The Influence of Business Risk and Business Proactiveness Mediated by Competitive Advantage on SME Business Innovation in Surabaya After Pandemic Covid-19

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ABSTRACT
The dynamics of the economy after the COVID-19 pandemic have had a significant impact on the sustainability of Micro, Small, and Medium Enterprises (MSMEs) in Surabaya. This study aims to analyze the effect of business risk and business proactivity mediated by competitive advantage on MSME business innovation. This study uses primary data collected from 154 MSME respondents in Surabaya through questionnaires. Data analysis was carried out using the Structural Equation Modeling (SEM) method based on Partial Least Squares (PLS).
The results of the study indicate that directly, competitive advantage has a significant positive effect on MSME business innovation. In addition, business proactivity also has a positive effect on competitive advantage, while business risk has a direct effect on business innovation. However, business proactivity does not show a significant direct effect on business innovation, and business risk does not have a significant effect on competitive advantage.
The mediation analysis revealed that business risk mediated by competitive advantage does not have a significant effect on MSME business innovation. Conversely, business proactivity mediated by competitive advantage has a significant effect on MSME business innovation. These findings underscore the importance of competitive advantage as a key factor in driving innovation, especially through business proactivity.
This study contributes to the literature on MSME innovation strategies by highlighting the role of competitive advantage as a mediator. The practical implication of this study is that MSMEs in Surabaya need to focus on developing competitive advantages and increasing proactive attitudes to encourage innovation and survive amidst the economic challenges post-COVID-19 pandemic.

Keywords: Business Risk, Proactiveness, Competitive Advantage, Innovation, SME.

1. INTRODUCTION

The COVID-19 pandemic has significantly reshaped the landscape for small and medium enterprises (SMEs), particularly in Surabaya, where the interplay of business risk, proactiveness, competitive advantage, and innovation has become increasingly critical. Understanding how these factors influence SME business innovation post-pandemic is essential for fostering resilience and growth in this sector. Business risk perception has been notably influenced by the competitive environment, as highlighted by Dvorský et al., (2020). Their research indicates that the entry of new competitors and customer acceptance of pricing are significant factors affecting risk perception. This aligns with the findings of Rahman et al., (2022), who emphasize that SMEs must adapt rapidly to changing market conditions to mitigate risks and leverage opportunities. The dynamic capability theory posits that firms with a greater capacity to adapt to uncertainties can better navigate crises, thereby enhancing their competitive advantage (Mota et al., 2022).

Proactive business strategies are crucial for SMEs aiming to thrive in a post-pandemic economy. Kerdpitak, (2024) discusses how proactive market development enhances business competitiveness, particularly in sectors like tourism, which have been severely impacted by the pandemic. This proactive approach not only improves business performance but also ensures that SMEs can maintain quality service delivery amidst heightened competition. Furthermore, entrepreneurial orientation, characterized by innovativeness and risk-taking, has been shown to foster competitive capabilities in startups, as noted by Mere et al., (2023). This orientation is vital for SMEs to differentiate themselves and sustain their market presence.

The role of competitive advantage in driving business innovation cannot be overstated. Castro & Zermeño,(2020) argue that entrepreneurship is a key driver of economic resilience, enabling faster recovery from crises. This is echoed by Jabeen et al., (2022), who highlight how open innovation can facilitate business model innovation during challenging times. The ability of SMEs to innovate—whether through digital transformation or service innovation—has been critical in responding to the disruptions caused by COVID-19 (Bianchi, 2022; Heinonen & Strandvik, 2020). For instance, the necessity for imposed service innovation has led many SMEs to rethink their operational strategies, thereby uncovering new business opportunities (Heinonen & Strandvik, 2020). Moreover, the integration of technological innovation and sustainable practices is essential for SMEs to enhance their performance and competitive edge during crises. Research by Utama, (2023) indicates that creativity, innovativeness, and proactiveness significantly influence SME performance, particularly in the clothing sector during the pandemic. This is further supported by the findings of Utama, (2023), which demonstrate that technopreneurship and business networks positively affect competitive advantage, enabling SMEs to navigate the complexities of the post-pandemic market.

