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## Article

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## The impact of leadership traits and organizational learning on business innovation



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### ABSTRACT

The severe impact of the COVID-19 pandemic has forced many organizations to close or even shut down temporarily. In the literature, previous attempts have pointed to the role of leaders and learning in supporting firms to innovate and overcome such harsh and turbulent situations. This study investigates how different leadership personality traits affect business innovation both directly and indirectly through organizational learning. A total of 638 samples were collected from leaders working at tourism firms in Vietnam and analyzed using a quantitative approach and the partial least squares-SEM technique. The findings revealed that leadership personality traits, such as core self-evaluation, narcissism, the need for achievement, and risk propensity, have direct or indirect effects on business innovation. Moreover, knowledge acquisition, knowledge distribution, and knowledge interpretation are three organizational learning subprocesses that play mediating roles in the relationship between leadership traits and business innovation. Based on these findings, this study makes recommendations for tourism businesses to recover and develop sustainably following the pandemic.

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### Introduction

Tourism is one of the fastest-growing industries that contributes a significant amount to GDP of different countries worldwide. However, the COVID-19 pandemic has caused serious business losses and brought tremendous challenges for tourism firms. In Vietnam, total tourism receipts in 2020 dropped to 321 trillion VND, a decrease of 58.7% compared to the previous year (VNAT, 2020). To maintain normal operations and survive the pandemic, it is necessary for tourism firms in Vietnam to develop and implement novel and innovative strategies.

In the extant literature, leadership and organizational learning have received increasing attention of scholars due to their profound impact on organizational innovation (Chaithanapat et al., 2022; García-Morales et al., 2012; Hsiao & Chang, 2011; Jung et al., 2003; Noruzy et al., 2013; Tandon, 2021). For example, Van et al. (2018) found that leadership fostered innovation through mediating role of all four sub-processes of organizational learning, namely, knowledge

acquisition, knowledge distribution, and knowledge interpretation and organizational memory.

This study investigates how different leadership personality traits affect business innovation both directly and indirectly through organizational learning. The current research is important for several reasons. First, previous studies in the fields of leadership have focused on transformational leadership theories (Van et al., 2018; Zagoršek et al., 2009; Vashdi et al., 2019; Uddin et al., 2017) in explaining how transformational and transactional leadership behaviors affect organizational learning and innovation. Therefore, not much is known about the effects of leaders' personalities on such organizational outcomes. This paper aims to provide new insights into how leaders' characteristics (core self-evaluation, narcissism, need for achievement, and risk propensity) influence firm learning and innovation. Second, because leadership, learning, and innovation are universal phenomena (Bass, 1996; Chiva & Alegre, 2005) and previous research on these concepts was primarily conducted in the Western context, their applicability in other parts of the world must be validated. This study adds a more comprehensive model that illustrates the relationships between these concepts and explains how well they fit the context of Vietnam, an Asian developing country. Third, this study provides recommendations for tourism firms to

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withstand and recover from the COVID-19 pandemic and proposes suggestions for the government and local authorities to implement proper policies that support sustainable tourism development in the long term.

## Literature review

### *Resource-based view and knowledge-based view theories*

The resource-based view theory, developed by Penrose (1959), holds that “firms possess resources, a subset of which enables them to achieve competitive advantage, and a further subset of which leads to superior long-term performance” (Wernerfelt, 1984, 108). This theory posits that tangible resources (e.g., facilities and equipment) or intangible resources (e.g., managerial executives’ personalities), play an important role in fostering a firm’s superior performance and competitive advantage (Barney, 1991; Ulrich, 1998; Saffu et al., 2008).

Grant (1996) defined the knowledge-based view theory as an extension of resource-based view theory, which identifies knowledge as the most important source of innovation, improved performance, and competitiveness. As an important approach to organizational learning, this theory “has inevitably given rise to this general understanding that firms should become learning organizations to maximize their knowledge base” and gain competitive advantage through innovative and sustainable performance (Magno et al., 2017; Farzaneh et al., 2021, 657).

The resource-based view and knowledge-based view theories have gained enormous popularity among researchers in the tourism field (Huy & Khin, 2016; Duarte Alonso, 2017; Utami et al., 2017; Toyman et al., 2020). The resource-based view and knowledge-based view theories are used in this study to explain how leadership traits and organizational learning (firm’s internal resources) contribute to business innovation (organizational outcome and competitiveness of firms).

### *Business innovation*

Business innovation (BI) is defined as “the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society” (West & Farr, 1990, 209). Schumpeter (1961) classified BI as new products, new manufacturing methods, new sources of supply, new market exploitation, and new business organization methods. According to Gumusluoglu and Ilsev (2009), BI refers to how an organization generates new ideas and improves existing products. Moreover, Carmeli et al. (2010) stated that BI includes the stimulation of new initiatives and the provision of clear and sufficient performance evaluation.

Leadership is one of the most important factors that plays a key role in firms’ innovation (Cummings & O’Connell, 1978). Leaders have positively influenced innovation within organizations by fostering inspiration and intellectual stimulation (García-Morales et al., 2008) and by strengthening management practices, processes, and structures (Vaccaro et al., 2012). Earlier research has found a positive direct relationship between leadership and BI (Jung, 2003; García-Morales et al., 2008; Gumusluoglu & Ilsev, 2009; Vaccaro et al., 2012). According to Jung (2003), top-level leaders promote BI by creating an organizational culture in which employees are encouraged to share and implement new ideas. Recently, findings from Chaithanapat et al.’s (2022) study revealed that leadership positively affects the innovation quality and performance of 283 small- and medium-sized enterprises in Thailand.

