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ENHANCING BUSINESS PERFORMANCE IN HANDCRAFT MSMES: THE INTERPLAY OF ENTREPRENEURIAL LEADERSHIP, INNOVATION, AND THE MEDIATING ROLE OF PHYSICAL ENVIRONMENT

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Abstract

The balance between leadership, innovation, and physical environment in MSMEs is the main point in increasing business performance. Most studies previously conducted in relevance to this problem were performed in developed countries. Thus, the current research was an attempt at filling this gap by studying entrepreneurial leadership and innovation that may have an influence on the performance of a business, using physical environment as the mediating variable, within the context of 462 handicraft MSMEs in Lamongan Regency, East Java, Indonesia. This study adopts a quantitative explanatory approach and applies the SEM method with Smart PLS 3. The data collection is carried out by using an online survey of a stratified random sample with 285 respondents. The result of this study states that entrepreneurial leadership does not affect business performance but negatively influences the physical environment, while innovation has a strong influence on business performance, and the physical environment mediates it slightly. The novelty of this study is the identification of the interlink between leadership, innovation, and workspace management in the craft sector. This suggests that innovation and improvement of physical infrastructure by MSMEs leadership, with support from policy, may lead to enhanced competitiveness.

Keywords: Environment, Innovation, Leadership, MSMEs, Performance.

1. INTRODUCTION

MSMEs hold an important place in Indonesia, since they represent the largest contributor to employment and a driver of economic growth. Among various industrial sectors in MSMEs, the handicraft sector is very potential in Lamongan Regency, Indonesia. It is one of the industries that produces various traditional products such as woven textiles, pottery, and other weaving products. Despite having great potential, MSMEs in Lamongan face a number of challenges, such as limited access to wider markets, lack of innovation capabilities, and increasingly fierce competition in domestic and global markets. It is for this reason, according to (Sulistiyani & Setyadi, 2021; Simba & Thai, 2019; Campos, 2021), that the strategic effort toward enhancing MSME performance becomes necessary-one of which can be effective entrepreneurial leadership and continuous innovation. The MSME sector in Indonesia, particularly crafting, has contributed significantly to regional economic development by providing adequate employment opportunities. It is reported by the Central Statistics Agency

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as of 2021 that the contribution of the MSME sector to the gross domestic product of the country is above 60%. The craft industry tends to be one of the fastest-growing subsectors within the MSME segment. However, facing challenges such as rapid technological development and increasingly fierce market competition, MSMEs in the craft sector often cannot innovate and develop further (Agarwal et al., 2023; Raya et al., 2021). Therefore, this study will be addressed to the analysis of how entrepreneurial leadership and innovation affect MSME performance in the Lamongan Regency.

Innovation-though identified as one of the significant ingredients that enhance MSMEs competitiveness-may not necessarily have any direct relation to entrepreneurial leadership. Indeed, studies found that contextual factors such as the workplace physical environment mediate leadership and innovation (Rosing et al., 2011). A non-conducive physical environment might not allow the team members to be creative and collaborative, which in turn may affect negatively the innovation capability of MSMEs and their adaptability to market fluctuations. This argument is supported by Moultrie et al. (2007). It is therefore important to deconstruct the way in which this can be helped or hindered by the physical environment; in particular, in the case of craft MSMEs in Lamongan. As a fast-growing industry, the craft MSMEs in Lamongan face major challenges in adapting to global trends and developing innovative products. Success in managing the innovation process is highly dependent upon the leadership's ability to create an enabling environment that fosters creativity and collaboration among its membership (Amabile, 1996). However, most of these are often limited by various factors that make the development of effective entrepreneurial skills hard, including a lack of capital and access to technology, among others, and also a lack of adequate leadership training (Harrison et al., 2018).