Dynamic Capabilities Theory (DCT) has emerged as a critical framework for understanding how small and medium-sized enterprises (SMEs) can navigate the complexities of modern business environments, particularly in terms of risk management, proactiveness, competitive advantage, and innovation. This synthesis explores the multifaceted impact of DCT on these dimensions within SMEs, supported by relevant literature. This study uses the dynamic capability theory, the concept of dynamic capabilities is basically related to the ability of SMEs to manage risks effectively. According to García-Valenzuela et al., (2023), dynamic capabilities significantly increase organizational resilience, allowing SMEs to adapt to changing environments and reduce risks associated with market volatility (García-Valenzuela et al., 2023). This resilience is especially important for SMEs, which often face greater financial constraints and uncertainty compared to larger companies (Sahi et al., 2019). Eikelenboom and Jong further emphasize that dynamic capabilities allow SMEs to adapt their strategies in response to sustainability challenges, thereby improving their overall performance and risk management capabilities (Eikelenboom & Jong, 2018, 2019). This adaptability is especially important for SMEs that must navigate unpredictable market conditions while striving for sustainability.

Moreover, proactiveness is a key characteristic of successful SMEs that leverage dynamic capabilities. Yang's research highlights that entrepreneurial capabilities, which include opportunity recognition and market orientation, are essential for SMEs to proactively engage with their environments (Yang, 2023). This proactive stance is supported by the findings of Isichei et al., (2020) who argue that a strong entrepreneurial orientation correlates with improved performance in SMEs (Isichei et al., 2020). The ability to anticipate market trends and respond swiftly is facilitated by dynamic capabilities, which allow SMEs to reconfigure resources and processes effectively (Peng, 2019). In terms of competitive advantage, dynamic capabilities provide SMEs with the tools necessary to differentiate themselves in the marketplace. Ferreira & Coelho, (2020) study illustrates that the interplay between dynamic capabilities and innovation capabilities significantly influences competitive advantage and overall performance in SMEs (Ferreira & Coelho, 2020). This is echoed by Ju et al., (2016) who assert that dynamic capabilities foster management innovation and sustainable competitive advantages, which are critical for SMEs aiming to thrive in competitive landscapes (Ju et al., 2016). Furthermore, the research by Teece, (2012) underscores the importance of entrepreneurial action in enhancing dynamic capabilities, suggesting that SMEs that cultivate these capabilities are better positioned to outperform their competitors (Teece, 2012).

Innovation is another area where dynamic capabilities play a transformative role. The ability to innovate is often linked to the effective deployment of dynamic capabilities, as highlighted by Handini et al., (2021) who discuss how branding and innovation capabilities contribute to business performance (Handini et al., 2021). Additionally, Li et al., (2019) demonstrate that corporate social responsibility (CSR) initiatives, when integrated with dynamic capabilities, can enhance service innovation performance in SMEs (Li et al., 2019). This integration of CSR and innovation reflects a broader trend where SMEs leverage their dynamic capabilities to not only innovate but also address social and environmental challenges, thereby creating additional value.

Based on previous research and the theory above, the hypothesis in this study is:

H1: Business risk affects innovation.

H2: Proactiveness affects innovation.

H3: Business risk affects competitive advantage.

H4: Proactiveness affects competitive advantage.

H5: Competitive advantage affects innovation.

H6: Business risk mediated by competitive advantage affects innovation.

H7: Proactiveness mediated by competitive advantage affects innovation.

2. RESEARCH METHOD

This study uses SME objects located in Surabaya, having a business that has an impact during the Covid-19 pandemic. This study also uses a quantitative method, this study uses a questionnaire, where the sample used in this study was 154 SME respondents in Surabaya. This study uses SEM PLS as a statistical tool in testing the effect of variable x or mediating variables on variable y.

3. RESULTS AND DICUSSIONS

The results of this study began by testing the convergent validity of each questionnaire distributed to 154 SME respondents in Surabaya, based on Figure 1, it was found that the convergent validity value of each questionnaire component was above 0.5, this indicates that the questions from each questionnaire item are valid.