### *Leadership traits (LET)*

Leadership is an influencing process between leaders and followers to achieve team or organizational goals (Hogan et al., 1994). Leadership theories have gradually evolved over decades, focusing primarily on the traits and behaviors of leaders (Gregoire & Arendt, 2004). According to Solaja (2016), personality traits of leaders include locus of control, authoritarianism, self-esteem, Machiavellianism, self-monitoring, and risk-taking. Sidek and Zainol (2011) considered the need for achievement, risk-taking propensity, and internal locus of control as three important traits of leaders that profoundly impact business performance. Judge et al. (2009) categorized leadership traits into “bright side” and “dark side.” The “bright side” refers to Big Five traits (i.e., conscientiousness, extraversion, agreeableness, openness, and neuroticism), core self-evaluations, intelligence, and charisma. Meanwhile, the “dark side” involves socially undesirable traits such as narcissism, hubris, dominance, and Machiavellianism. Similarly, Hiller and Beauchesne (2014) identified core self-evaluation, narcissism, need for achievement, and risk propensity as some notable leadership traits that better explain how leaders’ characteristics predict organizational outcomes such as innovation and performance.

### *Core self-evaluation (CSE)*

CSE is defined as individual assessment of their own capability, competences, and values (Judge et al., 1998). Judge et al. (1997) proposed the CSE model that includes self-esteem, generalized self-efficacy, neuroticism, emotional stability, and locus of control. Previous studies have pointed to the positive effects of CSE on employee motivation, life satisfaction, job satisfaction, and job performance (Judge et al., 1998, 2003). Hu et al.’s (2012) study also revealed a positive relationship between leaders’ CSE and their leadership behavior. Leaders with a high CSE are more likely to gain trust to easily inspire and motivate their followers, thereby enhancing their motivation and creativity at work (Chiang et al., 2014). Zhang et al. (2020) found that CSE of leaders affects knowledge sharing and creativity in organizations. In this study, we analyzed the CSE of leaders through the lens of two dimensions, namely, self-esteem and locus of control. According to Coopersmith (1967, 4–5), Self-esteem (SE) is defined as “the evaluation which the individual makes and customarily maintains concerning himself: it expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself capable, significant, successful, and worthy. In short, self-esteem is a personal judgment of worthiness expressed in the individual’s attitudes.” SE refers to self-evaluation of an individual that is measured by the degree he or she agrees with different appreciations about himself or her (Baumeister & Tice, 1985). Previous studies have found that SE affects individual and organizational outcomes such as job satisfaction, turnover, absence intentions, organization commitment, and innovation success (Norman et al., 2015; Matzler et al., 2015). Locus of Control (LC) is defined as the awareness of individuals regarding their own abilities and how they can monitor events and situations occurring in their lives (Rotter, 1966). Individuals who link their achievements to their abilities and efforts belong to the internal LC type, while those who believe that they can gain something thanks to external forces such as luck belong to the external LC type. Several studies have examined the influence of LC on organizational outcomes. For example, LC was found to positively affect job performance in Rambe et al.’s (2018) study. Akyurek & Guney (2018) proved the positive effects of internal LC on rational and intuitive decision-making leadership styles. Recently, Qurrahtulain et al. (2022) found that internal LC plays a moderating role in the relationship between inclusive leadership and vigor at work.

### Narcissism (NAR)

NAR is defined as extreme self-love, admiration, and concern about the self and has become an important psychological personality among top leaders (Emmons, 1987). Narcissistic leaders highly appreciate their values and achievements and therefore, are strongly affected by recognition and acknowledgment. NAR is examined through the lens of cognition and motivation (Judge et al., 2006). Regarding cognitive aspects, narcissists strongly believe in their superiority and capabilities. Regarding the motivational aspect, narcissists desire superiority and recognition from colleagues. Narcissistic leaders are positively associated with a firm's strategy development and performance (Chatterjee & Hambrick, 2007). Reina et al. (2014) also found a positive effect of narcissistic leaders on firm performance. Besides, while earlier studies have revealed that vulnerable narcissism inhibits learning in organizations (Godkin & Allcorn, 2009; Liu et al., 2019), empirical evidence for the positive influence of grandiose narcissism on learning is lacking.

### Need for achievement (NFA) and risk propensity (RPR)

NFA is a personality trait of individuals who tackle difficulties in achieving success and improved performance (McClelland, 1961). NFA has exerted both direct and indirect influences on entrepreneurial intention (Kusumawijaya, 2019), growth in profit (Tajeddini & Tajeddini, 2008), and firm success (Sengupta & Debnath, 1994). NFA is closely related to risk-taking propensity because firms seeking superior performance tend to take more risks than those with a lower need for achievement (Chen et al., 2012). RPR is defined as an individual's orientation to avoid or take risks (Tang & Tang, 2007). The RPR of the top management team relates to their readiness to capitalize on valuable opportunities (Luo et al., 2018). Several studies have been conducted to investigate the impact of RPR on firm performance and other organizational outcomes (Tang & Tang, 2007; Ghotnian et al., 2013). Yu and Chen (2016) found a positive relationship between RPR and firm innovation. Recently, Liu et al.'s (2019) study revealed a relationship between entrepreneurs' risk-taking and venture performance. NFA and RPR have long positively affected learning within organizations (Lowell, 1952; Onağ et al., 2014).

### Organizational learning (ORL)

ORL relates to generating, disseminating, interpreting, and storing knowledge that is crucial to improving firm performance (Rehman et al., 2019). ORL plays an essential part in the development of every organization operating in a highly competitive environment. In Zagoršek et al.'s (2009) study, ORL was categorized into information acquisition, information distribution, interpretation, and behavioral changes. Recently, Vashdi et al. (2019) examined ORL through four components: information acquisition; information distribution; information interpretation and organizational memory.

Knowledge Acquisition (KNA) refers to how knowledge is created from either inside or outside organizations (Pérez López et al., 2005; Zagoršek et al., 2009). Leaders play an important role in this process since they inspire and motivate employees to learn and upgrade their skills and abilities (Vashdi et al., 2019). KNA is also found to play a mediating role in the relationship between leadership and innovation capability in Van et al.'s (2018) study.

