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Research Article

Learning Organization and Organizational Agility in the Context of Organizational Performance: The Moderating Role of E-HRM Systems

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ABSTRACT

Introduction: In the era of modern management, organizations are required to continuously innovate and improve performance through adaptive and learning-oriented management approaches. This study examines the impact of modern management approaches, specifically through innovation capability and E-HRM systems, on organizational performance.

Objectives: The primary objective of this study is to investigate the extent to which organizational agility and learning organization influence organizational performance, with innovation capability as a mediator and E-HRM systems as a moderator.

Methods: This research was conducted in December 2023 by collecting 408 questionnaires from entrepreneurs and management personnel in randomly selected SMEs in Jakarta, Indonesia. Data analysis was performed using SPSS and structural equation modeling (SEM) through SmartPLS 4 to evaluate the relationships between the variables.

Results: The findings reveal that organizational agility and learning organization have significant and positive impacts on organizational performance. Additionally, innovation capability significantly mediates the relationship between organizational agility, learning organization, and organizational performance. However, E-HRM systems show only a small moderating effect on the relationship between innovation capability and organizational performance.

Conclusions: The application of modern management approaches involving organizational agility and learning organization is crucial in enhancing organizational performance, particularly through strengthening innovation capability. Although the moderating effect of E-HRM systems is limited, these systems still play a role in reinforcing the relationship between innovation and organizational performance in the digital era.

Keywords: E-HRM, Learning organization; Organizational agility, Organizational performance

INTRODUCTION

The Covid-19 pandemic has inflicted severe damage on the operations of micro, small, and medium enterprises (SMEs). The implementation of widespread social restrictions aimed at curbing the domestic spread of Covid-19 has substantially disrupted the business activities of SMEs, particularly those reliant on physical interactions with customers [1]. The traditional business models commonly employed by SMEs have increased the challenges of adaptation and survival amid the pandemic. Consequently, many SMEs have faced closure as they grappled with difficulties in repaying loans, covering salaries, meeting rental fees, and managing utility costs. These vulnerabilities have been further intensified by low productivity and constrained access to both markets and financial resources. An immediate and effective policy response is essential to bolster SMEs during the recovery phase post-pandemic [2].

Small and medium enterprises (SMEs) are crucial contributors to economic development and are often regarded as the foundation of Asian economies [3]. The strategic significance of SMEs is evident as they serve as the backbone

of Indonesia's economy. As of March 2021, data released by the Ministry of Finance indicated that there were 64.2 million SMEs in Indonesia. These enterprises contributed over 61% to the gross domestic product (GDP), amounting to Rp8,573.89 trillion. Furthermore, SMEs employed 97% of the overall workforce and garnered approximately 60% of the total investment in Indonesia. At the same time, SMEs contributed of 14.37% to the total non-oil and gas exports from Indonesia, amounting to Rp293.84 trillion as of 2018 [2].

In recent decades, the emphasis on organization and management literature has increasingly focused on learning organization [4] [5] [6] [7] [8], innovation and innovation capability [9] [10] [11] [12] [13]. Research in these domains is gaining heightened significance. Hence, in this study, these constructs are articulated as modern management approaches. Most prior investigations have presented diverse theories and models, exploring the impacts of these notions on augmenting organizational productivity and improving performance levels.

In the business context, possessing innovation capability is vital as it enables companies to address challenges with greater agility, develop more advanced products [14] and assess market situation more effectively compared to non-innovative firms [15]. Furthermore, previous studies have established that firms enhancing and leveraging their innovation capability experience superior organizational and financial performance [16] [17] [18] [19] [20]. In an environment characterized by swift changes, information is increasingly recognized as a critical asset for the sustenance of enterprises. Consequently, organizations must enhance their learning capabilities to swiftly adapt to evolving conditions and capitalize on their competitive edge [21].

