Entrepreneurial leadership and organizational innovation: The role of mediating analysis

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A B S T R A K


A B S T R A C T

This study explores entrepreneurial leadership’s influence on organizational innovation as mediated by high-performance work systems and knowledge sharing. Our respondents were 280

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employees of small and medium exporting industries selected using the Krejcie and Morgan formulations. Data were analyzed using the Smart PLS 3.2.9 software. The findings indicate that entrepreneurial leadership positively affects high-performance work systems, knowledge sharing, and organizational innovation. In addition, high-performance work systems and knowledge-sharing mediate the relationships. This study offers insights into the leadership literature from an entrepreneurial perspective and emphasizes the favorable effects on HRM practices and knowledge exchange, which ultimately contribute to organizational innovation. Knowledge, particularly knowledge sharing, is critical in explaining SMIs’ capacity to synchronize their resources. From a practical standpoint, SMIs, particularly those prioritizing exports, must perceive organizational innovation as a tangible measure to sustain their competitiveness in the global market. Moreover, SMIs must facilitate information sharing among all parties engaged in business activities. SMIs may acquire new information and be able to resolve any technical issues that may arise due to knowledge sharing.

INTRODUCTION

The evolution of the business environment necessitates that all organizations adapt to survive escalating market demands and intensifying competition. This circumstance also pertains to small and medium enterprises, which have thus far been acknowledged for their substantial contributions to economic growth and employment provision (Knezović & Drkić, 2020). One potential strategy for ensuring the survival of SMIs amidst this situation is to promote innovation (Darroch, 2005; Noruzy et al., 2013). Innovation is defined as developing new products and services to increase value (Chan et al., 2016; Guimarães et al., 2016; Susanty et al., 2019). However, studies on innovation models have been mostly explained in large companies. SMIs can, nevertheless, survive and compete in the market if they are supported by the capacity to adopt novel technologies and develop new products or services (Roper et al., 2017). Various policies that SMIs may implement are required to foster innovation (Iizuka & Uchida, 2017). Therefore, numerous studies demonstrate that leadership practices affect innovation in SMIs (Corsi & Prencipe, 2019; Cortes & Herrmann, 2020; Dunne et al., 2016; Rasheed et al., 2021).

Among various leadership behaviors, the literature emphasizes entrepreneurial leadership because entrepreneurial leadership behavioral patterns result in the accomplishment of visionary objectives by motivating employees to enhance SMI innovation (Dabić et al., 2021; Huang et al., 2014; Nguyen et al., 2021; Sawaean & Ali, 2020). Furthermore, entrepreneurial leadership arguably frames challenges, absorbs uncertainty, builds commitment, and specifies limits (Aristana et al., 2023; Gupta et al., 2004). SMIs require this capability to survive the competition. However, SMIs are distinguished from large corporations by lacking hierarchical structures, organizational structures, and modern management. Instead, they rely on familial
relationships and flexible and adaptive structures (Matzler et al., 2008). Hence, the dynamics of leadership operate in a way that increases innovation. Additionally, prior studies largely demonstrate that entrepreneurial leadership does not affect innovation. Hence, it necessitates mediating variables, including high-performance work systems and knowledge sharing (Aristana, Wisnawa, et al., 2022; Riana et al., 2020).

Prior studies have demonstrated the significance of knowledge in promoting innovation (Zach & Hill, 2017). Nevertheless, further research is required regarding the role of knowledge-sharing interventions in intervening in the relationship between entrepreneurial leadership and SMI innovation (Abu-Rumman et al., 2021; Paudel, 2019; Rehman et al., 2021; Wang & Wang, 2012), given that the discourse concerning knowledge sharing has been more extensive in large industries than in small ones (Hoarau & Kline, 2014; Lin, 2007; Peng et al., 2014; Roper et al., 2017). Further studies have demonstrated that employees may occasionally be less motivated to share knowledge (Latif et al., 2020; Tohidinia & Mosakhani, 2010; Yadav et al., 2019). Consequently, SMI development must consider knowledge-sharing practices by including other factors that may intervene in the indicated relationship (Azar & Ciabuschi, 2017; Bhatti et al., 2021; Rasheed et al., 2021).

