

The Role of Innovation Capability in the Relationship between Entrepreneurial Leadership and Innovation Performance in the SMEs Service Industry

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ABSTRACT

Drawing on the resource-based view (RBV) and the dynamic capabilities view (DCV), this study aimed to investigate the mediating role of innovation capability (IC) on the relationship between entrepreneurial leadership (EL) and innovation performance (IP). Survey data were collected from 321 middle-level employees in the SME service industry. Structural equation modeling (SEM) was used to assess the proposed relationships. The empirical analysis revealed that entrepreneurial leadership impacted innovation performance directly and indirectly through the mediating role of innovation capability. The current research contributes to both RBV and DCV by proposing and empirically testing how entrepreneurial leaders affect innovation performance. The results from this research suggest that service SME managers can play a crucial role in promoting their firms' innovation capabilities, which, in turn, influences the firms' innovation performance. This study emphasizes EL's innovation effectiveness and the triggering process of innovation capability and provides various solutions for firms to demonstrate leadership and innovation practices in responding to uncertain environments.

Keywords: Entrepreneurial Leadership, Innovation Capability, Innovation Performance, SMEs, Service Industries.

INTRODUCTION

Today's firms operate in a volatile, uncertain, complex, and ambiguous (VUCA) environment [1]. This situation has created a challenge for businesses operating in a turbulent environment characterized by rapid change and challenging competition and has no compelling reason to continue except to engage in creativity and innovation [2]. Contrarily, firms that prioritize the development of novel products and services along with the innovation of business models will maximize the use of their dynamic capabilities [3]. Innovation is a vital driver of businesses' survival, expansion, and sustainability and is increasingly essential to their success in advanced and developing countries [4]. However, the willingness to engage in innovation activities is a top management decision [5]. Thus, the future direction of the business is influenced by leaders with entrepreneurial mindsets and behaviors.

Entrepreneurial Leadership has evolved from entrepreneurship and Leadership for businesses vulnerable to the dynamic environment [6, 7]. Several scholars asserted that entrepreneurial Leadership could influence how resources are structured, how they are used to develop capabilities, and how those capabilities are then used to drive a firm's innovation [2]. Although several studies such Nor-Aishah, Ahmad [8], Latif, Nazeer [9] have acknowledged the positive impact of EL on organizational outcomes, the empirical findings are inconsistent and mixed due to the different levels of leadership effectiveness and various correlation coefficients. Thus, the relationship between EL and organizational outcomes remains questionable [10].

Previous studies have been unable to explore how entrepreneurial leadership influences innovation performance [11]. For instance, several mediating factors have been introduced to link entrepreneurial Leadership and innovation performance, such as exploratory innovation and exploitative innovation [12], innovation process [13], organizational innovation [14], and TQM [15]. However, the mediating role of innovation capability has less attention [16, 17]. Although earlier research connected EL and IC in different settings, contradictory findings have been found [18], which justify further research into this relationship. Filling this gap will answer the call that stated a dearth of IC research in the SMEs contexts [18, 19] is very important for SMEs to develop a strategy to respond to the rapidly evolving market dynamics while using scarce resources, specifically in the service sector [20].

This study developed a conceptual model to explain how entrepreneurial leadership can foster innovation performance and examined the hypotheses using data from managers working in the Malaysian SMEs service sector. This study anticipates addressing the stated knowledge gaps and contributes in several ways. First, this study contributes to the development of studies linking RBV and DCV by linking entrepreneurship leadership, dynamic capabilities (innovation capability), and innovation performance, and strengthens the findings of previous research that the EL contributes to performance outcomes if considering the dynamic capabilities. Second, the role of IC as a unique dynamic capability of the firm lacks attention in the literature [21]. This study adds to the prior literature by highlighting the mediation role of IC in EL-IP relationships. Lastly, given the scarcity of research on innovation in the context of the service industry, the findings of this study supported this notion and provided a more comprehensive understanding of the service innovation capability construct and their performance outcomes within the context of Malaysian service SMEs.