In dynamic business landscapes, enterprises constantly encounter challenges stemming from shifting customer preferences, technological advancements and heightened competition [22]. Failing to promptly and adeptly address these defiances can lead to substantial financial setbacks. The concept of agility initially surfaced as a management focus in 1990s, primarily in the context of agile manufacturing [23]. Subsequently, various facets of agility have captured the attention of researchers across multiple disciplines, including manufacturing, human resource management, marketing and management [22] [24] [25].

The technological systems of E-HRM can contribute to enhancing cost-effectiveness, operational efficiency, service flexibility, and employee engagement within organizations. The significance of E-HRM is increasingly acknowledged by organizations aiming to attract and retain skilled professionals (Alaali et al., 2021; Alsuwaidi et al., 2020). Organizational agility is a firm’s ability of an organization’s human resources to the survival of business environment in the way that create competitive advantage that help organization to enhance agility in E-HRM [26] [27] [28]. However, regardless of the important role of E-HRM systems in enhancing organizational performance, there is scarcity of empirical studies that link E-HRM systems to organizational performance via innovation capability.

Prior research has typically examined the impacts of learning organization, organizational agility, innovation capability, and E-HRM systems on firms in isolation. A comprehensive model that integrates all these concepts has been lacking in previous studies. Consequently, current study seeks to expand the theoretical framework by addressing these aspects collectively, that were previously explored independently. The present study endeavours to respond to the following research questions: (i) To what extent do the learning organization, organization agility, innovation capability, and E-HRM systems impact the firm’s performance? (ii) Does innovation capability mediate the association amid learning organization, organizational agility and firm’s performance? (iii) Does E-HRM systems, play a moderator role in the relationship between innovation capability and a firm’s performance?

The theoretical framework guiding this study is the knowledge-based view [29], which posits that organizations, as social entities, leverage and store internal knowledge, capabilities and competencies crucial for their growth, success and survival. The knowledge-based view has been widely employed in the literature on organizational performance [30] [31]. To contribute to this theory, the present study aims to assess the mediating impact of organizational innovation capability in the association amid learning organization, organizational agility, and organizational performance. Additionally, it seeks to examine the moderating impact of E-HRM systems on the association amid organizational innovation capability and organizational performance in Indonesian SMEs.

In this study, learning organization, and organization agility, were employed as the independent variables, while organization innovation capability was employed as a mediator and E-HRM systems was taken as a moderator. Besides offering support for the impacts of a learning organization and organizational agility on organizational performance, this study makes a valuable contribution to the literature by investigating the mediating role of innovation capability in these associations. More specifically, the study explores not only the positive influences of

E-HRM systems on organizational performance but also its moderating role in the connection between innovation capability and organization performance.

The subsequent sections of this paper follow a systematic outline. Initially, a review of literature covering fundamental concepts and theoretical underpinnings is provided. Subsequently, the evolution of the research model and the data collection process is elucidated. Following this, we expound on the measurement structure, outlining the research methodology. After that, the data analysis and results are elaborated. Finally, the conclusion acknowledges limitations, offers directions for future research, and discusses the theoretical contributions and practical implications of the research.

OBJECTIVES

The primary objective of this study is to explore the influence of modern management approaches, particularly organizational agility and learning organization, on organizational performance. These two constructs are positioned as independent variables, reflecting their critical roles in driving organizational adaptability and long-term sustainability. By examining these factors, the study aims to provide empirical insights into how organizations can leverage agility and continuous learning to enhance their overall performance in a rapidly changing business environment.

To deepen the understanding of these relationships, the research incorporates innovation capability as a mediating variable, highlighting its role as a critical mechanism that bridges modern management approaches and performance outcomes. Furthermore, the study employs E-HRM systems as a moderating variable, investigating the extent to which these systems amplify or diminish the impact of innovation capability on organizational performance (see to Figure 1). This research model integrates both mediation and moderation analyses to provide a comprehensive framework for understanding how modern management strategies interact with innovation and technology to influence organizational success.