Similar to knowledge sharing, high-performance work systems (HPWS) are largely implemented in large industries but remain underdeveloped in small industries (Fu et al., 2017; Maskudi, 2014). HPWS is an HRM practice that primarily shapes employees’ attitudes, skills, and behavior while achieving organizational objectives (Do & Shipton, 2019). Therefore, further studies should focus on the effect of HPWS on small industries (Bryson & White, 2019; Lai et al., 2017; Sheehan, 2014) because the relationship between entrepreneurial leadership and innovation has been less consistent (Bhatti et al., 2020; Tang et al., 2017), especially in developing countries (Jain et al., 2019). Accordingly, this study seeks to fill the existing gap by conceptualizing the model by positioning knowledge sharing and HPWS as mediators (Nguyen, 2019; Riana et al., 2020).

This study focuses on exporting SMIs for several reasons. First, on the one hand, SMIs are currently experiencing business disruption due to technological developments. On the other hand, this industry is one of the leading sectors and job creators. Thus, innovation is critical in responding to this condition (Aristana et al., 2022; Hock-Doepgen et al., 2021). Second, this industry is currently dealing with an increasingly difficult situation due to increasing global competition. Thus, knowledge is important to accelerate innovation (Bhatti et al., 2020; Miao & Cao, 2019; Noruzy et al., 2013). Third, despite the pervasiveness of innovation studies, they focus more on large industries (Boxall & Macky, 2009; Miao & Cao, 2019; Osterman, 2006). Hence, this study offers a new perspective for SMIs in fostering innovation. Fourth, SMIs in recent years have experienced a declining performance.

This study analyzes organizational innovation and its antecedents. Our
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research contributes to the organizational innovation literature. Besides, we offer an alternative understanding of the critical roles of leadership, HRM knowledge, and HRM practices. This study also highlights several critical aspects of leadership that remain neglected. Practically, this research provides a best-practice approach to implementing innovation in SMIs and simultaneously offers insights into the importance of sharing HRM knowledge and practices in SMI management, especially concerning innovation development. Accordingly, this study aims to investigate a) the relationships between entrepreneurial leadership, knowledge sharing, high-performance work systems, and organizational innovation and b) the roles of knowledge sharing and high-performance work systems as mediators.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Dynamic Capability Theory

Industrial development requires that organizations constantly strive to survive amidst intense competition. Teece et al. (2001) proposed a dynamic capabilities theory that serves as a strategy to exploit opportunities and sustain competitiveness. Asset consolidation and reconfiguration represent a strategic step that may be executed to gain a competitive edge. The dynamic capabilities consist of the following three capabilities: (1) the capacity to identify threats and opportunities, (2) the capability to capitalize on and optimize each opportunity; and (3) the capability to configure competitive resources via resource transformation. Organizations can sustain their competitive edge by capitalizing on scarce, valuable, and irreplaceable resources, including knowledge (Chen et al., 2016; Edú-Valencia et al., 2016; Nonaka, 1994). Subsequent developments explained the three core capabilities of dynamic capability theory: process, position, and strategy (Teece, 2014b). In the subsequent phase, it is necessary to integrate entrepreneurial management and leadership into the capabilities theory to maintain superior performance (Teece, 2014a). This framework is used to explain how strategy and dynamic capabilities together establish a competitive advantage through innovation.

Innovation itself is explained as the basis for what organizations must do to survive in competition (Hon & Lui, 2016; Ko et al., 2011), including new thinking mechanisms toward competitive advantage (Birn斯坦 et al., 2013; Engelen et al., 2014; Gumustu & Ilsev, 2009; Oura et al., 2016; Ryan & Tipu, 2013; Severo et al., 2020; Subramaniam & Youndt, 2005; Watts et al., 2020). On the other hand, innovation is the successful application of creative ideas (Afriyie et al., 2020; Ghosh, 2015). Further, innovation is conveyed as adopting new ideas or behaviors (Jiménez-Jiménez & Sanz-Valle, 2011; Liu et al., 2019). Organizations innovate by implementing product updates, processes, and management (Lee et al., 2019). Thus, this study defines organizational innovation as development through product, process, and management changes to enable organizations to survive competition.
Hypothesis Development

Entrepreneurial leadership, knowledge sharing, high performance, and organizational innovation