This study, therefore, intends to discuss how entrepreneurial leadership and innovation can impact the performance of craft MSMEs in Lamongan Regency using the physical environment as the mediating variable. The research will analyse the relationship of entrepreneurial leadership, innovation, and the business performance of craft MSMEs in the Regency of Lamongan with a mediating role of a physical environment. This study is also conducted to investigate how leadership drives innovation, and how the supportive physical environment heightens the ability of leadership to drive innovation. The research will test the relationship of these variables quantitatively using the method of Structural Equation Modelling. Hence, this study also provides an essential contribution to filling in the gap that may appear specifically among the MSMEs crafts of Indonesia. The research would, therefore, add considerably to the literature on those factors that influence MSMEs performance, especially in the craft sector, by putting into perspective the role of entrepreneurial leadership and innovation. Further, this study contributes to the study of the mediating role of the physical environment in enhancing the relationship between entrepreneurial leadership and innovation within MSMEs. This study provides, on the practical side, insights to MSME actors and policy makers on how to create an enabling work environment that nurtures innovation and how effective leadership may enhance the performance of MSME business. The study, therefore, contributes to the improvement of the competitiveness of MSME crafts in Lamongan Regency and Indonesia as a whole.

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2. METHODS

Quantitative research with an explanatory approach is conducted to explain the innovation, entrepreneurial leadership, and business performance of MSMEs in the handicraft industry in Lamongan, East Java, Indonesia. Based on this study, entrepreneurial leadership and innovation are variables developed as dependent variables to compare in their influence on business performance, with the physical environment as a mediating variable. The explanatory sequential method was applicable since it could explain the cause-and-effect relationships of variables, why certain things happen, and how such variables might impact business performance in a specific study context. This includes a population of 462 handicraft MSMEs in Lamongan, in which the sample size required for the purpose is 285. The sampling is probability-based. In stratified random sampling, representation of different regions of Lamongan will be assured to ensure the better representation of the target population. This questionnaire will be forwarded in an online survey through Google Forms, an efficient way of reaching a considerable number of respondents over different geographical territories. These business owners or managers are the target respondents because they are in the best position to describe their entrepreneurial leadership, innovation practices, and the physical environment of their businesses.

Data collection was based on a structured questionnaire. The key variables of entrepreneurial leadership, innovation, physical environment, and business performance were measured using established scales that have been validated for their validity and reliability. In that, entrepreneurial leadership is measured by the items focusing on the leadership characteristics that enhance the capability for innovativeness, decision-making, and risk-taking of the venture (Gupta et al., 2004). Innovation involves firm capability related to introducing new ideas, processes, or products based on creativity, R&D effort, and the adoption of new technologies (Rajapathirana & Hui, 2018). The physical environment was assessed as a mediator, considering workspace organization, equipment, lighting, and comfort (Elsbach & Pratt, 2007). Business performance was measured in terms of financial indicators such as revenue growth and profitability, as well as non-financial metrics related to customer satisfaction and product quality, among others (Škrinjar et al., 2008).

The SEM statistical approach, via Smart PLS 3, is employed in analysing data, a technique that allows the testing of complex relations among multiple variables. SEM, in this case, is best suited because it allows direct and indirect effects of entrepreneurial leadership and innovation on business performance via the physical environment as the mediating variable. The first step in the analysis is to assess the measurement model, checking the reliability and validity of the constructs (Ringle et al., 2015). Factor loadings, Cronbach's alpha, and composite reliability are examined to ensure valid measurement (Hair et al., 2019). The structural model is then tested to validate hypotheses and assess the strength and significance of the relationships among the variables. The significance of the path coefficients will be checked by using bootstrapping techniques that will make the findings statistically reliable (Hair Jr et al., 2017). The paper uses a sound quantitative method in the study of the effect of entrepreneurial leadership and innovation on the business performance of handicraft MSMEs, having the

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physical environment as a mediator. The Smart PLS 3 analysis provides robust analysis and hence gives great insight into what drives the success of a business in the region.

3. RESULTS

Evaluation of Measurement Model (Outer Model)

In PLS-SEM analysis, the assessment of the measurement model (outer model) is conducted to confirm that the latent constructs used possess adequate validity and reliability. The model created needs to satisfy two key criteria: it should be valid and reliable in order to yield suitable outcomes. The elements described below are the primary ones in the assessment of the measurement model:

Convergent Validity

Convergent validity reflects the extent to which the indicators within the construct are highly correlated with each other. This shows that the methods applied successfully evaluate the same concept.

Outer loading: The outer loading indicates the strength of the association between the indicator and the fundamental construct. The load should be over 0.7. However, a loading of 0.4-0.7 can be sustained if the construct's AVE is greater than 0.5 (Hair Jr et al., 2017). An AVE value greater than 0.5 indicates that over 50% of the variance in the indicator is accounted for by the construct.