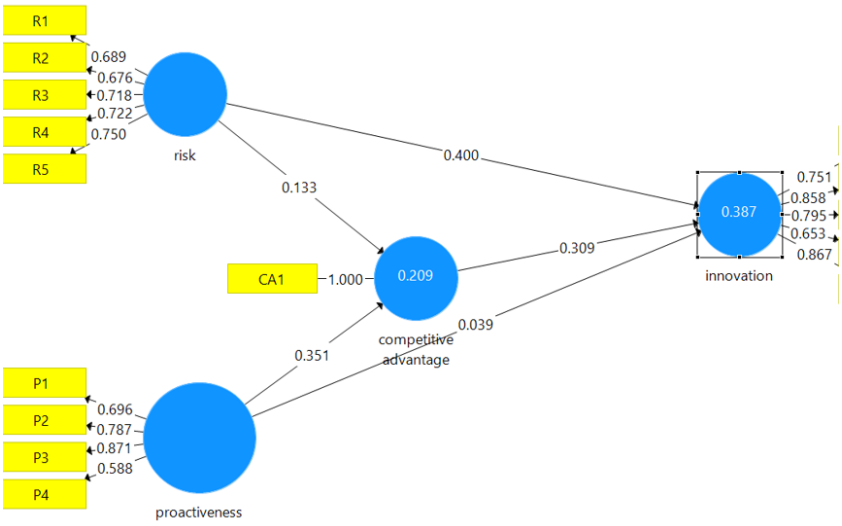

Figure 1. Convergent Validity

The second analysis, by looking at the average variance extracted (AVE) value, to find out whether the questionnaire used is reliable or not, where the AVE value must be above 0.5. The results of this study obtained an AVE value above 0.5, which means that the questionnaire used is reliable.

	Cronbach...	rho_A	Composi...	Average Variance Extracted (AVE)
competiti...	1.000	1.000	1.000	1.000
innovation	0.855	0.923	0.891	0.622
proactive...	0.731	0.725	0.829	0.552
risk	0.760	0.769	0.837	0.507

Figure 2. Average Variance Extracted

The third analysis is to test discriminant validity, where the root value above must be greater than below. This is done by looking at the validity value of the data in more depth. The results of this study are that the entire discriminant questionnaire data is valid.

	competiti...	innovation	proactive...	risk
competitive advantage	1.000			
innovation	0.482	0.789		
proactiveness	0.448	0.468	0.743	
risk	0.388	0.549	0.727	0.712

Figure 3. Discriminant Validity

The 4th analysis in this study by testing the collinearity test in the regression model aims to evaluate whether there is a high linear relationship between the independent variables (predictors) in the model. If two or more independent variables are highly correlated, multicollinearity can occur, which can interfere with the estimation of regression parameters and reduce the accuracy of the interpretation of the research results. in the results of this study the VIF value> 0.5 which means that this study is free from collinearity.

Table 1. VIF

	VIF
CA1	1
I1	1.843
I2	2.7
I3	1.54
I4	1.809
I5	2.876
P1	2.261
P2	2.067
P3	2.421
P4	1.145
R1	1.434
R2	1.517
R3	1.449
R4	1.367
R5	1.403

The results of the study using SEM PLS must also see the R-Square value is a measure used to assess how much the independent variable (exogenous) can explain the dependent variable (endogenous) in the model. From figure 4 square model path 1: the ability of business risk and proactiveness in explaining competitive advantage by 20.9%. Square model path 2: the ability of business risk and proactiveness through competitive advantage in explaining innovation by 0.209 (weak) 38.7% (weak).

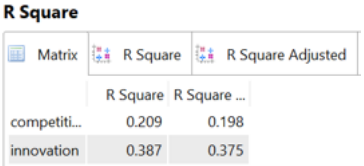

Figure 4. R-Square

This study tests the F value in SEM PLS, namely assessing the overall impact of an exogenous variable (influencing) and an endogenous variable (influenced). In this study, the business risk variable on competitive advantage is 0.011, which indicates that the influence of the business risk variable on competitive advantage has a small influence. Then, the proactivity variable on competitive advantage is 0.074, which indicates that the influence of the proactivity variable on competitive advantage has a small influence. While the business risk variable on innovation is 0.122, which indicates that the influence of the business risk variable on innovation is quite moderate and the proactivity variable on innovation is 0.001, which indicates that the influence of the proactivity variable on innovation has a small influence, then the

competitive advantage variable on innovation is 0.123, which indicates that the proactivity variable on innovation has a moderate influence.