Entrepreneurial leadership is characterized by its functional capacity to formulate visions and effectively coordinate activities (Bagheri & Harrison, 2020; Jones & Crompton, 2009; Ling & Jaw, 2011). Entrepreneurial leadership has been demonstrated to increase organizational growth (Kasim, 2021; Olutade et al., 2015; Paudel, 2019). These characteristics enable entrepreneurial leadership to encourage and inspire employees to produce innovative outcomes (Cai et al., 2019; Nguyen et al., 2021). Furthermore, the distinguishing characteristics of entrepreneurial leadership include adaptability, realism, inspiration, and conservatism (Ruvio et al., 2010). In the future, entrepreneurial leadership will be critical in fostering innovation in micro and small businesses (Dabić et al., 2021). Entrepreneurial leadership mitigates uncertainty and establishes stability, promoting effective execution of innovation processes. Therefore, organizations must encourage entrepreneurial leadership to implement innovation effectively (Fontana & Musa, 2017). It has been demonstrated that entrepreneurial leadership skills enable exploring and exploiting innovation's potential in new ventures (Huang et al., 2014; Sawaean & Ali, 2020).

Besides predicting organizational innovation, entrepreneurial leaders facilitate knowledge exchange (Carmeli & Paulus, 2015; Donate & Pablo, 2015; Riana et al., 2020). Decision-makers realize that knowledge-sharing works for individuals, teams, and organizations (Alam et al., 2020). Large-scale firms and SMIs need to practice knowledge sharing to generate new knowledge (Mittal & Dhar, 2015). Entrepreneurial leadership facilitates knowledge generation through exchanging and discussing ideas as it pursues its vision (Chaar & Easa, 2021). Thus, entrepreneurial leadership enhances knowledge development within the organization (Islam & Asad, 2024). The importance of knowledge in organizational performance has been widely recognized in previous studies (Tuan, 2017). Specifically, entrepreneurial leadership facilitates organizational success through knowledge sharing (Carmeli & Paulus, 2015).

Numerous studies suggest that organizations apply HRM practices to improve organizational performance (Beltrán-Martín et al., 2008; Shih et al., 2006; Shin & Konrad, 2017; Torre & Solari, 2013). However, the effectiveness of HRM practice implementation in small-scale businesses remains questionable. It is worth noting that SMIs do not have sufficient structure and system in their HR management that facilitates productivity (Messersmith et al., 2011; Messersmith & Guthrie, 2010).

Entrepreneurial leadership, characterized by its skills and character, can apply HPWS to small businesses (Pereira & Gomes, 2012). Appropriate leadership exhibits various approaches that can strengthen HRM practices (Garavan et al., 2016; Leroy et al., 2018). Based on the above discussion, we propose the following hypotheses:

**H1**: Entrepreneurial leadership positively affects HPWS.
H2: Entrepreneurial leadership positively affects knowledge sharing.

H3: Entrepreneurial leadership positively affects organizational innovation.

Knowledge sharing and organizational innovation

Prior research suggests that organizations can develop if they possess sufficient knowledge. Organizations obtain necessary information through various methods, including by implementing knowledge-sharing practices. This can happen if organizational members are willing to share experiences, techniques, and opinions with other members (El Harbi et al., 2011; Yu et al., 2013). Employees’ willingness to share their knowledge can help organizations respond to the challenges of accelerating global markets (Fullwood et al., 2013; Zenk et al., 2022) because knowledge availability can facilitate and assist organizations in carrying out innovation (Li et al., 2009). Furthermore, knowledge sharing can also assist organizations in developing innovation (Afsar et al., 2019; Andreeva & Kianto, 2011; Dey & Mukhopadhyay, 2018). Previous studies have reported that knowledge sharing significantly increases organizational innovation (Chang, 2017; Hoarau & Kline, 2014; Lin, 2007; Wang & Wang, 2012). Based on the arguments, we proposed our fourth hypothesis:

H4: Knowledge sharing positively affects organizational innovation.

High-Performance Work Systems, knowledge sharing, and organizational innovation

High-performance work systems positively affect knowledge and innovation. HPWS is one of the organizational strategies for managing employee relations (Shih et al., 2006; Wei & Lau, 2010), and knowledge strengthens this strategy (Hassan & Din, 2019; Jyoti & Rani, 2017). Apart from the importance of sustainable HR management in an increasingly competitive industry, understanding the contribution of knowledge to it is critical (Cooke et al., 2019). Organizational implementation of HPWS improves knowledge-sharing processes (Bhatti et al., 2020, 2021; Zhu & Chen, 2014). Given the critical role that knowledge plays, this provides managers with theoretical implications that can be considered when developing more effective HRM practices to promote knowledge sharing (Hassan & Din, 2019). In addition, (Do & Shipton, 2019) highlighted the theoretical mechanism of HPWS influence and innovation, especially in SMIs. HPWS is significantly associated with organizational innovation (Donate et al., 2019; Fu et al., 2015; D. Wang & Chen, 2013), when employees participate in corporate governance (Zhou et al., 2019). The concentration of HPWS in increasing innovation performance is largely determined by the extent to which an innovation climate is initiated (Mehralian et al., 2022). The above
discussions lead to the following hypotheses:

**H5**: HPWS positively affects knowledge sharing.

**H6**: HPWS positively affects organizational innovation.

**Knowledge sharing and high-performance work systems as mediators**

This study emphasizes the crucial role of entrepreneurial leadership in enhancing organizational innovation, specifically by focusing on the leadership behavior that effectively encourages innovation (Bagheri & Akbari, 2018). Several studies have associated entrepreneurial leadership with innovation (Paudel, 2019; Utoyo et al., 2020). Entrepreneurial leadership exhibits visions and strategies for environmental changes (Bagheri & Harrison, 2020). Studies of entrepreneurial leadership through the lenses of developed and developing countries can yield significant insights and substantiate conceptual frameworks. During the concluding phase, we discussed innovation development through knowledge sharing, ultimately benefiting the organization (Avlonitis & Salavou, 2007). Consequently, implementing entrepreneurial leadership can effectively promote organizational innovation (Fontana & Musa, 2017; Rafique et al., 2022; Riana et al., 2020), which we believe is strengthened even further by knowledge sharing (Arsawan et al., 2022).

The significance of knowledge exchange within organizations has been demonstrated across various industries (Munir & Beh, 2019; Sang et al., 2019). The exchange of tacit and explicit knowledge can alter knowledge at the individual, team, and organizational levels (Sang et al., 2019), implying that knowledge-sharing is critical for sustainable organizational changes, especially in the innovation development within the industrial sector (Abukhait et al., 2019; Tuan, 2017). While innovation is critical for organizational growth and performance, certain organizations may lack sufficient recognition of its significance (Singh et al., 2021). However, numerous factors can impede innovation (Madrid-Guijarro et al., 2009). Although numerous prior studies have established the relationship between knowledge sharing and organizational innovation, they demonstrate that organizations can promote innovation more effectively when their employees are willing to share knowledge.

Furthermore, we also establish a synergistic connection between HPWS as a human resource practice and entrepreneurial behavior (Zhu et al., 2019). Enhanced emphasis on standards and work processes can facilitate organizational innovation and enable them to better adapt to competitive environments (Mehmood et al., 2019; Miao et al., 2020). The argument is in line with entrepreneurialism in encouraging creativity and innovation (Kim et al., 2017). HPWS is currently conceptualized as an HRM practice that promotes efficiency and sustainable performance (Evans & Davis, 2005). Therefore, the suitability of HPWS and firms’ strategy can achieve sustainable
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competitiveness (Zhu et al., 2018). Consequently, the relationship between HPWS and innovation performance can be further developed (Mehralian et al., 2022). Thus, we argue that HPWS can facilitate entrepreneurial leadership relationships, knowledge sharing, and organizational innovation. Based on the above arguments, we propose the following hypotheses:

H7: HPWS mediates the relationship between entrepreneurial leadership and organizational innovation.

H8: Knowledge sharing mediates the relationship between entrepreneurial leadership and organizational innovation.

H9: HPWS mediates the relationship between entrepreneurial leadership and knowledge sharing.

H10: Knowledge sharing mediates the relationship between HPWS and organizational innovation.

Figure 1 presents the relationships between entrepreneurial leadership, HPWS, knowledge sharing, and organizational innovation in SMIs as follows:

**Figure 1**
Research Model

**RESEARCH METHOD**

**Population and sample**

This study was carried out at export-oriented craft SMIs in the Indonesian province of Bali. We focus on handicraft SMIs for the following reasons. First, handicraft SMIs actively transact trade in several destinations, such as the Middle East, America, the European Union, and South Asia. This necessitates that SMIs continuously improve their product quality. Second, SMIs must be adaptable to dynamic business changes, including by innovating. Third, SMEs can establish a competitive advantage through continuous innovation. Therefore, craft SMIs require entrepreneurial leadership that seeks to integrate knowledge-sharing practices and HR
practices to increase innovation.