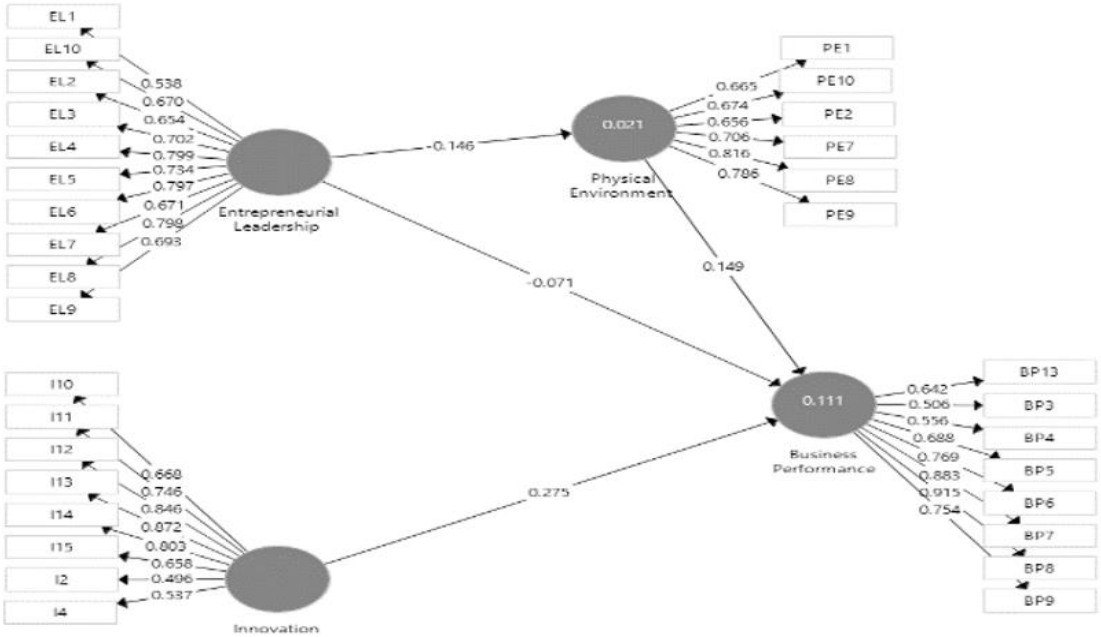

Figure 1: PLS Diagram (outer loading value)

Source: Researcher's results (2024)

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Based on figure 1 above, after excluding the indicator items BP10, BP11, BP12, I5, I6, I7, I8, I9 because their outer loading values were <0.4 for total responden 285 (Santos, 2017) and BP1, BP2, I1, I3, PE3, PE4, PE5, PE6 due to the AVE value for the Business Performance, Innovation, and Physical Environment variable was <0.5, it was observed that all remaining items had an outer loading value >0.5.

Average Variance Extracted (AVE): AVE indicates the average variance of a construct accounted for by the indicators. An AVE value of ≥ 0.5 indicates that a latent variable can account for over half of the variance in the indicator (Fornell & Larcker, 1981). A low AVE value may be indicative of unsuitable indicators or a poorly defined construct.

Table 1: AVE value

Variables	Average Variance Extracted (AVE)
Business Performance	0.528
Entrepreneurial Leadership	0.504
Innovation	0.511
Physical Environment	0.518

Source: Researcher's results (2024)

From the table 1 presented above, upon eliminating the BP1, BP2, I1, I3, PE3, PE4, PE5, PE6 indicators, the AVE value of the work engagement variable rose above 0.5, along with the other items.

Discriminant Validity

Discriminant validity pertains to a construct's capacity to remain distinctly separate from other constructs within the model. Establishing this validity is crucial to guarantee that each construct assesses something distinct instead of overlapping with other constructs.

HTMT: The Heterotrait-Monotrait Ratio. This approach is more sensitive than the Fornell-Larcker Criterion when evaluating discriminant validity. An HTMT value lower than 0.9 is regarded as optimal (Henseler et al., 2015). When the HTMT value exceeds this threshold, discriminant validity is questioned, indicating that the constructs might not truly be separate from each other.

Table 2: HTMT value

Variables	Business Performance	Entrepreneurial Leadership	Innovation	Physical Environment
Business Performance				
Entrepreneurial Leadership	0.131			
Innovation	0.314	0.100		
Physical Environment	0.213	0.168	0.103	

Source: Researcher's results (2024)

If the HTMT value exceeds this threshold (0.9), there are concerns about discriminant validity since the constructs might not be genuinely distinct from one another. According to table 2 above, every HTMT value is less than 0.9.