Organizational Memory (ORM) refers to the retention and retrieval processes of knowledge or the storage of knowledge for future use (Walsh & Ungson, 1991; Pérez López et al., 2005; Van et al., 2018; Vashdi et al., 2019). According to Walsh & Ungson (1991), ORM has three main roles in firms: informational role (housing information for decision making in the future), control function (cut down transaction cost for new decision), and political role (serving information as means of maintaining or improving

power). Similar to KNA, ORM has been found as a mediator in the relationship between leadership and BI (Van et al., 2018).

The knowledge distribution (KND) is a process of sharing new information among members and departments within an organization (Pérez López et al., 2005; Vashdi et al., 2019). According to Van et al. (2018), KND plays a greater mediating role in the correlation between leadership and BI than the other three ORL subprocesses.

Knowledge interpretation (KNI) is the process by which new information is gathered and shared (Pérez López et al., 2005; Vashdi et al., 2019). In Zagoršek et al.'s (2009) study, there are no direct correlations between leadership and KNI. The relationships are instead mediated by KNA and KND. KNI was discovered to positively mediate the relationship between leadership and BI (Van et al., 2018).

Previous research looked not only at the role of leadership in ORL (Zagoršek et al., 2009; Uddin et al., 2017; Vashdi et al., 2019; Rehman et al., 2019), but also at the significant influences of ORL processes on organizational innovation (Hsiao & Chang, 2011; García-Morales et al., 2012; Noruzy et al., 2013). ORL also serves as a bridge between leadership and innovation, particularly new product development (Sattayaraksa & Boon-itt, 2016). ORL has been found to have a stronger impact on innovation in small, old, and turbulent service firms (Jiménez-Jiménez & Sanz-Valle, 2011).

Based on the above discussion, we propose the following hypotheses:

**Hypothesis 1.** Factors of Leadership Traits (LET): SE (H1a), LC (H1b), NAR (H1c), NFA (H1d), and RPR (H1e) positively affect Knowledge Acquisition (KNA).

**Hypothesis 2.** Factors of Leadership Traits (LET): SE (H2a), LC (H2b), NAR (H2c), NFA (H2d), and RPR (H2e) positively affect Organizational Memory (ORM).

**Hypothesis 3.** Factors of Leadership Traits (LET): SE (H3a), LC (H3b), NAR (H3c), NFA (H3d), and RPR (H3e) positively affect Knowledge Distribution (KND).

**Hypothesis 4.** Factors of Leadership Traits (LET): SE (H4a), LC (H4b), NAR (H4c), NFA (H4d), and RPR (H4e) positively affect Knowledge Interpretation (KNI).

**Hypothesis 5.** Factors of Leadership Traits (LET): SE (H5a), LC (H5b), NAR (H5c), NFA (H5d), and RPR (H5e); as well as Organizational Learning (ORL): KNA (H5f), ORM (H5g), KND (H5h), and KNI (H5i) positively affect BI.

**Hypothesis 6.** BI is indirectly affected by SE (H6-1a; H6-2a; H6-3a, H6-4a), LC (H6-1b; H6-2b; H6-3b, H6-4b), NAR (H6-1c; H6-2c; H6-3c, H6-4c), NFA (H6-1d; H6-2d; H6-3d, H6-4d), and RPR (H6-1e; H6-2e; H6-3e, H6-4e) through the mediating role of KNA, ORM, KND, and KNI.

## Methodology

### Measurement of constructs

This study uses a quantitative approach and uses a structured survey questionnaire to collect data. Measures of constructs was developed based on a comprehensive literature review and qualitative interviews with researchers and leaders of tourism firms. The questionnaire is divided into three sections: respondent demographics, LET independent variables (SE, LC, NAR, NFA, and RPR), and ORL dependent variables (KNA, ORM, KND, and KNI) and BI. All questions are rated on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." LET scales (SE, LC, NAR, NFA, and RPR) were adapted from Judge et al. (2003), Ames et al. (2006), and Sidek & Zainol (2007). ORL (KNA, ORM, KND, and KNI) were calculated using a scale adapted from Jiménez-Jiménez and Sanz-Valle (2011). BI measures were adapted from the study of García-Morales et al. (2012).



## Data collection and the sample

The study's data collection was carried out from December 2019 to December 2020 during the COVID-19 pandemic. Respondents were sent questionnaires in two ways: directly to their companies and online via Google form via email, Zalo, and Viber apps. Respondents in this study are leaders from tourism-related organizations such as travel agencies, bars, hotels, and restaurants. This study's sample size adheres to Hair et al.'s (1995) rule of thumb, which states that it must be at least five times the observed variables. Because there are 51 observed variables in this study, the minimum sample size is  $51 \times 5 = 255$ . Data collection yielded 638 valid responses that met the criteria for reliability and generalizability.

## Statistical methods

To test the hypotheses, the current study used PLS-SEM with Smart-PLS software version 3.0. To investigate main factors and complex structural relationships among variables, the PLS technique is used (Hair et al., 2011). In this study, the data are analyzed in two steps (Hair et al., 2013). First, the measurement model was examined to determine the construct's reliability and validity using factor loadings, composite reliability, and average variance. The structural equation model is then examined to see if there is any correlation between the latent constructs.

## Results

### Sample characteristics

Most respondents gained bachelor's degree (61%), followed by a Master's degree (21%), college degree (17.7%), and doctorate degree (3%). In terms of company size, most of the respondents (54.2%) are working at small and medium enterprises (SMEs), compared with large companies (45.8%). Regarding types of organizations, respondents in this study worked at hotels and resorts (34.2%), bars and restaurants (21.6%), transportation companies (13.2%), tourist attractions (9.7%), retailing systems for tourists (8.5%), travel agency (7.1%), and event companies (5.8%).