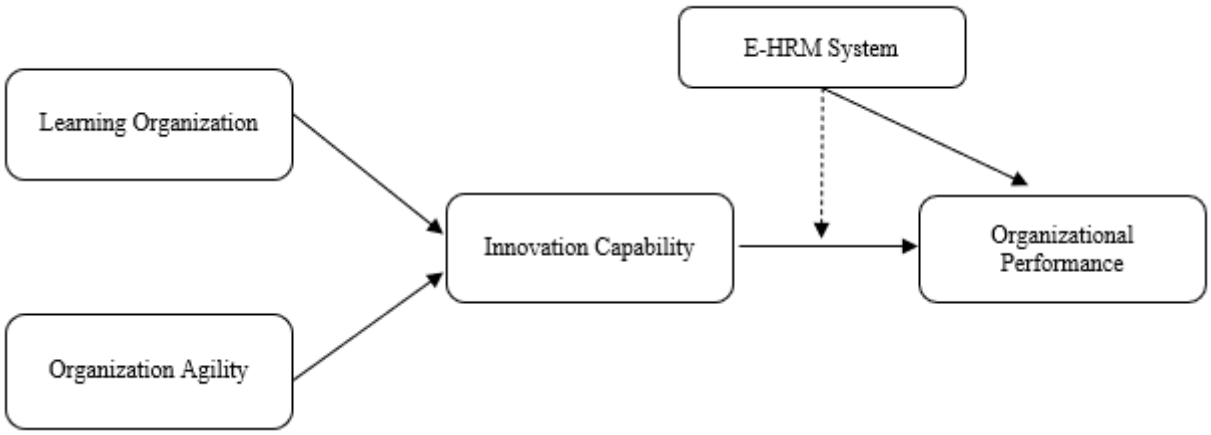

Figure 1 research model

METHODS

MEASUREMENT AND DATA COLLECTION

This study follows a quantitative approach, employing a closed questionnaire for gathering data [32]. The survey utilized was in English, and respondents had the option to answer questions using the Likert five-point scale. The indicators (questions) for the study variables were extracted from previous literature. Section A of the questionnaire includes the questions to measure independent variables: i.e., learning organization and organization agility. This section also covers the questions measuring mediator, moderator and dependent variables i.e., innovation capability, E-HRM systems and organization performance respectively. Each question related to the constructs, which were adapted from earlier research, underwent assessment on a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). The measurement scale for the learning organization was adapted from Kaya (2015) [33]. Melián-Alzola et al. (2020) [34] measurement scale was adapted for measuring organization agility. The innovation capability scale was adapted from Migdadi (2022) [35]. E-HRM system was assessed by utilizing the measurement scale of Alqarni et al. (2023) [36]. Organization performance scale was adapted from Soomro et al. (2021) [37].

Besides, section B addresses demographic profiles including business type, designation, education level, work experience, ISO certification and current business capital.

The research created an online survey using Google Forms. Employing an online questionnaire proves to be the most practical technique for gathering data, particularly in the context of widespread diseases and epidemics like COVID-19, where it's advised to keep a physical distance [38] [39] [40]. The survey link was sent to SMEs in Jakarta city. To gather a substantial number of responses within a brief timeframe, the online questionnaire was disseminated through various channels, including email and WhatsApp. Additionally, the survey link remained accessible for responses from the start of December 2023 to the conclusion of December 2023. Consequently, a total of 424 responses were received, with 408 deemed valid. Table 1 presents the demographic details of the final responses (408), which are summarised as follows: Manufacturing businesses were 49 %, while services businesses made 51% of the sample. Most of the respondents were managers (70.1%). Likewise, most of the respondents had 11 years or more working experience (58.8%). The sample was dominated by master's degree holders (50%). Business having ISO 9001:2000 certification was 51%. Moreover, 78.9% businesses reported current business capital within the range of IDR 101-500 Juta.