THEORETICAL FOUNDATION AND LITERATURE REVIEW

Theoretical Foundation

The resource-based view (RBV) of the firm is known as one of the most essential and prominent theories for identifying, clarifying, and predicting organizational relationships [22]. It desires to link the internal sources of a firm with its performance. RBV's key point is that competitive advantage and success are the outcomes of the firm's (tangible and intangible) resources and capabilities that other rivals find challenging to duplicate [23]. The RBV postulated that the resources and capabilities possess specific characteristics to be considered crucial components of sustainable competitive advantage and superior firm performance. These characteristics include rare, valuable, inimitable, increasing efficiency and effectiveness, can apply and absorb, and improperly imitable and non-substitutable [23-25]. Accordingly, scholars in the field of entrepreneurship shifted their attention to research on these resources, which are linked with the opportunities for exploration and exploitation, and vision realization for sustained competitive advantage and superior performance achievement [26]. Therefore, [27] suggested that entrepreneurship is one of the firm's resources. In the same way, this study considers entrepreneurial leadership as a business resource since the entrepreneurial leader has the ability to organize the portfolio of resources strategically and then coordinate these resources to shape organizational capabilities for a business [28].

The dynamic capability view expands on the theoretical origin of the RBV [29]. By introducing dynamic capabilities, firms can build and implement new knowledge, which serves as the source of innovation and output. Therefore, to understand an enterprise, the dynamic capabilities approach is relied on the basic assumptions of RBV by asserting that the company's unique capabilities evolve [30]. DCV has attracted the extensive interest of researchers but still has no coherent framework. Much needs to be learned and explained theoretically and empirically [3, 31]. This study uses RBV and DCV to explain the relationship between EL and IP and how IC, as a unique capability, can promote a firm's innovation outcome.

Literature Review and Hypotheses Development

Entrepreneurial Leadership and Innovation Performance:

Innovation performance is a critical component of an organization's success because it involves a variety of factors, such as the environmental and social effects of operational processes, encourages employee creativity, and collaborates with clients, supply chain partners, and other commercial partners to design and develop innovative products and services [32]. In the same view, scholars Gupta, MacMillan [7], Renko, El Tarabishy [33] have suggested entrepreneurial Leadership as a style of Leadership to deal with unpredictable and demanding environments to stimulate and improve innovation activities and identify opportunities for all types of organizations, particularly in SMEs [13]. Entrepreneurial Leadership and innovation performance connection can be explained through RBV. However, innovation performance can be determined by a combination of assets and resources. Therefore, it requires various resources and capabilities [2] to drive success in a rapidly changing environment. According to RBV, leadership styles are considered vital resources for an organization and influence organizational performance [24, 25]. However, entrepreneurial leaders can communicate the value of opportunities and how exploiting them contributes to the firm's and individuals' goals [34]. Therefore, this study argues that entrepreneurial Leadership enhances the firm innovation performance. Previous studies supported the positive link between EL and IP. For instance, Yu, Zhang [35] found that entrepreneurial Leadership positively influence the

innovation performance of new venture in China. Based on the above discussion, the following hypothesis is derived:

H1: Entrepreneurial Leadership has a positive relationship with Innovation Performance.

Entrepreneurial Leadership and Innovation Capability:

Innovation has emerged as a critical source for maintaining a competitive advantage. This is because innovation helps companies develop and implement more efficient and effective strategies and processes, which lead to innovative products and services [16]. The ability of a company to conduct innovation is called 'innovation capability' [36]. Scholars suggest that innovation capability is a multi-faceted construct. Saunila, Pekkola [37] noted that innovation capabilities range slightly among businesses depending on the type of innovation and several other practical factors. Perdomo-Ortiz, González-Benito [38] stated, based on RBV and DCV theories, "to innovate, a firm requires the capability for innovation." The RBV, however, focuses on resources and ignores the circumstances surrounding their development in a firm's business strategy.

Conversely, dynamic capabilities enable a company to align its resources with changing market conditions to maintain and enhance its competitive advantage. Therefore, dynamic capabilities are anticipated to reduce the disparity between a firm's resources and the business environment [6]. Tidd [39] emphasize that firms have more chance to achieve better profitability rather other than firms with few or any kind of innovation capability. Along the same line, Saunila, Pekkola [37] and Hogan, Soutar [20] asserted that innovation capability enables firms to obtain better performance and sustained competitive advantage. Therefore, it is argued that innovation capability is a core pillar in the sustainability of innovation and continuous growth [40].