### Measurement model assessment

To evaluate all constructs in the research model, we examined the reliability and validity of constructs. First, the reliability of all scales was tested by using composite reliability (CR). According to Hair et al. (2011), the minimum CR of 0.6 was acceptable. As shown in Table 1, the CR of all constructs ranged from 0.838 to 0.950, which was following the rule of Hair et al. (2011). All constructs in the study were found to reflect a model with high internal consistency reliability. Next, average variance extracted (AVE) is examined to test convergent validity and divergent validity. Fornell and Larcker (1981) proposed that the criteria and cross-loadings, square root of a separate construct of AVE, should be greater than 0.5 to ensure convergent validity. In Table 1, AVE values ranged from 0.518 to 0.759, indicating a sufficient level of convergent validity of all constructs.

To assess discriminant validity, Fornell–Larcker criterion stated that the loading of an indicator should be larger than all of its cross-loadings (Fornell & Larcker, 1981), and those factors' outer loadings should be greater than 0.7 (Hulland, 1999). Hair et al. (2011) suggested that "the AVE of each latent construct should be higher than the construct's highest squared correlation with any other latent construct." From Table 2, discriminant validity varied from 0.720 to 0.871, which satisfied the above rules. BI was highly rated by respondents (mean = 4.249). Regarding factors of LET mean values for NFA, SE, RPR, NAR, and LC were 4.149, 4.095, 3.918, 3.822, and 3.385, respectively. In terms of ORL, ORM was highly rated by

respondents (mean = 4.291), followed by KND (mean = 4.248), KNI (mean = 4.242), and KNA (mean = 4.196).

### Structural model assessment

To analyze endogenous variable variance of ORL and BI, we applied the structural equation model.  $R^2$  weight of endogenous constructs was measured to evaluate the research model. Next, a predictive relevance measure was used to test the model fit (Stone, 1974; Geisser, 1975). This study used cross-validated redundancy and  $Q^2$  value to evaluate clarity indicators of hidden constructs.  $Q^2$  value was calculated to evaluate the constructs' predictive relevance (Stone, 1974; Geisser, 1975) through the blindfolding technique conducted by the PLS technique. The  $Q^2$  value was greater than zero so that an endogenous variable display acceptable fit, and the model was confirmed to have predictive relevance (Hair et al., 2016). Specifically, cross-validated redundancy was 0.264 for KNA, 0.230 for ORM, 0.226 for KND, 0.189 for KNI, and 0.343 for BI. A high predictive relevance was concluded for factors of ORL and BI that show the model fit. The "nonparametric bootstrapping" method of Hair et al. (2016) was used with 2000 replications to evaluate the structural model with a confidence interval level of 97.5%. Table 3 illustrates the structural model performance conducted by the Smart-PLS analysis.

From Table 3, all results of hypothesis testing are shown. Hypothesis 1 was tested and the results revealed that KNA had a positive and direct relationship with four factors of LET (SE, LC, NAR and NFA). The highest effect was found on NFA ( $\beta = 0.270$ ,  $p = 0.000$ ), followed by NAR ( $\beta = 0.184$ ,  $p = 0.003$ ), SE ( $\beta = 0.171$ ,  $p = 0.003$ ), and LC ( $\beta = 0.170$ ,  $p = 0.000$ ). The findings revealed that each standard deviation change in NFA, NAR, SE, and LC increases 0.270, 0.184, 0.171, and 0.170 standard deviations in KNA. Therefore, H1a, H1b, and H1d were partially supported. In contrast, PRP did not affect KNA so H1e was rejected. The  $R^2$  coefficient of KNA was 0.391, meaning that NFA, NAR, SE, and LC can significantly explain 39.1% the variance of KNA.

Hypothesis 2 was tested and the results revealed that ORM had a positive and direct relationship with three factors of LET (SE, LC and NFA). The highest effect was found on NFA ( $\beta = 0.321$ ,  $p = 0.000$ ), followed by SE ( $\beta = 0.232$ ,  $p = 0.000$ ), and LC ( $\beta = 0.084$ ,  $p = 0.026$ ). The findings revealed that each standard deviation change in NFA, SE, and LC increases 0.321, 0.232, and 0.084 standard deviations in ORM. Therefore, H2a, H2b, and H2d were partially supported. In contrast, NAR and PRP did not affect KNA, meaning that H2c and H2e were rejected. The  $R^2$  coefficient of ORM was 0.362, which implies that NFA, SE, and LC can significantly explain 36.2% the variance of ORM.

Hypothesis 3 was tested and the results revealed that KND had a positive and direct relationship with three LET factors (SE, LC and NFA). The highest effect was found on NFA ( $\beta = 0.271$ ,  $p = 0.000$ ), followed by SE ( $\beta = 0.190$ ,  $p = 0.002$ ), and LC ( $\beta = 0.190$ ,  $p = 0.000$ ). The findings revealed that each standard deviation change in NFA, SE, and LC increases 0.271, 0.190, and 0.190 standard deviations in KND. Therefore, H3a, H3b, and H3d were partially supported. In contrast, NAR and PRP did not affect KNA, meaning that H3c and H3e were rejected. The  $R^2$  coefficient of KND was 0.371, thus NFA, SE, and LC can significantly explain 37.1% the variance of KND.

Hypothesis 4 was tested and the results revealed that KNI had a positive and direct relationship with three LET factors (SE, NFA and RPR). The highest effect was found on SE ( $\beta = 0.272$ ,  $p = 0.000$ ), followed by NFA ( $\beta = 0.194$ ,  $p = 0.004$ ), and RPR ( $\beta = 0.130$ ,  $p = 0.017$ ). The findings revealed that each standard deviation change in SE, NFA, and RPR increases 0.272, 0.194, and 0.130 standard deviations in KNI. Therefore, H4a, H4d, and H4e were partially supported. In contrast, LC and NAR did not affect KNI, meaning that H4b and H4c were rejected. The  $R^2$  coefficient of KNI was 0.300, which means that SE, NFA, and RPR can significantly explain 30% the variance of KNI.