Table 1 Demographic Characteristics of the Respondents (N = 408)

Demographic Variables	Category	Frequency	Percent (%)
Business Type	Manufacturer	200	49.0
	Services	208	51.0
Job Position	Manager	286	70.1
	Worker	122	29.9
Education Level	Diploma	82	20.1
	Bachelor's degree	122	29.9
	Master's degree or higher	204	50.0
Work Experience	0-5 years	82	20.1
	6-10 years	86	21.1
	11 years or more	240	58.8
ISO Certification	ISO 9001	82	20.1
	ISO 9001:2000	208	51.0
	ISO/TS-16,949	118	28.9
Current Business Capital	IDR 101–500 million	322	78.9
	More than IDR 500 million	86	21.1

STATISTICAL TECHNIQUE

In this study, SEM-PLS conducted through SmartPLS 4 was employed to assess the proposed hypotheses. Recently, SEM-PLS approach has gained popularity amongst scholars due to its reliance on variance-based relationships instead of covariance [41]. The numerous advantages associated with SEM-PLS have contributed to its widespread adoption in marketing and management research [38] [42] [43]. SEM-PLS proves to be an appropriate method for assessing complex models aimed at predicting correlations between study variables [44]. It is suitable for both small and large samples, and it imposes no assumptions on data distributions [41] [45]. Consequently, this study utilizes SEM-PLS (via SmartPLS 4) to analyze assumed direct relationships, with innovation capability as a mediator and E-HRM systems as a moderator. Additionally, this choice is influenced by prior studies that favoured SEM-PLS for assessing mediated-moderation relationships [46] [47].

RESULTS

The analysis using SmartPLS 4 was conducted in two phases, namely, the measurement and structural model stages. The outcomes of the measurement stage are presented in Tables 2 and 3, along with Figures 2 and 3. These findings are providedd in terms of Average Variance Extracted (AVE), Cronbach Alpha (CA), Composite Reliability (CR), and factor loadings. The reliability analysis, specifically Cronbach's Alpha (CA), was applied to the extracted factors, surpassing the recommended threshold of 0.70 as suggested by Hair et al. (2017) [48] (Table 2). The Composite Reliability (CR) values indicate the effectiveness of the components in representing each latent variable, and the recommended threshold for the CR test is ≥ 0.70, as per Hair et al. (2021). As depicted in Table 2, CR scores varied

between 0.852 and 0.924. Convergent and discriminant validity represent two distinct types of validity. AVE was used to evaluate convergent validity; as table 3 shows, AVE values ranged from 0.657 to 0.858, satisfying the suggested minimum of 0.50 [49]. When examining discriminant validity, √AVE should be greater than cross-correlations [49]. Table 3 shows that this requirement was met (For example, EHRS: √0.858 = 0.926).

Table 2 Results of Measurement Model

Construct	Code	Loading	AVE	Cronbach's Alpha	Composite Reliability
Learning Organization	LO1	0.850	0.668	0.752	0.858
	LO2	0.792			
	LO3	0.809			
Organization Agility	OA1	0.821	0.657	0.739	0.852
	OA2	0.805			
	OA3	0.805			
Innovation capability	IC1	0.875	0.659	0.738	0.852
	IC2	0.794			
	IC3	0.761			
E-HRM Systems	EHRS1	0.929	0.858	0.834	0.924
	EHRS2	0.923			
Organization Performance	OP1	0.789	0.711	0.795	0.880
	OP2	0.912			
	OP3	0.824			

Table 3 Validity Analysis

Variables	EHRS	IC	LO	OA	OP
EHRS	0.926				
IC	0.637	0.811			
LO	0.833	0.711	0.817		
OA	0.575	0.756	0.711	0.810	
OP	0.531	0.688	0.788	0.795	0.843