Prior research revealed that entrepreneurial Leadership positively predicts employees' and organizational performance in various settings. Utoyo, Fontana [41] found that entrepreneurial Leadership positively influenced capability-driven strategy that helps firms to configure core innovation capability. In Kuwait, entrepreneurial Leadership indirectly affects organizational performance through innovation capacity [42]. Moreover, Purwati, Budiyo [43] found a positive and significant relationship between EL and IC in SMEs in Pekanbaru. The following hypothesis is put out in light of the DCV and the studies discussed above:

H2: Entrepreneurial leadership has a significant positive effect on innovation capability.

Innovation Capability and Innovation Performance:

Innovation can be considered an essential capability of an organization since it supports introducing new products and services, leading to superior profitability and sustainable competitive advantage [44]. Innovative performance is the pinnacle of an organization's output over time due to efforts to update and improve ideas, services, or products at various phases of the organization's innovation system. Therefore, innovative performance can be considered a merged construct based on multiple indicators connected to performance, such as new inventions, new product launches, initiatives, procedures, and organizational structures [45]. It can be concluded that innovations will potentially boost the firm's efficiency in many contexts

[46].

Previous studies have connected organizational capabilities with innovation performance in different settings. In Hong Kong, Lau and Lo [46] found that technological innovation capability positively affects firms' innovation performance. A study by Saunila, Ukko [47] revealed that human and time management capabilities positively impact innovation performance, while marketing capability is not. Andersson, Moen [48] found that organizational climate for psychological safety is positively correlated to innovation performance. However, these studies conceptualized innovation performance as product and process innovation. Nonetheless, a positive relationship was found between product innovation, process innovation, organizational innovation, and SMEs innovation performance, while marketing innovation is not [46]. Considering that the relationship between innovation capability and performance has received less attention in earlier studies [17], particularly in service industries [49], we developed the hypothesis as follows:

H3: There is a significant positive relationship between innovation capability and innovation performance.

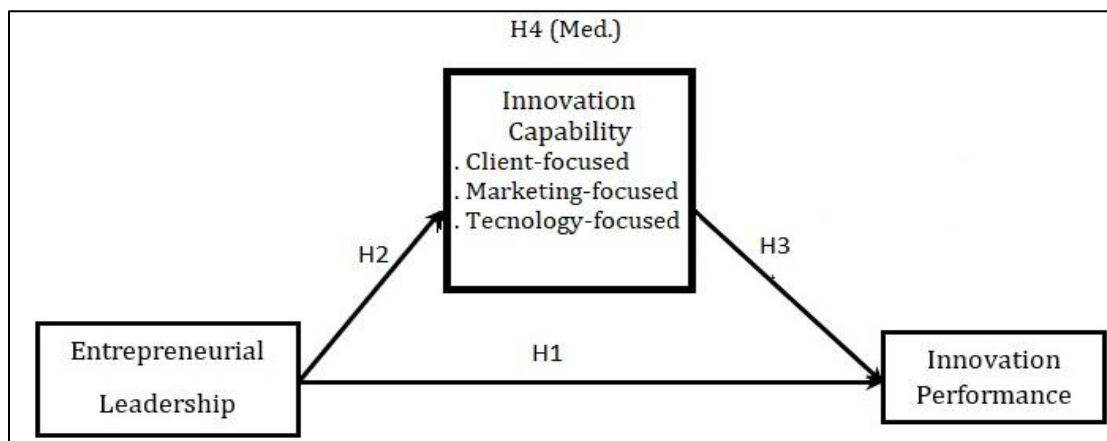


Figure 1: Research Framework

The Mediating Role of Innovation Capability in The Relationship Between Entrepreneurial Leadership and Innovation Performance:

Leadership plays a vital role in effecting innovation because leaders are responsible for supporting innovation efforts and processes by making the right decisions and setting specific targets [50]. Several studies indicated that leaders who engaged in entrepreneurial activity could guide their team members to recognize and seize opportunities and encourage creative behavior within employees [50, 51].