Hypothesis 5 was tested and the results revealed that BI had a positive and direct relationship with two factors of LET (LC and RPR)

**Table 1**  
Measurement model evaluation.

Constructs	Items	Factor loadings	Cronbach's alpha	CR	AVE
Business Innovation (BI)	Company develops new products and services	0.731	0.837	0.880	0.552
	Company introduces new products and services into market	0.729			
	Company spends on new product and service development practices	0.811			
	Company adds new products and services already on the market	0.784			
	Company adds new products and services the first time on the market	0.683			
Knowledge Acquisition (KNA)	Company pioneers technology in the industry	0.712	0.779	0.872	0.694
	Subordinates attend fairs and exhibitions regularly	0.851			
	R&D policy is consolidated and resourceful	0.846			
	New ideas and approaches on work performance are tested continuously	0.801			
Organizational Memory (ORM)	Company has directories or e-mails filed based on the field they belong to to find an expert of a specific issue at any time	0.777	0.821	0.882	0.651
	Company has updated databases about clients	0.836			
	Organization's databases and documents are accessed through some kind of network (Lotus Notes, intranet, etc.)	0.797			
	Databases are usually kept updated	0.817			
Knowledge Distribution (KND)	Company has formal mechanisms to ensure the sharing of best practices among various fields of activity	0.831	0.711	0.838	0.633
	Members within the organization take part in several teams or divisions and also act as links between them	0.788			
	There are members responsible for collecting, assembling, and distributing subordinates' suggestions internally	0.766			
	All members in the organization share the same aim to which they feel committed	0.831			
Knowledge Interpretation (KNI)	Subordinates share knowledge and experiences by talking to each other	0.815	0.738	0.851	0.656
	Teamwork is often implemented in the company	0.783			
	I believe I achieve the success I deserve in life	0.728			
	I accomplish tasks successfully	0.727			
Self-esteem (SE)	Overall, I feel satisfied with myself	0.728	0.768	0.843	0.518
	I determine what will come in my life	0.696			
	I have the ability of coping with most of my problems	0.719			
	Sometimes, I feel disappointed	0.884			
Locus of Control (LC)	Sometimes, I feel worthless because of my failures	0.852	0.936	0.950	0.759
	Sometimes, I cannot control my work	0.891			
	I am filled with uncertainty about my competence	0.842			
	I cannot control my success in my career	0.888			
Narcissism (NAR)	Sometimes, I feel things are pretty bleak and hopeless	0.868	0.906	0.922	0.542
	I believe I am good because my colleagues keep telling me so	0.702			
	I believe I am special	0.729			
	I want authority over others	0.723			
Need for Achievement (NFA)	It is easy to control others	0.761	0.796	0.860	0.551
	I have the ability to show off if I have a chance	0.683			
	I really like to receive attention from others	0.757			
	I feel others always recognize my authority	0.751			
Risk Propensity (RPR)	I can persuade others to believe in what I want them to	0.732	0.857	0.893	0.582
	I have more abilities than others	0.759			
	I am extraordinary	0.759			
	I do my job assignments best when they are difficult	0.714			
Need for Achievement (NFA)	I take moderate risks and dare to get ahead at work	0.750	0.796	0.860	0.551
	I set high standards for myself and others at work	0.781			
	I have strong motivation to succeed	0.713			
	I make plans at work	0.753			
Risk Propensity (RPR)	The higher the financial risks my company takes, the higher the rewards the risks are worth	0.770	0.857	0.893	0.582
	I normally accept occasional failures of new products	0.758			
	I pursue big financial risks in my business	0.773			
	I stimulate innovative marketing development strategies, of which some fail	0.728			
Risk Propensity (RPR)	I dislike to "play it safe" in my business	0.781	0.857	0.893	0.582
	I like to implement plans even without assurance that they will work	0.765			

CR: Composite Reliability; AVE: Average Variance Extracted.

and three components of ORL (KNA, KND and KNI). The largest effect was found for KNA ( $\beta = 0.277$ ,  $p = 0.000$ ), followed by KND ( $\beta = 0.162$ ,  $p = 0.002$ ), RPR ( $\beta = 0.117$ ,  $p = 0.005$ ), LC ( $\beta = 0.110$ ,  $p = 0.000$ ), and KNI ( $\beta = 0.100$ ,  $p = 0.031$ ). The findings revealed that each standard deviation change in KNA, KND, RPR, LC, and KNI increases 0.277, 0.162, 0.117, 0.110, and 0.100 standard deviations in BI. Therefore, H5b, H5e, H5f, H5h, and H5i were partially supported. In contrast, SE, NAR, NFA, and ORM did not affect BI so H5a, H5c, H5d, and H5g were rejected. The  $R^2$  coefficient of BI was 0.300, meaning that LC, RPR, KNA, KND, and KNI can significantly explain 30% the variance of BI.

Table 4 demonstrates the indirect relationship between factors of LET and BI through ORL subprocesses. As shown in Table 4, there were mediating effects of KNA on four factors of LET (SE with

$\beta = 0.047$ ,  $T = 2.680$ ,  $p = 0.007$ ; LC with  $\beta = 0.047$ ,  $T = 3.241$ ,  $p = 0.001$ ; NAR with  $\beta = 0.051$ ,  $T = 2.425$ ,  $p = 0.015$ , and NFA with  $\beta = 0.075$ ,  $T = 3.247$ ,  $p = 0.001$ ). This result indicated that the relationships between SE, LC, NAR, and NFA with BI are mediated by KNA. In other words, KNA acted as a mediator between SE and BI (H6-1a), LC and BI (H6-1b), NAR and BI (H6-1c), NFA and BI (H6-1d). Similarly, SE, LC, NAR, and NFA had positive and indirect effects on BI via KNA; therefore, hypotheses H6-1a, H6-1b, H6-1c, and H6-1d were supported. Since RPR did not affect BI via KNA, hypothesis H6-1e was rejected.