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Reliability

Reliability refers to the internal consistency of the measures employed for evaluating constructs. Cronbach's Alpha: Cronbach's Alpha is a technique used to assess the reliability of internal consistency. In exploratory research, a value of ≥ 0.7 is considered acceptable, whereas in confirmatory research, higher values like ≥ 0.8 are preferred. If it is below 0.7, there is an issue with reliability, which might be too variable to accurately assess the construct.

Composite Reliability (CR): The Composite Reliability is a more recent metric for assessing reliability compared to Cronbach's Alpha. CR assesses the individual impact of each indicator on the construct independently. A CR value of ≥ 0.7 indicates strong reliability (Hair Jr et al., 2017). CR also assigns more importance to indicators with high outer loadings, making them viewed as more precise

Table 3: Cronbach's Alpha & Composite Reliability

Variables	Cronbach's Alpha	Composite Reliability
Business Performance	0.868	0.896
Entrepreneurial Leadership	0.889	0.909
Innovation	0.858	0.890
Physical Environment	0.812	0.865

Source: Researcher's results (2024)

According to the table 3 above, every Cronbach's Alpha and Composite Reliability value exceeds 0.7. Thus, it can be concluded that the research instrument has adequate validity and reliability.

Structural Model (Inner Model)

Significance Test

Relevance and Significance of Relationships between Variables Significance testing was performed to assess the relationships between the variables in the model utilizing the Bootstrapping approach. This analysis produces t-statistics and p-values that show whether the association between the model's variables is statistically significant. The standards for determining significance include whether the t-statistic exceeds 1.96 or if the p-value falls below 0.05; if so, the relationship between variables is considered significant (Hair Jr et al., 2017).

Table 4: Path Coefficients

Relationship	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
Entrepreneurial Leadership → Business Performance	-0,071	0,973	0,331
Entrepreneurial Leadership → Physical Environment	-0,146	2,277	0,023
Innovation → Business Performance	0,275	4,435	0,000
Physical Environment → Business Performance	0,149	2,344	0,019
Entrepreneurial Leadership → Physical Environment → Business Performance	-0,022	1,445	0,149

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From table 4 above, it can be concluded:

- Entrepreneurial Leadership does not have a direct effect on Business Performance where P Values 0.331> 0.05, but has a significant effect on Physical Environment with a negative relationship (-0.146) and P Values 0.023 <0.05.
- Innovation has a significant and positive effect on Business Performance (0.275) and P Values 0.000 <0.05.
- Physical Environment has a significant and positive effect on Business Performance (0.149) and P Values 0.019 <0.05.
- Mediation through Physical Environment on the relationship Entrepreneurial Leadership and Business Performance is not significant where P Values 0.149> 0.05.

4. DISCUSSION

The paper, therefore, contributes to the understanding of how entrepreneurial leadership and innovation affect the business performance of craft MSMEs in the regency of Lamongan, with consideration of the physical environment as a mediating variable. The results obtained in this research show some meaningful patterns of relationship but also some which are not as anticipated; these therefore create room for critical discussion in depth.

Relationship between Entrepreneurial Leadership and Business Performance

The result of the study shows that entrepreneurial leadership does not significantly affect business performance directly, as the p-value is 0.331 (> 0.05). This finding suggests that entrepreneurial leadership characterized by risk-taking, strategic decision-making, and innovation does not enhance the business performance of MSMEs directly. This is contrary to several earlier studies that reported the role of entrepreneurial leadership as highly important in influencing business growth and performance-for instance, studies conducted by (Sulistiyani & Setyadi, 2021; Simba & Thai, 2019; Campos, 2021).

However, this result can be explained by considering the unique context of MSMEs in the craft sector in Lamongan. In fact, lack of access to capital, technology, and leadership training may become critical obstacles for MSME leaders in implementing strategies that directly improve business performance. These factors also align with Amabile (1996) contention that effective leadership can only be really influential if supported by adequate resources and infrastructure.