The concept of innovation originated in the DCV [29]. It is considered a new concept that aligns with the DCV, whereas the RBV postulates that businesses entirely use their resources and capabilities [40]. In this scheme, "innovative capability" refers to the firm's ability to ideally use dynamic capabilities to innovate at the firm level [40]. This capacity obviously affects the consistency and pace of the company's performance in innovation and is essential to its success [52]. Therefore, innovation capability potentially links entrepreneurial Leadership's positive impact to SME firms' innovation performance. The hypothesis is proposed as follows:

H4: Innovation capability mediates the relationship between entrepreneurial leadership and innovation performance.

METHODOLOGY

Service SMEs firms in Klang Vally, Malaysia, make up the sample for this study because the service sector contributes 60.0% of Malaysia's GDP and 63.3% of the employment compared to other sectors [52]. In addition, the competition in this sector is very high and requires SME firms to be more innovative in offering their products/services [53, 54]. Since this study involves the organizational level, middle-level managers were selected as respondents whom better understood their firms' decision-making process and innovation activities. Moreover, middle-level managers were chosen to evaluate their top leaders to avoid the bias of overconfident leaders who answer entrepreneurial leadership questions. A total of 321 sample sizes were achieved using convenience sampling; however, only 313 were utilized. The respondents' demographic profile results revealed that the majority are females. The respondents are mostly aged between 40 old years and below. The majority hold a bachelor's degree, work as a manager, and have experienced between 1–15 years.

All conceptual model variables were measured on a five-Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The entrepreneurial leadership construct comprises eight items on the ENTRELEAD scale and is adapted from Renko, El Tarabishy [33]; for instance, the "Manager of this company often comes up with radical improvement ideas for the products/services we are selling." Innovation capability was measured using: client-focused innovation, marketing-focused innovation, and Technological-focused innovation. Ten items adopted from Hogan, Soutar [20] are used to measure IC dimensions. Lastly, innovation performance construct comprises of nine items adopted from the study of Saunila, Ukko [47] and Lau and Lo [46]. Data analysis was performed using Smart PLS v.3.3.9.

DATA ANALYSIS AND RESULTS

Data collected from the questionnaire survey were examined using partial least squares structural equation modelling (PLS-SEM) utilizing the path modelling technique. PLS path modeling was chosen since it is widely used in management science disciplines [53]. In addition, PLS-SEM is the "most fully developed and general system" in SEM studies utilized to predict the endogenous variable 'innovation performance' [55, 56]. Following Hair, Sarstedt [57] guidelines, the PLS-SEM analysis was carried out in a two-stage approach. The measurement model was initially evaluated for validity and reliability following the set criteria. The structural model was evaluated after establishing the validity and reliability of the measurement model.

Measurement Model Assessment

The measurement model examines the constructs and indicator relationships. It comprises individual indicator reliability and composite reliability (CR), which evaluates internal consistency, and average variance extracted (AVE), which assesses convergent validity. Tables 1 and 2 display the reliability and validity of the constructs. The results in Table 1 exhibit that most indicators showed factor loadings over the threshold of 0.70 [53, 58]. For all constructs, Cronbach's alpha (α) scores and composite reliability (CR) scores were higher than the cut-off criteria of 0.70 [57, 59]. Additionally, the average extracted variance (AVE) scores were greater

than 0.50 [27, 57]. The measurement model's reliability and convergent validity are established. Figure 2 displays the results of the measurement model.

Table 1. Factor loadings, reliability, and validity

Construct	Item	Λ	α	CR	AVE
Entrepreneurial Leadership	EL1	0.747	0.893	0.914	0.572
	EL2	0.752			
	EL3	0.775			
	EL4	0.760			
	EL5	0.748			
	EL6	0.728			
	EL7	0.781			
	EL8	0.758			
Client-focused	IC2	0.870	0.829	0.898	0.746
	IC3	0.890			
	IC4	0.829			
Marketing-focused	IC5	0.790	0.859	0.904	0.703
	IC6	0.846			
	IC7	0.875			
	IC8	0.841			
Technology-focused	IC9	0.869	0.858	0.913	0.778
	IC10	0.896			
	IC11	0.882			
Innovation Performance	IP1	0.717	0.910	0.926	0.583
	IP2	0.726			
	IP3	0.785			
	IP4	0.772			
	IP5	0.751			
	IP6	0.785			
	IP7	0.776			
	IP8	0.741			
	IP9	0.815			

Table 2: Discriminant validity (HTMT)

Construct	CFI	EL	IP	MFI	TFI
CFI					
EL	0.727				
IP	0.725	0.713			
MFI	0.888	0.641	0.750		
TFI	0.760	0.520	0.621	0.852	

CFI: Client-focused, EL: Entrepreneurial Leadership, IP: Innovation Performance, MFI: Marketing-focused, TFI: Technology-focused.