The findings also revealed no indirect relationship between factors of LET and BI through ORM since SE, LC, NAR, NFA, and RPR did not affect BI via ORM. Therefore, H6-2a, H6-2b, H6-2c, H6-2d, and H6-2e were rejected. However, the mediating influences of KND on

**Table 2**  
Discriminant validity coefficients.

	Mean	SD	BI	KNA	KND	KNI	LC	NAR	NFA	ORM	RPR	SE
BI	4.249	0.778	<b>0.743</b>									
KNA	4.196	0.771	0.697	<b>0.833</b>								
KND	4.248	0.790	0.667	0.725	<b>0.795</b>							
KNI	4.242	0.718	0.584	0.578	0.638	<b>0.810</b>						
LC	3.385	1.304	0.372	0.330	0.346	0.210	<b>0.871</b>					
NAR	3.822	1.047	0.538	0.494	0.450	0.414	0.163	<b>0.736</b>				
NFA	4.149	0.799	0.614	0.550	0.537	0.479	0.293	0.588	<b>0.743</b>			
ORM	4.291	0.737	0.579	0.579	0.587	0.639	0.257	0.425	0.557	<b>0.807</b>		
RPR	3.918	1.045	0.515	0.413	0.395	0.408	0.134	0.698	0.589	0.420	<b>0.763</b>	
SE	4.095	0.841	0.590	0.532	0.518	0.499	0.286	0.677	0.673	0.523	0.537	<b>0.720</b>

Square root of AVE in bold on diagonal

**Table 3**  
Path coefficients - Direct effect on KNA, ORM, KND, KNI, and BI.

Hypotheses	Relationship	Path Coefficient- $\beta$	p-Value	Decision
H1a	SE $\rightarrow$ KNA	0.171	0.003	Supported
H1b	LC $\rightarrow$ KNA	0.170	0.000	Supported
H1c	NAR $\rightarrow$ KNA	0.184	0.003	Supported
H1d	NFA $\rightarrow$ KNA	0.270	0.000	Supported
H1e	RPR $\rightarrow$ KNA	0.011	0.843	Rejected
H2a	SE $\rightarrow$ ORM	0.232	0.000	Supported
H2b	LC $\rightarrow$ ORM	0.084	0.026	Supported
H2c	NAR $\rightarrow$ ORM	-0.002	0.971	Rejected
H2d	NFA $\rightarrow$ ORM	0.321	0.000	Supported
H2e	RPR $\rightarrow$ ORM	0.097	0.075	Rejected
H3a	SE $\rightarrow$ KND	0.190	0.002	Supported
H3b	LC $\rightarrow$ KND	0.190	0.000	Supported
H3c	NAR $\rightarrow$ KND	0.109	0.053	Rejected
H3d	NFA $\rightarrow$ KND	0.271	0.000	Supported
H3e	RPR $\rightarrow$ KND	0.032	0.527	Rejected
H4a	SE $\rightarrow$ KNI	0.272	0.000	Supported
H4b	LC $\rightarrow$ KNI	0.056	0.153	Rejected
H4c	NAR $\rightarrow$ KNI	0.016	0.805	Rejected
H4d	NFA $\rightarrow$ KNI	0.194	0.004	Supported
H4e	RPR $\rightarrow$ KNI	0.130	0.017	Supported
H5a	SE $\rightarrow$ BI	0.077	0.137	Rejected
H5b	LC $\rightarrow$ BI	0.110	0.000	Supported
H5c	NAR $\rightarrow$ BI	0.040	0.390	Rejected
H5d	NFA $\rightarrow$ BI	0.117	0.070	Rejected
H5e	RPR $\rightarrow$ BI	0.117	0.005	Supported
H5f	KNA $\rightarrow$ BI	0.277	0.000	Supported
H5g	ORM $\rightarrow$ BI	0.060	0.198	Rejected
H5h	KND $\rightarrow$ BI	0.162	0.002	Supported
H5i	KNI $\rightarrow$ BI	0.100	0.031	Supported

**Table 4**  
Indirect effect on BI.

Hypotheses	Relationship	Path Coefficient- $\beta$	p-Value	Decision
H6-1a	SE $\rightarrow$ KNA $\rightarrow$ BI	0.047	0.007	Supported
H6-1b	LC $\rightarrow$ KNA $\rightarrow$ BI	0.047	0.001	Supported
H6-1c	NAR $\rightarrow$ KNA $\rightarrow$ BI	0.051	0.015	Supported
H6-1d	NFA $\rightarrow$ KNA $\rightarrow$ BI	0.075	0.001	Supported
H6-1e	RPR $\rightarrow$ KNA $\rightarrow$ BI	0.003	0.846	Rejected
H6-2a	SE $\rightarrow$ ORM $\rightarrow$ BI	0.014	0.233	Rejected
H6-2b	LC $\rightarrow$ ORM $\rightarrow$ BI	0.005	0.277	Rejected
H6-2c	NAR $\rightarrow$ ORM $\rightarrow$ BI	0.000	0.978	Rejected
H6-2d	NFA $\rightarrow$ ORM $\rightarrow$ BI	0.019	0.250	Rejected
H6-2e	RPR $\rightarrow$ ORM $\rightarrow$ BI	0.006	0.388	Rejected
H6-3a	SE $\rightarrow$ KND $\rightarrow$ BI	0.031	0.032	Supported
H6-3b	LC $\rightarrow$ KND $\rightarrow$ BI	0.031	0.013	Supported
H6-3c	NAR $\rightarrow$ KND $\rightarrow$ BI	0.018	0.099	Rejected
H6-3d	NFA $\rightarrow$ KND $\rightarrow$ BI	0.044	0.012	Supported
H6-3e	RPR $\rightarrow$ KND $\rightarrow$ BI	0.005	0.550	Rejected
H6-4a	SE $\rightarrow$ KNI $\rightarrow$ BI	0.027	0.048	Supported
H6-4b	LC $\rightarrow$ KNI $\rightarrow$ BI	0.006	0.296	Rejected
H6-4c	NAR $\rightarrow$ KNI $\rightarrow$ BI	0.002	0.818	Rejected
H6-4d	NFA $\rightarrow$ KNI $\rightarrow$ BI	0.019	0.097	Rejected
H6-4e	RPR $\rightarrow$ KNI $\rightarrow$ BI	0.013	0.138	Rejected