f Square

Matrix	f Square	
	competiti...	innovation
competiti...		0.123
innovation		
proactive...	0.074	**0.001**
risk	**0.011**	0.122

Figure 5. F-Square

In this study using hypothesis testing, which begins by analyzing the hypothesis test of direct influence first, namely if the p-value is below 0.05 then there is an influence of variable x on variable y. in this study there are 5 hypotheses that are directly from variable x to y (Figure 6). Hypothesis 1 is business risk to innovation p value of 0.000 < 0.05. which means that hypothesis 1 is accepted., because perceived business risk can be a barrier to innovation. This is in line with the research of Oh et al., (2012). found that perceived information and business risk negatively affect the continued use of e-commerce processes among SMEs, indicating that fear of failure or loss can hinder innovation efforts (Oh et al., 2012). In addition, this study is in line with the findings of Zhao et al., who argue that risk tolerance is an important moderating factor in the relationship between knowledge management capabilities and business model innovation (Zhao et al., 2021). Companies that are too cautious may miss opportunities to innovate because of their reluctance to engage with perceived risks.

The second hypothesis is that proactiveness has an effect on innovation, where the p value is 0.715 > 0.05, which means that hypothesis 2 is not accepted. This study is in line with several studies in which proactive attitudes do not affect innovation, several studies illustrate that proactive behavior is an important part of growing an innovative culture. For example, Segarra‐Ciprés et al., (2019) provide empirical evidence of a positive relationship between proactive behavior and innovation performance, underlining the need for proactive engagement for successful innovation outcomes (Segarra‐Ciprés et al., 2019). Likewise, research by Liêm et al., (2019) shows that proactive behavior can improve innovation capabilities, which in turn leads to improved company performance (Liêm et al., 2019).

Hypothesis 3 is that business risk has an effect on competitive advantage, where the p value is 0.287 > 0.05, which means that hypothesis 3 is not accepted. This study is in line with the argument that the relationship between risk and competitive advantage is not direct. For example, Mohammad & Solikahan, (2023) study shows that financial literacy, a component of risk management, does not significantly affect competitive advantage, implying that other factors may play a more important role (Mohammad & Solikahan, 2023). Likewise, Subagyo highlights that business size can complicate management and potentially hinder the achievement of competitive advantage, indicating that simply managing risk is not enough to ensure competitive success (Subagyo et al., 2023). In addition, the role of entrepreneurial characteristics, such as risk taking, is also noteworthy. Ratchatakulpat et al., (2024) emphasizes that although risk taking is a characteristic of successful entrepreneurs, it does not guarantee competitive advantage itself (Ratchatakulpat et al., 2024). This suggests that although risk management is essential, it must be combined with other strategic elements to effectively improve competitive position.

Hypothesis 4 is that proactiveness has an effect on competitive advantage, where the p value is 0.006 <0.05, which means that hypothesis 4 is accepted. Several previous studies have stated that proactiveness is increasingly recognized as an important factor influencing competitive advantage in various sectors. The literature shows that companies that adopt proactive strategies, especially in environmental management and marketing, can achieve significant differentiation and cost leadership advantages. For example, Do & Nguyen, (2020) highlight that a proactive environmental strategy can generate differentiation and cost leadership competitive advantages, indicating that the strategy plays an important role in improving company performance and competitiveness (Do & Nguyen, 2020). This statement is supported by the findings of López‐Gamero et al., (2010) who argue that proactive environmental management contributes to the development of valuable capabilities that support the achievement of competitive advantage, especially through differentiation (López‐Gamero et al., 2010). In addition, the role of proactiveness extends beyond environmental strategy to encompass broader entrepreneurial marketing practices. Fatoki, (2019) research shows that proactive attitudes, in addition to innovation and opportunity recognition, significantly increase competitive advantage in small and medium-sized enterprises (SMEs) (Fatoki, 2019). This is in line with the findings of Teixeira et al., (2011) who emphasized that proactive attitudes towards environmental issues are essential to conquer new markets and achieve competitive advantage (Teixeira et al., 2011). Furthermore, Walker et al., (2013) emphasized

that a proactive environmental culture, driven by ecological responsibility rather than simply minimizing costs, can generate competitive advantage in terms of costs (Walker et al., 2013).