After establishing the internal consistency reliability, the Heterotrait Monotrait (HTMT) ratio is employed to determine the measurement model's discriminant validity. Instead of only assessing cross-loadings or using the Fornell-Larcker method, HTMT is a more accurate

measure of discriminant validity [60]. The HTMT values in this study were less than the threshold of 0.90. Consequently, discriminant validity is established (refer to Table 2).

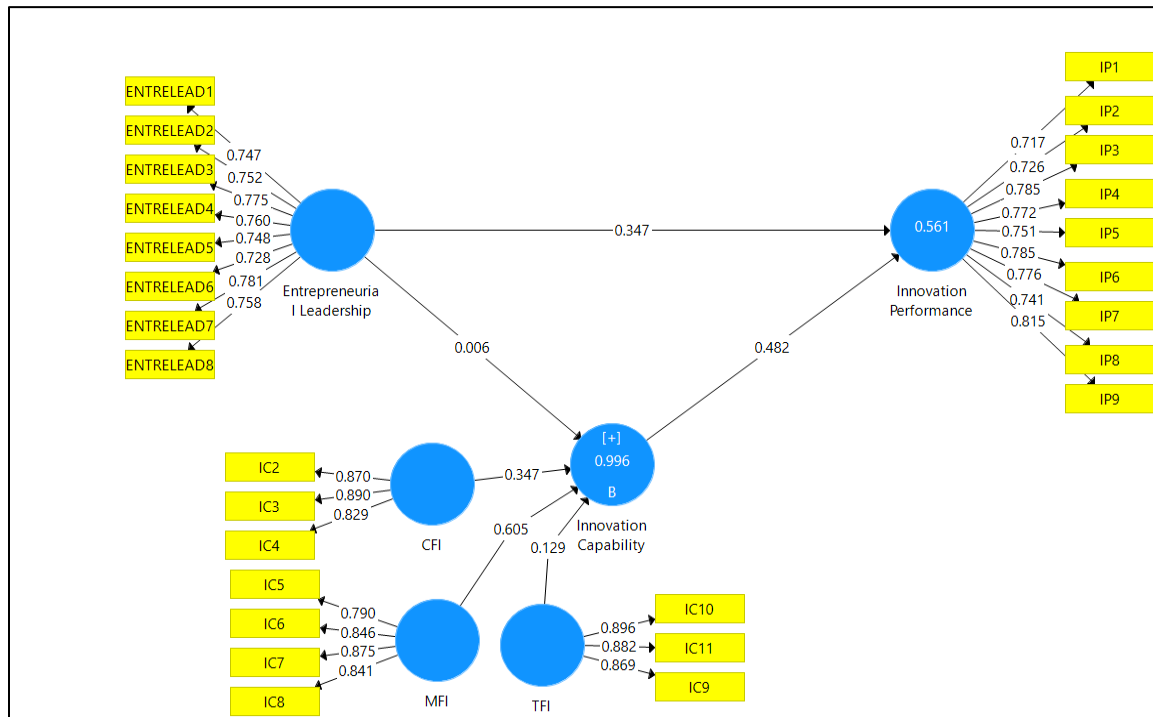


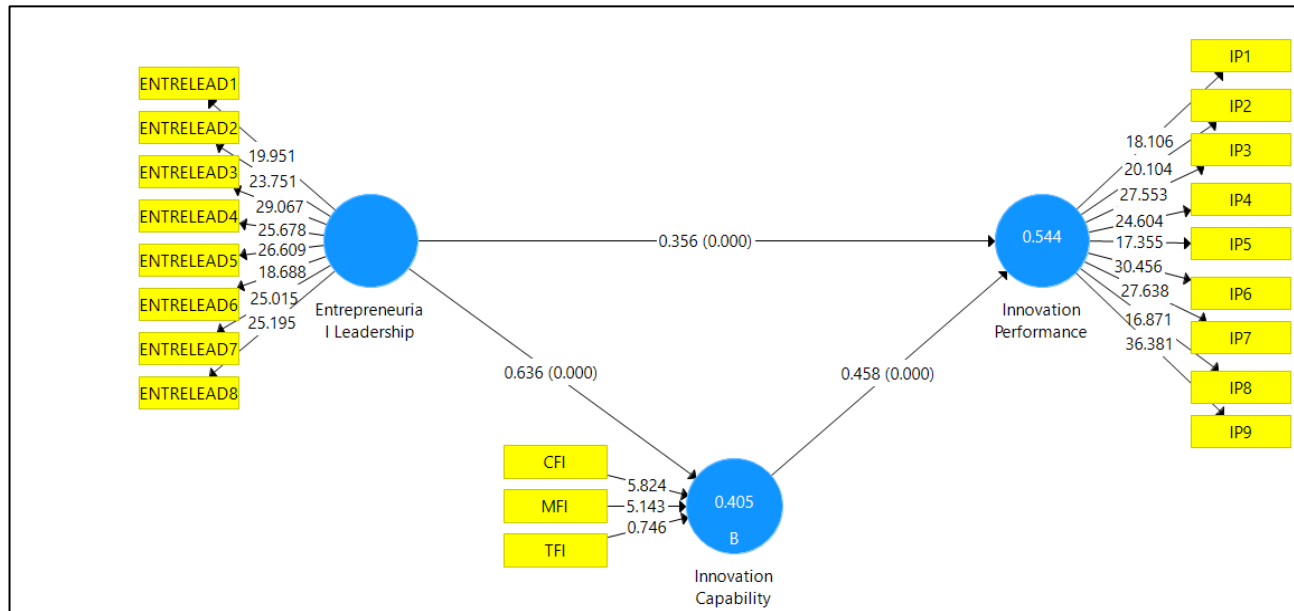
Figure 1: Results of the Measurement Model

Structural Model Assessment

The structural model involves the assessment of the relationship (paths) between constructs (see Figure 3). The structural model's β -value depicts the direction of the dependent and independent variables, while the R^2 value anticipates the predictive power. The main criteria to be considered are the coefficient of determination (R^2) and the size and significance of the path coefficients [57]. H1 assesses whether EL has a positive connection with IP. The results revealed that EL significantly impacts IP ($\beta = 0.356$, $t = 6.548$, $p < 0.000$). Thus, H1 was accepted. H2 assesses the significant relationship between EL and IC ($\beta = 0.636$, $t = 13.802$, $p < 0.000$). Therefore, H2 was supported. H3 evaluates the positive relationship between IC and IP. The results found that IC has a significant positive relationship with IP. Consequently, H3 was accepted. Table 3 shows the results of the hypotheses testing.

Table 3: Hypotheses Testing.

Hypothesis	Relationships	Path Coefficient	T statistics	P values	95% CI	Result
H1	EL --> IP	0.356	6.548	0.000	0.242 - 0.456	Supported
H2	EL --> IC	0.636	13.802	0.000	0.547 - 0.725	Supported
H3	IC --> IP	0.458	8.322	0.000	0.353 - 0.568	Supported

**Figure 2: Results of Structural Model**

Mediation Analysis

Since the mediation approach is thought to be the best for PLS-SEM, it was used in the current study [57]. Traditional methods for evaluating the significance of mediation relationships include the Sobel test; however, recent research has highlighted the Sobel test's statistical weaknesses and advocated using bootstrapping instead [61]. So, in this study, the bootstrapping method was used to determine the significance [62]. In addition, Zhao, Lynch [63] asserted that a full mediation establishes when the exogenous variable does not significantly affect the endogenous variable upon including the mediator. On the contrary, partial mediation happens when the exogenous variable significantly and directly impacts the endogenous variable. As shown in table 4, the result of mediation analysis revealed that IC has a complementary partial mediation role in the linkage between EL and IP ($\beta = 0.291$, $t = 6.870$, $p < 0.000$). Thus, H4 was accepted.