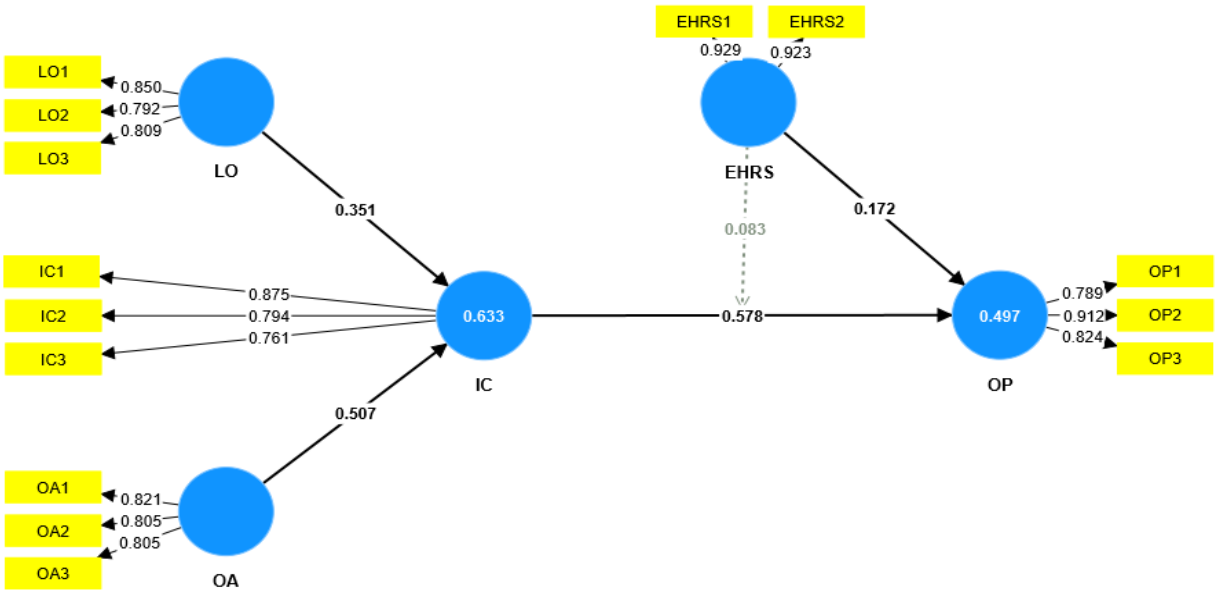

Figure 2 Measurement Model Results

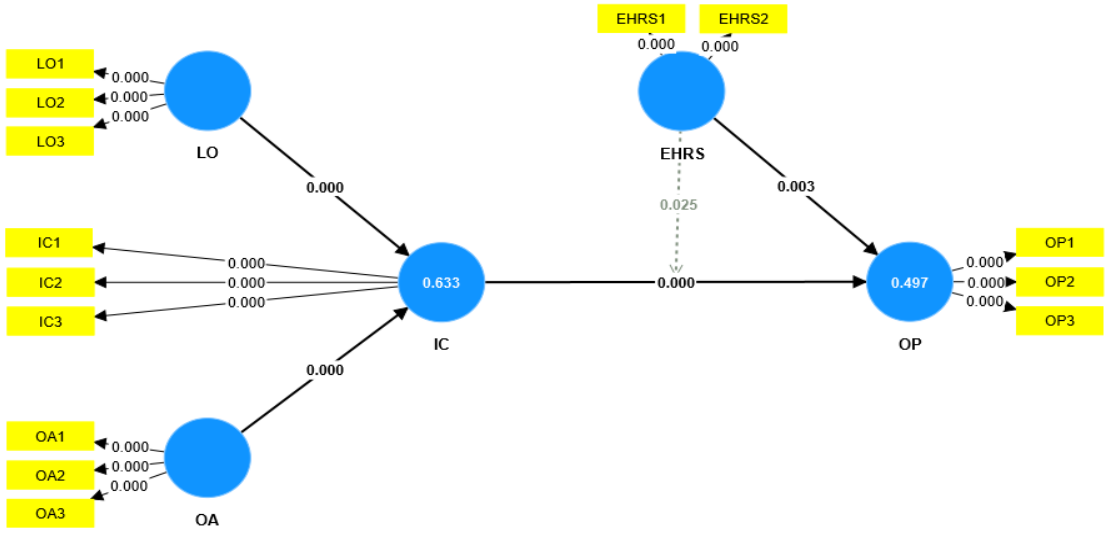

Figure 2 Measurement Model Results

With the fulfilment of the conditions in the measurement phase, the next step involves assessing fit indicators related to the model and examining the relationships proposed in the structural model phase. However, before proceeding, it is crucial for the researcher to scrutinize issues such as multicollinearity and common method bias (CMB), as their presence is discouraged in any study [45]. The widely adopted approach for investigating multicollinearity issues in SEM-PLS is the variance inflation factor (VIF). Typically, VIF values should not surpass 5, as recommended by Hair et al. (2017) [48]. In the present study, the highest VIF value is 2.022, which is below the threshold of (<5), affirming that multicollinearity is not a concern in this research. Common method bias (CMB) can be examined through the Harman single-factor test. The use of a specific measurement method can introduce a common method bias. However, if the variance is below 50%, the model is considered free from CMB [50]. In this study, the variance is 39.19%, suggesting that CMB is not a significant concern.

Various metrics, such as the R2 value and Stone–Test Geisser (Q2), are commonly used to assess the fit of the model. The R2 value clarifies the proportion of variance in the dependent variable, spanning from 0 to 1, where higher values signify a more robust explanatory capability. In many social science disciplines, R2 values of 0.75, 0.50, and 0.25 are considered substantial, moderate, and weak, respectively [45]. However, acceptable R2 values depend on the research context; for instance, in certain disciplines, an R2 as low as 0.10 may be deemed satisfactory, such as in predicting stock returns [51]. According to Figure 2, the variance in OP is explained by 49.7% in the research model, which is considered satisfactory. Additionally, Q2, calculated through the blindfolding procedure, is recommended to be greater than zero [50]. As evident from Table 4, the Q2 value surpasses zero, indicating that the model fits well for testing hypotheses based on the metrics.

Table 4: Structural Model Specification

Constructs	R^2	Communality	Redundancy (Q^2)
LO	Predictor	0.336	-
OA	Predictor	0.316	-
EHRS	Predictor	0.323	-
IC	0.633***	0.477	0.411
OP	0.497***	0.413	0.345

Note(s): Significant level R2 >0.32 (Substantial)***, >0.15 (moderate)**, >0.02 (weak)*. *Significant at p < 0.10 at a two-tailed T statistics value of 1.65.

This study furnished evidence supporting Hypothesis 1, asserting that "LO significantly influences OP" (β = 0.205; t = 5.068; p = 0.000), foundational on the outcomes obtained through bootstrapping method with 5000 subsamples. Likewise, the research yielded supporting results for hypotheses 2 (β = 0.292; t = 8.389; p = 0.000), 3 (β = 0.579; t = 10.950; p = 0.000), 4 (β = 0.205; t = 5.068; p = 0.000), 5 (β = 0.292; t = 8.389; p = 0.000), 6 (β = 0.172; t = 3.014;

p = 0.003), and 7 (β = 0.081; t = 2.236; p = 0.025). Consequently, this research substantiates all the hypotheses (refer to Table 5 and Figures 2 and 3).

Table 5: PLS Bootstrapping Results

	Hypothesis	Std. Beta	Std. Dev	T values	*p* values	Decision
H1	LO -> OP	0.205	0.040	5.068	p<0.001 (0.000)	Supported
H2	OA -> OP	0.292	0.035	8.389	p<0.001 (0.000)	Supported
H3	IC -> OP	0.579	0.053	10.950	P< 0.001 (0.000)	Supported
H4	LO -> IC -> OP	0.205	0.04	5.068	P< 0.001 (0.000)	Supported
H5	OA -> IC -> OP	0.292	0.035	8.389	p<0.001 (0.000)	Supported
H6	EHRS -> OP	0.172	0.057	3.014	p<0.05 (0.003)	Supported
H7	EHRS x IC -> OP	0.081	0.037	2.236	P< 0.05 (0.025)	Supported