The research population comprised 66 industries, and the sample was determined using the formulation proposed by Krejcie & Morgan (1970), which resulted in a sample frame of 56 industries. The process of sample selection was conducted utilizing a random sampling technique. Selecting respondents involved recruiting five employees from each handicraft SMI, assuming they participated in the product and process development. As a result, 280 individuals participated in the research. The survey was developed utilizing a Google form, and its distribution was conducted using a hybrid approach to accelerate the data collection procedure from February 2023 to December 2022. Table 1 presents the respondents’ characteristics.

<table>
<thead>
<tr>
<th>Respondents’ Profiles</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>121</td>
<td>43.2%</td>
</tr>
<tr>
<td>Female</td>
<td>159</td>
<td>56.8%</td>
</tr>
<tr>
<td>Age (in years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td>50</td>
<td>17.9%</td>
</tr>
<tr>
<td>31-40</td>
<td>150</td>
<td>53.6%</td>
</tr>
<tr>
<td>41-50</td>
<td>71</td>
<td>25.4%</td>
</tr>
<tr>
<td>50 above</td>
<td>9</td>
<td>3.2%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>195</td>
<td>69.6%</td>
</tr>
<tr>
<td>Diploma</td>
<td>35</td>
<td>12.5%</td>
</tr>
<tr>
<td>Graduate</td>
<td>13</td>
<td>4.6%</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>37</td>
<td>13.2%</td>
</tr>
<tr>
<td>Experience (Years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-10</td>
<td>8</td>
<td>2.1%</td>
</tr>
<tr>
<td>11-20</td>
<td>175</td>
<td>62.5%</td>
</tr>
<tr>
<td>21-30</td>
<td>99</td>
<td>35.4%</td>
</tr>
</tbody>
</table>

Sources: Author Calculation

Data collection was accompanied by an introduction letter informing that the survey was conducted exclusively for research purposes. We initially distributed the questionnaires to 30 respondents and analyzed them using IBM SPSS Statistics 21 to ensure data quality, validity, and reliability. The instrument was considered valid if it had a product-moment coefficient value \( r \) greater than 0.3 \( (r >0.3) \) and was reliable if it had a Cronbach Alpha value greater than 0.6 \( (CA>0.6) \).

**Measurements**

This study used four main variables: entrepreneurial leadership, high-performance work systems, knowledge sharing, and organizational innovation. We measured the variables using a five-point Likert scale (1 strongly disagree to 5 strongly agree). Entrepreneurial leadership is measured using six indicators: future orientation, community building, intellectual agility of employees, innovativeness, proactiveness, and risk-taking, which were elaborated from previous studies (Dabić et al., 2021; Karimi et al., 2011). High-performance work systems are measured using four
indicators: process selection, training, performance appraisal, and feedback elaborated from previous research (Riana et al., 2020; Zhang et al., 2019). Knowledge sharing is measured using seven indicators, namely: internal reports, business knowledge, work experiences, tricks of the trade, expertise from education, and know-why knowledge elaborated from previous research (Chennamaneni et al., 2012). Lastly, organizational innovation is measured using seven indicators: new idea development, behavior development, product development, knowledge development, technology development, management development, and process development (Dickel & Moura, 2016).

ANALYSIS AND DISCUSSION

The research hypothesis was analyzed using partial least squares (PLS) with a structural equation modelling (SEM) approach to explain all hypothesized relationships. According to Hair et al. (2013), PLS is a multivariate analysis tool that can model latent constructs despite non-normal conditions due to a small sample size. Testing using PLS was carried out in two stages: measurement of the outer model and measurement of the inner model.