Relationship between Entrepreneurial Leadership and Physical Environment

Other interesting findings include the significant influence of entrepreneurial leadership on the physical environment, though the relationship is negative, at -0.146 with a p-value of 0.023 (<0.05). This negative relationship means that in the context of MSMEs in Lamongan, entrepreneurial leadership characteristics are not optimally translated into good physical environmental management. This may be because usually, MSME leaders do not give much relevance to developing a physical environment as they would to product innovations or marketing campaigns. (Rosing et al., 2011; Moultrie et al., 2007) affirm this argument with the

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statement: "Without paying special attention to workspace management, leaders' efforts to stimulate innovation and collaboration may remain less effective.". Besides, financial restrictions can compel the leaders to invest resources in other areas that they may consider urgent, at the expense of other aspects such as workspace governance or physical comfort.

Relationship between Innovation and Business Performance

As it was initially expected, the research study found that innovation significantly and positively influenced business performance at 0.275 with a p-value of 0.000 (<0.05). The findings support the strengthening literature; for instance, past studies like Agarwal et al. (2023) and Raya et al. (2021) have established that innovation is among the main drivers of success for MSMEs. Innovation within the context of the craft industry in Lamongan will enable MSMEs to produce products that are more competitive in the global market and responsive to the increasingly diverse needs of consumers. The great potential for innovation to be introduced through new ideas into product design and production processes yields high business competitive advantage, especially amidst increasingly fierce competition.

Physical Environment as a Mediator

The physical environment significantly positively influenced business performance with a coefficient of 0.149 and a p-value of 0.019 (<0.05). This is indicative that an enabling work environment, including an efficient workspace layout, comfort, lighting, and equipment, can lead directly to the increase in productivity and the quality of work, which finally enhances business performance. It is in agreement with the study of Rosing et al. (2011) and Moultrie et al. (2007), which reports that a creative environment would act in favour and improve team effort. However, the study revealed that the physical environment's mediation role in the relationship of entrepreneurial leadership towards business performance did not reach significance, as its p-value stood at 0.149 (>0.05). This means even though the physical environment itself directly influenced business performance; it was still not strong enough to bridge the influence of entrepreneurial leadership on business performance. The reason probably lies in the specific context of MSMEs in Lamongan. As already stated, the limitation of resources as well as external support might impede the leader's capability to build an optimal physical environment. Further, it could weaken the link between entrepreneurial leadership and business performance through the physical environment. Besides this, other mediators might have more dominant roles compared to physical environment mediators, such as work culture or employee relationships.

Implications and Contributions of the Study

The findings of this study have serious implications for MSME managers, policymakers, and academic literature. First, this study identified innovation as one of the major drivers of business performance in the craft sector. Therefore, the leaders of MSMEs must focus on innovation development through creative training, collaboration, and adoption of new technologies. The negative relationship of entrepreneurial leadership and the physical environment also shows that more attention has to be given to workspace management.

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The local governments and MSME supporting institutions can also play an important role in giving financial and technical support to improve MSMEs' physical infrastructure. Third, the findings contribute significantly to the literature on how the physical environment mediates the relationship between leadership and business performance, with a focus on developing countries such as Indonesia. This study is expected to be relevant in mapping the limitations of MSMEs in Lamongan for the development of better strategies in improving the competitiveness of MSMEs.

5. CONCLUSION

This study analyses the influence of entrepreneurial leadership and innovation on business performance in craft UMKM in Lamongan by considering the physical environment as a mediating variable. It can be seen from the results that entrepreneurial leadership does not affect business performance directly and significantly (p-value 0.331), while having a significant negative influence on the physical environment (-0.146, p-value 0.023). It means that UMKM leaders have not yet given priority to the management of the physical environment.

On the other hand, it is seen that innovation significantly influences business performance at 0.275; p-value 0.000, thus corroborating the literature that innovation is the prime driver of UMKM's success. It can also be seen that the physical environment significantly influences business performance at 0.149; p-value 0.019, but not strong enough to mediate the influence of entrepreneurial leadership on business performance, as was proven by the p-value of 0.149.

This study underlines the importance of innovation in increasing product competitiveness, while more attention is needed on managing the work environment. Training and adequate physical infrastructure by the relevant government and supporting institutions for the development of UMKM are very important. In this research, the setting of this research limits its scope to handicraft SMEs in the Lamongan area. Other mediators can also be added, such as work culture or relationships among employees, by expanding samples from various sectors and regions for result generalization.

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