***p < 0.001, **p < 0.01, and *p < 0.05

DISCUSSION

This research delves into the elements affecting small and medium-sized businesses' (SMEs) performance in Indonesia, considering the mediating impact of firm innovation capability and the moderating impact of E-HRM systems. To achieve this, the present study introduced a research model comprising seven hypotheses. As demonstrated in the preceding section, all the hypotheses garnered support in this investigation. However, the research model interprets 49.7% of variability in organizational performance, indicating a moderate level of explanatory power. Two groupings of hypotheses were created. The first group concentrated on how they directly affect organisational performance. The findings revealed that both learning organization and organizational agility exert positive influences on organizational performance. The results provide compelling evidence that a learning organization significantly and positively contributes to organizational performance (Hypothesis 1). This is not surprising, as learning organization has proven its validity in numerous contexts, such as universities, hospitals etc [52] [53] [54]. Furthermore, organizational agility exhibits a substantial and positive impact on firm performance (Hypothesis 2). The previous studies [55] [56] [57] [58] [59] also suggested a positive connection amid the organizational agility and organizational performance.

Besides, innovation capability has a significant and positive influence on organization performance (Hypothesis 3). Establishing a management style that stimulates employee participation in projects related to product development, efficiency enhancement, and innovation, and is adept at generating novel ideas allows companies to sustain or enhance their innovation capability. Apart from the supportive managerial approach, the prompt adaptation of products and processes to shifts in market (such as competitor products and consumer demand) positively impact the financial performance and expansion of organizations, reinforcing their innovation capability. These results are consistent with previous research [60]. Furthermore, E-HRM systems had a positive but small influence on organization performance (Hypothesis 6). These results demonstrate that organizational performance in the SMEs depends on the integration and the technological of HRM. Existing empirical studies also found a positive association between E HRM systems and organizational performance [56] [61] [62] [63].

The second group was on the intervening and moderating effects of innovation capability and E-HRM systems respectively. In this group, the outcomes substantiated all the formulated hypotheses. Particularly, the findings provided support for Hypothesis 4, which asserts that “innovation capability has a significant mediating impact on the relationship between learning organization and organization performance.” Moreover, hypothesis 5 was also supported, which states that “innovation capability has a significant mediating impact on the relationship between organization agility and organization performance.” Besides, hypothesis 7 was supported, which states that “E-HRM system has a significant moderating impact on the relationship between innovation capability and organization performance.” The result suggests that organization's performance is significantly influenced by the presence of innovation capability under learning organization and organizational agility. Moreover, this research supports that E-HRM systems significantly moderate the association amid innovation capability and organization performance.

IMPLICATIONS

THEORETICAL IMPLICATIONS

The current study provides numerous noteworthy theoretical contributions. ***Firstly***, to the best of authors' understanding, this paper is among the scarce few that have endeavoured to examine the factors influencing organizational performance in Indonesian SMEs within the context of the new normal. The distinctive feature of this study is its exploration of the factors influencing organizational performance in the context of Indonesia and analysing the intervening role of organizational innovative capability between learning organization, organization agility and organization performance. Moreover, moderating role of E-HRM systems in the association amid organizational innovative capability and organization performance. ***Second***, While the knowledge-based view remains a robust and firmly established model for organizational performance the results suggest that by adding other constructs (innovation capability and E-HRM systems) better enhance organizational performance in Indonesian SMEs in post-COVID-19. Therefore, this study contributes additional evidence to the current body of literature emphasizing the significance of extending the knowledge-based view by incorporating other constructs [64]. Importantly, E-HRM systems appear to be important in organization performance. Drawing from empirical findings, this study contributes additional support to the existing literature, aligning with the conclusions reached by other research that E-HRM systems are substantially and positively associated with organization performance [36].

This research study enhances the theoretical understanding by offering empirical evidence on the influence of learning organization and organizational agility on organizational performance, mediated by the organizational innovation capability and moderated by E-HRM systems. The knowledge-based view offers a flexible framework applicable across diverse businesses and organizational contexts. The current study underscores how E-HRM technologies, such as digital recruitment, online training, and performance management, may foster organizational agility and sustainable innovation, which can result in a long-term competitive advantage. Additionally, it explores the mediating roles of organizational innovation capability in connecting learning organization, organizational agility, and organizational performance. By examining these mediating mechanisms, the research advances the understanding of how learning organization and organizational agility influence organizational outcomes. It provides a more in-depth insight into how organizational innovation capability contributes to organizational performance through the promotion of learning organization and organizational agility. Additionally, E-HRM systems contribute moderately to organizational performance by nurturing organizational innovation capability.