Measurement of the outer model

The measurement model begins with testing the data quality by analyzing the results of the analysis of the measurement outer model. The convergent validity test initially relies on outer loading values greater than or equal to 0.6 (OL>0.6). Further, the discriminant validity test was carried out by comparing the coefficient value of the square root of the variance extracted (√AVE) with the construct used, provided that the significant AVE value is greater than 0.5. The test results show that the OL value is greater than 0.6, and the AVE value is greater than 0.5 (AVE>0.5) (see Table 2 and Table 3).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicators</th>
<th>OL</th>
<th>VIF</th>
<th>CA</th>
<th>r̂hoₐ</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial Leadership</td>
<td>el1</td>
<td>e1</td>
<td>0.709</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>el2</td>
<td>e2</td>
<td>0.687</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>el3</td>
<td>e3</td>
<td>0.690</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>el4</td>
<td>e4</td>
<td>0.788</td>
<td></td>
<td>0.830</td>
<td>0.835</td>
</tr>
<tr>
<td></td>
<td>el5</td>
<td>e5</td>
<td>0.781</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>el6</td>
<td>e6</td>
<td>0.750</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-Performance Work System</td>
<td>hpws1</td>
<td>hpws1</td>
<td>0.922</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>hpws2</td>
<td>hpws2</td>
<td>0.908</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>hpws3</td>
<td>hpws3</td>
<td>0.908</td>
<td></td>
<td>0.922</td>
<td>0.923</td>
</tr>
<tr>
<td></td>
<td>hpws4</td>
<td>hpws4</td>
<td>0.862</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>ks1</td>
<td>ks1</td>
<td>0.873</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ks2</td>
<td>ks2</td>
<td>0.785</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ks3</td>
<td>ks3</td>
<td>0.867</td>
<td></td>
<td>0.935</td>
<td>0.937</td>
</tr>
<tr>
<td></td>
<td>ks4</td>
<td>ks4</td>
<td>0.860</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Third, an assessment of the value between the construct indicators is carried out through composite reliability measurements (Chin, 1998), and a construct is considered significant if it has a value greater than 0.7. The analysis results indicate that the composite reliability value falls in the range of 0.830 - 0.935 (CR > 0.7), and the Cronbach's Alpha value is in the range of 0.876 - 0.948 (CA > 0.7) (see Table 2). Thus, the analysis results are considered free from random error problems.

Measurement of inner model

Once all the requirements for the outer model have been fulfilled, the evaluation proceeds with the assessment of the inner model. Initially, the research model's feasibility was assessed by examining the correlation between exogenous and endogenous variables and utilizing R-Square (R2). Hair et al. (2013) delineate three distinct categories: strong (0.67), medium (0.33), and feeble (0.19). The data presented in Table 4 reveals that the mean R2 value is moderate (0.557), suggesting that the construct demonstrates a 55.5% correlation. The remaining 44.5 percent of the variance is attributed to confounding factors not examined in this study. Therefore, to increase the value of R2, future research must incorporate an additional construct.

<table>
<thead>
<tr>
<th>Construct</th>
<th>AVE</th>
<th>√AVE</th>
<th>EL</th>
<th>HPWS</th>
<th>KS</th>
<th>OI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial Leadership</td>
<td>0.541</td>
<td>0.735</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-Performance Work Systems</td>
<td>0.811</td>
<td>0.900</td>
<td>0.534</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>0.722</td>
<td>0.850</td>
<td>0.739</td>
<td>0.682</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Organizational Innovation</td>
<td>0.657</td>
<td>0.810</td>
<td>0.794</td>
<td>0.653</td>
<td>0.764</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: Author calculation
The analysis continues by measuring predictive relevance (Q²). The Q² criterion is validated by numerous sources, including Hair et al. (2013), who predicted the model using Stone-Geisser. A criterion is considered predictively relevant if its research framework prediction value is greater than zero (Q² > 0). The research model demonstrates predictive relevance, as the analysis (Table 4) indicates that the value of predictive relevance is greater than zero (Henseler et al., 2015).

Table 5

<table>
<thead>
<tr>
<th>Exogenous Variable</th>
<th>Endogenous Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>HWPS</td>
<td>KS</td>
</tr>
<tr>
<td>Entrepreneurial Leadership</td>
<td>0.534</td>
</tr>
<tr>
<td>High-Performance Work Systems</td>
<td>0.402</td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td></td>
</tr>
<tr>
<td>Average (f²): 0.507</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author calculation

The effect size (f²) aims to determine a more specific prediction of the relationship between exogenous and endogenous variables (Cohen et al., 1998). The effect size (f²) has three classifications, namely, weak (0.02-0.15), moderate (0.15-0.35), and strong (greater than 0.35) (Chin, 1998; Härdle & Linton, 1994). The analysis (see Table 5) reveals that the average value is 0.507, indicating that the effect size is in a strong category.

Hypothesis Testing

Table 6 reveals that entrepreneurial leadership positively affects HPWS with a path coefficient (β = 0.534, t= 7.594, and p= 0.000), implying that H1 is supported. Entrepreneurial leadership also positively affects knowledge sharing with a path coefficient (β= 0.525, t= 10.130 and p= 0.000). Thus, H2 is supported. In addition, entrepreneurial leadership positively affects organizational innovation with a path coefficient (β= 0.491, t= 8.067 and p= 0.000), hence H3 is supported. The analysis results also demonstrate that knowledge sharing positively affects organizational innovation with a path coefficient (β= 0.252, t= 4.198 and p= 0.000), thus H4 is supported. Further, the direct effect of HPWS on knowledge sharing is also significantly positive with a path coefficient (β= 0.402, t= 7.042 and p= 0.000). Hence, H5 is supported. HPWS also positively affects organizational innovation (β= 0.219, t= 4.662, and p= 0.000), so H6 is supported.

