followership as a moderator. Similar studies have shown that transformational leadership can significantly impact followers' innovation behavior (Sehgal et al., 2021). Meanwhile, the results of the present study showed that excessively high followership could also reduce the impact of E-Leadership on employee innovation, in line with the finding that ambidextrous leadership suppressed innovation behavior among followers (S. Wang et al., 2021). Therefore, the present study also supplemented and enriched the theoretical knowledge of followership (Bastardo & Van Vugt, 2019; Matshoba-Ramuedzisi et al., 2022; Plachy & Smunt, 2022).

The results of this study demonstrated that managers' E-Leadership not only improved OIP directly but also improved OIP by promoting innovation behaviors among employees. When the followership of employees was higher, the role of managers' E-Communication, E-Change, and E-Tech in promoting employees' innovation behavior became less obvious. In contrast, when employees' followership was poor, the promotive effect of E-Communication, E-Change, and E-Tech on employees' innovation behavior became more evident.

5.2. Management recommendations

Based on this study's findings, Chinese export enterprises can improve their innovation performance by improving the E-Leadership of managers. At the same time, they must properly regulate the level of employees' followership to prevent reductions in innovation behavior due to over-compliance with managers.

Since the global outbreak of COVID-19 in 2019, rapid organizational reforms have proven that organizational managers have high E-Leadership, which is effective and

important for improving organizational competitiveness (Contreras et al., 2020). Therefore, organizational managers need to undergo targeted learning and training according to the six dimensions of E-Leadership — namely, E-Communication, E-Social, E-Change, E-Team, E-Tech, and E-Trust (Roman et al., 2019) — to continuously improve their level of E-Leadership and create a positive impact on EIB and OIP.

Some scholars believe simple followers may lack creativity (Riggio, 2020). Consistent with this notion, it is important to not only focus on the positive effect of followership on the achievement of organizational goals (Fontoura & Coelho, 2020), but also guard against excessive followership because it can inhibit EIB. Managers must lead their teams with an egalitarian mindset, considering all team members as equals and establishing a partnership where everyone works together to meet organizational goals (Plachy & Smunt, 2022). They must efficiently communicate with employees to help them understand organizational expectations for innovation rather than simply giving orders (Mayfield et al., 2021).

5.3. Limitations and prospects

This study not only confirmed the direct positive impact of E-Leadership on OIP, but also confirmed the positive impact of E-Leadership on OIP through the mediating effect of EIB. Further, it revealed the pathway and mechanism of this impact concerning the influence of three E-Leadership dimensions (E-Communication, E-Change, and E-Tech) on EIB while identifying the negative role of followership in this process. The study demonstrated the role of EIB and followership in the influence of E-Leadership on OIP, which was often neglected in current studies, and provided theoretical support for follow-up research.

However, the study also has some limitations. First, the sample selection was limited to Guangdong, China, because the marketization index, enterprise innovation performance, and living environment for foreign export enterprises are better in this region than in other parts of China. Therefore, it is necessary to sample and test other regions in the future to improve the robustness of the results. Second, while analyzing the influence of E-Leadership on EIB, we only focused on the moderating effect of followership. However, other factors such as employees' personalities, leaders' styles, and psychological factors may also play a role. Hence, the role of more factors needs to be analyzed and validated in the future.

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