Table 4: Result of Mediation Relationship

Total effect (EL--> IP)			Direct effect (EL--> IP)		
Coefficient	T value	P-value	Coefficient	T value	P-value
0.647	17.851	0.000	0.356	6.548	0.000
Indirect Effect of EL on IP					
Hypothesis	Coefficient	S. E	T value	P-value	Percentile bootstrap 95% confidence interval
					Lower Upper
H4: EL->IC->IP	0.291	0.042	6.870	0.000	0.218 0.383

DISCUSSION AND CONCLUSION

This study provided an explanation of the relationship between EL, IC, and IP. It was demonstrated that EL might enhance IP, and the interaction paths between EL and IP were explored. The proposed hypothesis' acceptance validates both the Resource-based view (RBV) and the Dynamic-based view (DCV). Firstly, this study revealed a positive impact of EL on IP. The outcomes are in line with earlier studies where EL and performance outcomes were found to be positively correlated [5, 9, 10, 14, 63]. It was argued that SMEs' owners and managers who exhibit this style of Leadership are more likely to be able to improve the company's innovation activities. In addition, leaders can exert their entrepreneurial skills in a competitive environment to achieve innovative performance [7, 13]. This increased our certainty that EL positively and significantly influences IP.

Secondly, this study found a significant positive effect of EL on IC. These findings support and expand the research from [12-14, 18], which revealed that EL enhances organizational innovation. According to Renko, El Tarabishy [33], entrepreneurial leaders emphasize their followers' self-efficacy and entrepreneurial passion by inspiring their passion for creativity and innovation.

Thirdly, the results of this study revealed a significant impact of IC on IP. These results support both the hypothesis and earlier studies regarding the effect of IC on organizational outcomes [41, 45, 46]. As a unique firm capability, innovation capability is an ever-evolving firm-specific construct that is created from a collection of specific activities (i.e., client-focused innovation, marketing-focused innovation, and technological-focused innovation) that are added, developed, and modified over time [31]. The dynamic capabilities are essential for the creation of innovation, thus SMEs in the service sector update, integrate, and reconfigure their current innovation resources to create new products and services in response to market opportunities and changes. Subsequently, achieving higher performance and gaining sustainable competitive advantage [29].

Finally, the result of this study supports the mediating effect of innovation capability in EL-IP relationships. This finding has confirmed previous literature on the mediating role of the IC [16, 18, 43]. Theoretically, this finding is consistent with RBV and DCV. According to RBV assertion

that firms depend on their internal resources and capabilities to achieve competitive advantage instead of external resources. Whereas, DCV emphasized on depending on all of the firm resources and capabilities whether internal or external to address rapidly changing environments. Therefore, entrepreneurial leaders, as firm physical resources, use their capabilities to promote innovation capability to enhance the firm's level of innovation. In addition, as a firm dynamic capability, innovation capability plays a key role in building up innovation performance and sustainable competitive advantage [28].

This study offers several practical implications. With the guidance of the proposed conceptual framework in this study, SMEs owners/managers in the service sector can better understand how EL affect the innovation activities in their firms, so they focus more on building these capabilities to achieve better performance outcome and gain sustainable competitive advantages. Following this model, SME owners/managers should lead with vision, passion, innovativeness, and risk-taken while dealing with the dynamic environment and business uncertainty. In other words, SME owners/managers should develop and utilize EL capabilities to identify and seize business opportunities to guide their team members toward sustainable goals.

LIMITATIONS AND FUTURE DIRECTIONS

Despite the significant empirical findings and implications, the current study has some limitations. First, the study used a cross-sectional design, which limits the ability to infer causal explanations. However, the study gave assurance of anonymity to individual respondents to reduce potential response bias. Comparatively to a cross-sectional technique, a longitudinal method can clearly demonstrate the causal effect, providing a deeper comprehension of the correlation. Qualitative approaches may be applied to explore deeper problems relating to innovation in the SMEs service industry. Qualitatively-shaped future studies and longitudinal sections can support this study to examine the contextual aspects of innovation in the SMEs services sector. Second, this study focused only on service SMEs in Klang Valley to save time and costs since the data collection was done during the COVID-19 pandemic. Future research could extend this study to a broader sample involving other states in Malaysia, such as Johore and Penang is desirable. Moreover, similar research should be conducted in different countries to review entrepreneurial leadership practices in service firms comprehensively. It is necessary to replicate the current study and address the issues overlooked in this study. Including other prime areas in future research can benefit researchers in generalizing their findings within service firms.

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