Table 6

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path</th>
<th>β</th>
<th>Mean</th>
<th>Dev.</th>
<th>T  Statistics</th>
<th>P Values</th>
<th>Confidence Interval</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1</td>
<td>EL → HPWS</td>
<td>0.534</td>
<td>0.530</td>
<td>0.070</td>
<td>7.594</td>
<td>0.000</td>
<td>-0.004 0.412 0.644</td>
<td>Support</td>
</tr>
<tr>
<td>H2</td>
<td>EL → KS</td>
<td>0.525</td>
<td>0.525</td>
<td>0.052</td>
<td>10.130</td>
<td>0.000</td>
<td>0.000 0.445 0.614</td>
<td>Support</td>
</tr>
<tr>
<td>H3</td>
<td>EL → OI</td>
<td>0.491</td>
<td>0.480</td>
<td>0.061</td>
<td>8.067</td>
<td>0.000</td>
<td>-0.012 0.395 0.599</td>
<td>Support</td>
</tr>
<tr>
<td>H4</td>
<td>KS → OI</td>
<td>0.252</td>
<td>0.260</td>
<td>0.060</td>
<td>4.198</td>
<td>0.000</td>
<td>0.008 0.141 0.336</td>
<td>Support</td>
</tr>
<tr>
<td>H5</td>
<td>HPWS → KS</td>
<td>0.402</td>
<td>0.401</td>
<td>0.057</td>
<td>7.042</td>
<td>0.000</td>
<td>-0.001 0.300 0.489</td>
<td>Support</td>
</tr>
</tbody>
</table>
Further, HPWS mediates the relationship between entrepreneurial leadership and organizational innovation with a path coefficient ($\beta = 0.117$, $t = 3.692$ and $p = 0.000$), empirically supporting H7. Likewise, knowledge sharing mediates the relationship between entrepreneurial leadership and organizational innovation with a path coefficient ($\beta = 0.132$, $t = 0.3847$ and $p = 0.000$), then H8 is supported. The analysis also demonstrates that HPWS mediates the relationship between entrepreneurial leadership and knowledge sharing with a path coefficient ($\beta = 0.214$, $t = 5.424$, and $p = 0.000$), so H9 is supported. Finally, knowledge sharing is a mediator between HPWS and organizational innovation with a path coefficient ($\beta = 0.101$, $t = 3.485$, and $p = 0.000$), thus empirically supporting H10.

**Discussion**

Previous studies reported that entrepreneurial leadership supports implementing HPWS practices (Ling & Jaw, 2011; Sarabi et al., 2020; Zhu et al., 2018). In addition, entrepreneurial leadership contributes to and supports HRM practices that improve competitive advantages (Bagheri & Akbari, 2018; Renko et al., 2015; Simba & Thai, 2019). However, their relationship with innovation in SMEs remains a concern (Huang et al., 2014) because this relationship is deemed weak in developing countries. In addition to integrating the concepts of knowledge sharing, organizational innovation, entrepreneurial leadership, and HPWS, this theoretical research model examines and clarifies the interrelationships among all utilized constructs within the context of developing countries. Numerous empirical studies have established an association between entrepreneurial leadership and organizational innovation, knowledge sharing, and high performance (e.g., Paudel, 2019; Riana et al., 2020; Udimal et al., 2019) and explained that entrepreneurial leadership plays a critical role in SMIs. Simultaneously, these results validate the significance of this style of leadership in promoting high performance and knowledge. Moreover, our findings confirm that HRM practices and knowledge positively correlate with organizational innovation. The findings are consistent with prior research (Al-Ajlouni, 2020; Bhatti et al., 2020, 2021) and report that HPWS and knowledge increase organizational innovation. Thus, SMEs must be more innovative to survive and sustain amid intense competition.
Several studies were conducted on small businesses in Asia (e.g., Do & Shipton, 2019) where human resources encounter various challenges, and HWPS is conceptualized as a working system from a set of HRM practices (Latorre et al., 2016). This system can be formed through daily employee interactions (formal and informal) and managerial approaches (Marlow et al., 2010). When employee participation is coupled with industry governance mechanisms, the work system supports organizational innovation (Mehralian et al., 2023; Wang & Chen, 2013; Zhou et al., 2019). Our findings support previous studies, demonstrating that HPWS is positively associated with organizational innovation. In addition, the results also document that knowledge sharing is positively associated with organizational innovation (Arsawan et al., 2022; Liao et al., 2007) because of competitive environments that require the creation of new knowledge and knowledge sharing through the integration of internal and external resources (Chang, 2017; Hoarau & Kline, 2014). The speed and quality of innovation depend highly on employees’ willingness to share knowledge (Ode & Ayavoo, 2020). The study Hock-Doepgen et al. (2021) indicates that companies must develop their capabilities to acquire, transform, and implement knowledge for innovation.