MANAGERIAL IMPLICATIONS

In current times, the formation and maintenance of an organization's competitive advantage has been shown to depend critically on learning. Moreover, learning is acknowledged as the fundamental means to ensure the ongoing sustainability of an organization. Consequently, one of the principal goals for organizations is to establish a structure that fosters a learning organization. The latest wave of management approaches contributes significantly to strategies that businesses need to adopt within an increasingly competitive landscape. Businesses that want to either sustain or enhance their innovation capability must adopt a management strategy that can generate novel ideas, foster employee involvement in innovation, product development, and process enhancement endeavours, and support and foster innovation. Beyond a supportive managerial approach, the capacity to swiftly incorporate shifts in the market (such as competitor products and consumer demand) into goods and procedures positively influences the performance of businesses, fortifying their innovation capability. For firms aspiring to endure in a competitive and ever-evolving environment, acquiring innovation capability is imperative.

The findings of this study underscore the crucial importance for managers across various SMEs in Indonesia to prioritize the acquisition of innovation capability by their firms. In the present scenario, businesses aim to leverage technology extensively in all aspects of their operations and processes, striving to attain innovation capability for strategic growth and development. To achieve financial success, increased profitability, higher sales volumes, market expansion, and thriving products, it is evident that senior managers in charge of globally operating companies should integrate innovation capability—a new generation of management approaches—into their strategies. Additionally, firm managers should recognize the direct and positive relationship between E-HRM systems and firm performance. Notably, within the context of E-HRM, investing in the skills and competencies of employees is vital. This entails offering chances for training and development that improve technology aptitude, digital literacy, and flexibility about digital HR platforms and technologies. Organisations may optimize the benefits of E-HRM systems and reinforce

their dynamic capacities by providing staff with these crucial skills. It is essential for businesses to prioritize the improvement of their employees' skills. Streamlining communication and cooperation, granting real-time access to data, and implementing flexible HR procedures can all help accomplish this goal. Through these measures, businesses can capture new possibilities, react quickly and efficiently to changes in the market, and adjust their HR strategy to meet changing business needs.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Although this study investigates the mediating impact of innovation capability and moderating impact of E-HRM on organization performance, with a focus on innovation capability in Indonesian SMEs, it is crucial to recognize the limitations of the study and identify potential avenues for future research. While the study suggested innovation capability as a mediating variable, it is noteworthy to contemplate the presence of additional mechanisms. Future research within SMEs could investigate alternative mediating variables, including flexibility, leadership style, and organizational health to attain a more thorough comprehension of the correlation between organizational agility and learning organization. Not all external variables and circumstances that might have an impact on the relationships under investigation were included in the study. Further studies could examine the moderating effects of contextual elements like industry dynamics and organizational culture to obtain a more comprehensive understanding of the relationships between E-HRM systems, organisational agility, sustainable innovation, organizational performance and sustainable competitive advantage. Moreover, future studies could benefit from a more comprehensive understanding of the examined relationships by utilising a mixed-methods approach. Researchers can obtain a more profound understanding of the ways in which E-HRM systems impact organisational agility, learning organization, and innovation capabilities by integrating qualitative and quantitative techniques. Qualitative techniques for example, interviews, can help discover characteristics that support or undermine the connections under study and gather contextual information. Furthermore, upcoming research endeavours could benefit from employing a larger sample size, encompassing a broader range of cities and geographic regions, and incorporating longitudinal studies to ensure comprehensive results. The current study predominantly focused on the organizational level and has not yet taken into consideration the influence of elements at the individual or team level. The relationships between individual and group characteristics—such as team dynamics and leadership philosophies—and E-HRM systems, innovation capacity, organizational agility, and learning organizations could be explored in subsequent research by applying a multi-level approach.

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