three factors of LET (SE with  $\beta = 0.031$ ,  $T = 2.146$ ,  $p = 0.032$ ; LC with  $\beta = 0.031$ ,  $T = 2.481$ ,  $p = 0.013$ ; and NFA with  $\beta = 0.044$ ,  $T = 2.529$ ,  $p = 0.012$ ) were found. In other words, KND acted as a mediator between SE and BI (H6-3a), LC and BI (H6-3b), and NFA and BI (H6-3d). SE, LC, and NFA had positive and indirect effects on BI via KND; therefore, hypotheses H6-3a, H6-3b, and H6-3d were supported. However, since NAR and RPR did not affect BI via KND, hypotheses H6-3c and H6-3e were rejected.

Regarding KNI, the results showed that KNI had mediating influence on factors of LET (SE with  $\beta = 0.027$ ,  $T = 1.982$ ,  $p = 0.048$ ). This indicated that the relationship between SE and BI was mediated by KNI (H6-4a). SE had a positive and indirect effect on BI via KNI; therefore, hypothesis H6-4a was supported. However, since LC, NAR, NFA, and RPR did not affect BI via KNI, hypotheses H6-4b, H6-4c, H6-4d, and H6-4e were rejected.

Overall, hypotheses H1 to H6 measured both direct and indirect and the total effects on BI are related to the total direct and indirect influences of all variables (Hair et al., 2016). The greatest effect was found in KNA, with a path coefficient of 0.277, followed by NFA with 0.274, LC with 0.199, SE with 0.196, KND with 0.162, and RPR with 0.144. NAR and KNI had the lowest total effects on BI, with 0.110 and 0.100, respectively.

## Discussion, implications, and limitations

The current study is being conducted to investigate LET factors that affect BI both directly and indirectly via ORL. The findings revealed that leadership personality traits such as CSE, narcissism, the NFA, and risk propensity have direct or indirect effects on BI. Knowledge acquisition, knowledge distribution, and knowledge interpretation are three organizational learning subprocesses that play mediating roles in the relationship between leadership traits and BI (Fig. 1).

### Implications for the theory

This study has several theoretical implications. First, this study relied on resource-based view and knowledge-based view theories to explain how companies gain innovation through their internal and intangible resources. The findings revealed significant effects of LET and ORL on BI, supporting the meaning and extending these theories (Wernerfelt, 1984; Grant, 1996).

Second, the study looked into LET factors that influence four ORL processes. The findings add empirical evidence to the body of knowledge on leadership and organizational learning. The four dimensions of ORL were discovered to have a positive relationship with LET. Except for RPR, all LET factors have a positive effect on KNA, which is consistent with previous research on the effect of leadership on KNA (Van et al., 2018; Vashdi et al., 2019). NFA has the greatest influence on KNA because leaders who place a high value on success and efficiency always encourage learning to improve knowledge and capabilities. Because RPR had no effect on KNA, whether leaders encourage