The interaction demonstrates that both HPWS and knowledge sharing mediate the relationship between organizational innovation and entrepreneurial leadership; this is the dual mediating function of this study. This finding lends support to prior studies (Avlonitis & Salavou, 2007; Hock-Doepgen et al., 2021; Kyei-Frimpong et al., 2022). Hence, HPWS and knowledge sharing are critical in developing organizational innovation, either directly or as a mediator. Adopting HRM practices improves organizational competitiveness and encourages innovative behavior (Miao et al., 2020; Zhou et al., 2019). Likewise, knowledge sharing contributes significantly for several reasons. First, knowledge sharing from collaborating parties will become a regular pattern of interaction that encourages knowledge acquisition (Chang, 2017). Second, knowledge becomes an inseparable component of organizational innovation (Chen & Huang, 2009).

CONCLUSIONS, LIMITATIONS, AND SUGGESTIONS

This study examines the organizational context of entrepreneurial leadership-driven organizational innovation with the support of HPWS and knowledge sharing. This investigation analyzes the challenges small and medium-sized enterprises (SMEs) face due to technological advancements and shifts in the global environment. Organizational innovation emerges as a viable solution to attain a competitive advantage and ensure survival amidst intense competition. Consequently, SMEs must prioritize factors associated with greater innovation to enhance their competitive capabilities. To enhance innovation, SMIs must employ suitable leadership styles, including entrepreneurial leadership, which facilitates the development of intangible
assets like HRM practices and knowledge. Our results indicate positive relationships between entrepreneurial leadership, HPWS, knowledge exchange, and organizational innovation. Furthermore, HPWS and knowledge sharing partially mediate the demonstrated relationships, suggesting that organizational innovation depends on leadership styles that facilitate factors such as knowledge, HPWS, and other elements that can accelerate innovation development.

This research offers significant implications. First, this study has established the relationship between entrepreneurial leadership and the development of organizational innovation. Additionally, this study offers insights into the leadership literature from an entrepreneurial perspective and emphasizes the favorable effects on HRM practices and knowledge exchange, which ultimately contribute to organizational innovation. It contributes to the parameters for measuring innovation and its precursors from a methodological standpoint. Finally, knowledge sharing is critical in explaining SMIs’ capacity to synchronize their resources. Second, from a practical standpoint, SMIs, particularly those prioritizing exports, must perceive organizational innovation as a tangible measure to sustain their competitiveness in the global market. Moreover, SMIs must facilitate information sharing among all parties engaged in business activities. SMIs may acquire new information and be able to resolve any technical issues that may arise due to knowledge sharing. Equally essential for SMIs is the implementation of HRM practice, which can assist SMIs in identifying and cultivating employee capabilities. Ultimately, SMIs’ ability to address challenges depends on their human resource quality. These concepts can be implemented properly if supported by the appropriate type of leadership. This study promotes entrepreneurial leadership as a form of visionary leadership capable of optimizing each opportunity. As a result, SMI leaders consider adopting the entrepreneurial leadership paradigm into their business activities.

This study is subject to several caveats. First, we have a limited research sample because this research is cross-sectional and less effective in explaining causal relationships between constructs. Second, this research highlights the important role of entrepreneurial leadership in increasing organizational innovation. However, these findings have not comprehensively explained the characteristics of entrepreneurial leadership. Consequently, it remains critical to explore further managers’ understanding of entrepreneurial leadership. In other words, entrepreneurial leadership can stimulate cognitive and absorptive capacity. Entrepreneurial leadership will encourage formal and informal intra-organizational relations between employees to share ideas, information, and experiences to accelerate organizational innovation processes.

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