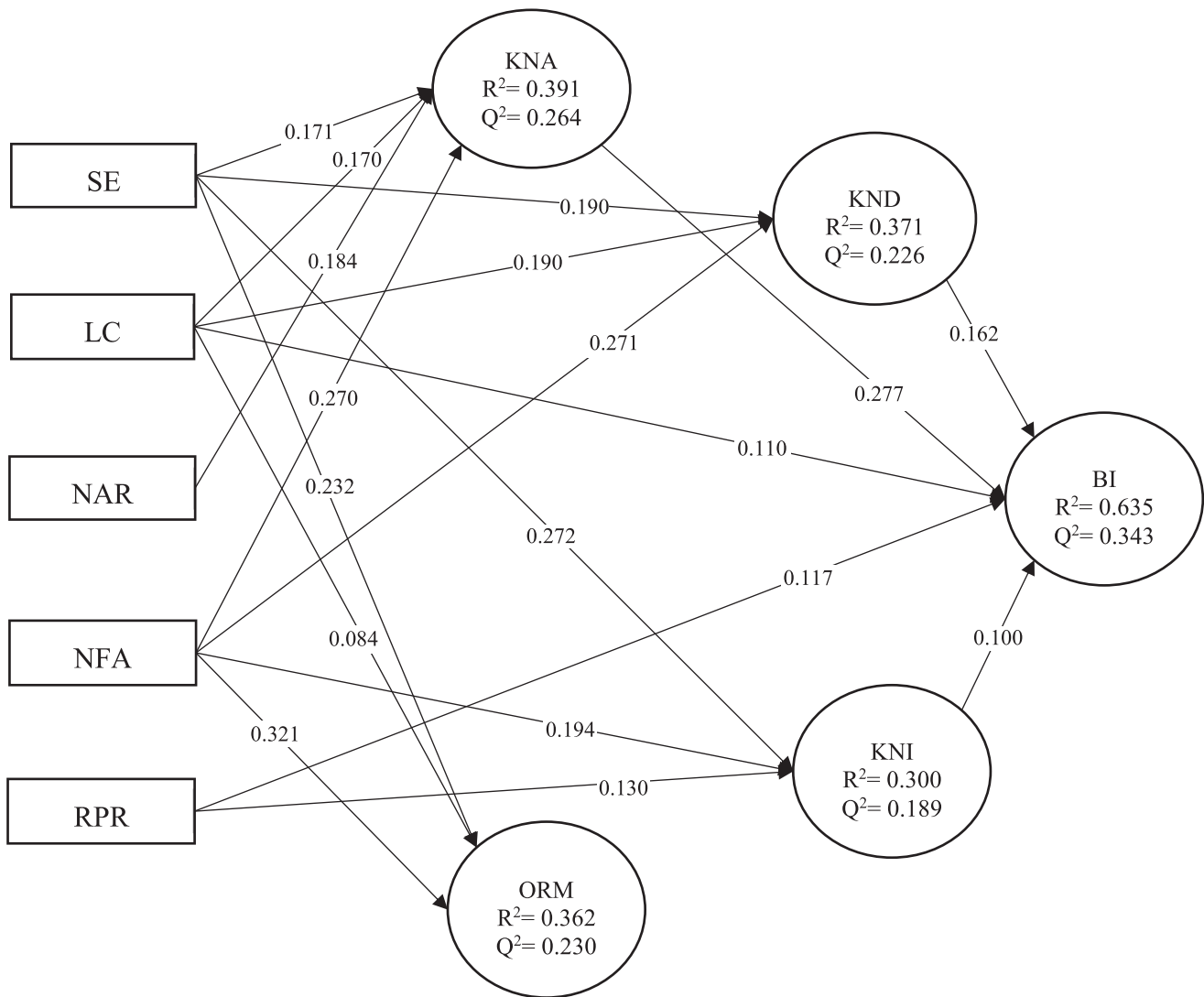


Fig. 1. Path coefficients of hypotheses testing.

knowledge acquisition within their organizations was unrelated to their risk tolerance levels. Furthermore, while leadership research confirmed the relationship between leaders' traits and leadership behavior (Hu et al., 2012), empirical findings on the effects of leaders' traits on organizational outcomes were lacking. The current study bridged that gap by demonstrating that leaders' SE, LC, and NFA positively affect ORM. The greater leaders' confidence in their abilities, values, and demand for improved job performance, the greater their concern for developing their firms' knowledge database system. NFA, like KNA, had the greatest impact on KND, followed by CSE. NAR and RPR were discovered to have no significant effect on KND. Finally, SE, NFA, and RPR of leaders improve KNI, which supports previous findings of other researchers (Van et al., 2018; Vashdi et al., 2019). RPR was discovered to affect KNI; thus, how much risk leaders accept determines how information and knowledge are spread and interpreted in organizations.

Third, the study shed light on the positive effects of LET and ORL on BI, demonstrating that LET and ORL are two critical strategies for tourism and hospitality firms to recover and survive following the COVID-19 pandemic. While previous research found a significant relationship between ORL and BI (Jiménez-Jiménez & Sanz-Valle, 2011; Hsiao & Chang, 2011; García-Morales et al., 2012; Van et al., 2018), little research has been conducted to investigate the effects of each ORL subprocess on BI. This study bridged the gap by

focusing on the effects of three ORL subprocesses on BI. Among three subprocesses, KNA had the largest effect on BI, followed by KND. Therefore, how organizations create and share information is important to BI. ORM displayed no effect on BI, which goes against the findings of Van et al. (2018). In terms of LET, the study confirmed the influences of all factors of LET on BI. RPR showed a higher effect on BI, which agreed with the findings of Yu and Chen (2016). The study also provided empirical evidence of both direct and indirect effects of LC on BI, as well as the indirect influences of SE, NAR and NFA on BI through three ORL subprocesses.

Finally, the study demonstrated the importance of ORL subprocesses as mediators of the association between LET and BI. These correlations were in accordance with previous research that supported ORL's influence on leadership and innovation capability of organizations (Hsiao & Chang, 2011; García-Morales et al., 2012; Noruzy et al., 2013; Van et al., 2018). As Uddin et al. (2017) stated, leadership could bring 18% of ORL in organizations. These leaders set up an effective learning environment and motivate employees to learn and improve their performance (Sattayaraksa & Boon-itt, 2016). Regarding the relationship between ORL and BI, Noruzy et al. (2013, 1081) revealed that "the level of organizational learning in organizations is going to be one of the substantial criteria for determining their development and success." Manufacturing firms that are successful in embracing learning can easily succeed in innovating their



businesses. Therefore, leadership has both direct and indirect effects on BI through ORL (García–Morales et al., 2012; Sattayaraksa & Boon-itt, 2016).

### Implications for practice

The study proposed recommendations for leaders of companies, state agencies and local authorities in the tourism industry. After the coronavirus pandemic, innovation has become an effective solution for tourism enterprises to develop and generate sustainable advantages. Tourism firms can improve BI through ORL (KNA, KND, and KNI) and through LC and RPR of leaders. First, leaders in tourism firms should build a learning environment that allows employees to frequently learn new skills and accumulate knowledge relevant to their firms' objectives. Three subprocesses KNA, KND, and KNI, should be considered to establish a complete learning process from generating and sharing, to interpret new information and knowledge. For example, cultural tourism is evaluated as a potential and novel orientation for tourism companies. Historical sites, national arts and intangible cultures can be used to design unique tourism programs. In this regard, tourism linked with culture has become popular in sustainable development strategies, and this requires employees to learn new knowledge and be well-trained. Second, leaders in tourism firms should exhibit a high degree of SE, LC, NFA, NAR, and RPR to stimulate a learning spirit among employees. For example, leaders with high internal LC can adapt to changing environments and flexibly turn difficulties into opportunities, fostering BI within their organizations. Similarly, leaders with high-risk perception can enhance BI in tourism organizations. They should encourage employees' risk acceptance by empowering employees to take mistakes as lessons.

### Limitations and future research directions

This research has some limitations. First, because the current study analyzes cross-sectional data, the results may differ in other contexts. As a result, future studies should be expanded to include more types of organizations, industries, and countries, and longitudinal data. Second, in this study, the components of leadership personalities were limited to CSE, narcissism, NFA, and risk propensity. Future research should look into other leadership characteristics and their links to organizational learning and innovation. Finally, no boundary conditions or moderating variables were included in the research model in this study. Because situational factors can amplify the effects of leadership traits on organizational outcomes (e.g., organizational culture), this is an area for future research.

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### Declaration of Competing Interest

The authors declare that they have no known competing for financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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