Hypothesis 5 is a competitive advantage towards innovation, where the p value is 0.000 <0.05, which means that the 5th hypothesis is accepted. The relationship between innovation and competitive advantage is multifaceted. Anning-Dorson & Nyamekye, (2020) argue that flexibility in utilizing innovation is essential for hospitality companies to fully realize the competitive benefits of their innovative efforts (Anning-Dorson & Nyamekye, 2020). This idea is in line with the resource-based view, which states that internal resources, including financial capital, are essential to sustaining innovation and, consequently, competitive advantage (Mohammad & Solikahan, 2023). The interaction between innovation and organizational capabilities is further illustrated by the findings of Distanont & Khongmalai, (2018), who assert that innovation is a key factor in creating sustainable growth and competitive advantage, especially for small and medium enterprises (SMEs) (Distanont & Khongmalai, 2018). The importance of product innovation in driving brand success is also significant, as highlighted by Hanaysha, (2016), who states that a strong focus on product innovation can lead to sustainable competitive advantage and long-term performance (Hanaysha, 2016). This is particularly relevant in industries such as automotive, where maintaining a strong track record of innovation is critical to brand equity and customer appeal. Furthermore, the role of digital innovation in transforming business models and enhancing competitive advantage is increasingly recognized, particularly in sectors such as specialty coffee, where digital strategies can disrupt traditional market dynamics (Maspul, 2023).

	Original ...	Sample ...	Standard ...	T Statistic...	P Values
competitive advantage -> innovation	0.309	0.307	0.076	4.056	0.000
proactiveness -> competitive advantage	0.351	0.358	0.126	2.781	0.006
proactiveness -> innovation	0.039	0.039	0.108	0.366	**0.715**
risk -> competitive advantage	0.133	0.131	0.125	1.066	**0.287**
risk -> innovation	0.400	0.408	0.099	4.046	0.000

Figure 6. Hypotesis Direct Effect Test

Based on Figure 7, the results of the hypothesis using competitive advantage mediation in this research are 2 hypotheses. research results for hypothesis 6 Business risk mediated by competitive advantage affects innovation is 0.296 > 0.05, meaning hypothesis 6 is accepted. The relationship between business risk, competitive advantage, and innovation is a complex interplay that has been extensively studied in the field of business management. It is often posited that competitive advantage can mediate the effects of various factors on innovation outcomes. However, there is evidence suggests that business risk, when mediated by competitive advantage, does not necessarily affect innovation. Firstly, competitive advantage is frequently linked to innovation as a means of enhancing marketing performance and overall business success. For example, Musonnafa et al., (2022) highlight that customer relationship management can improve marketing performance through the mediation of competitive advantage and innovation, suggesting that competitive advantage plays a critical role in leveraging innovation for better performance (Musonnafa et al., 2022). Similarly, Putri & Setiawan, (2022) assert that innovation significantly contributes to competitive advantage, which in turn can enhance market orientation without directly affecting innovation (Putri & Setiawan, 2022). This indicates that while competitive advantage is crucial for fostering innovation, it does not inherently alter the innovation process when business risks are considered. Moreover, the findings of Udriyah et al., (2019) supports the notion that market orientation and innovation impact competitive advantage and business performance, however they do not directly link competitive advantage to innovation outcomes (Udriyah et al., 2019). This suggests that competitive advantage may serve more as a facilitator rather than a direct influencer of innovation, particularly in high-risk environments. Additionally, Pramuki & Kusumawati, (2021) found that product innovation did not directly affect competitive advantage, indicating that the relationship between these variables can be more nuanced than previously thought (Pramuki & Kusumawati, 2021).

Hypothesis 7 Proactiveness mediated by competitive advantage affects innovation, with a p value of 0.037 < 0.05. meaning that hypothesis 7 is accepted. the mediating role of competitive advantage in this relationship is confirmed by several studies. For example, Kamboj & Rahman, (2017) found that market orientation and marketing capabilities mediate the effect of innovation on competitive advantage, indicating that firms that proactively engage in market-oriented strategies can improve their innovative capabilities and, consequently, their competitive position. Similarly, Junquera & Barba‐Sánchez, (2018) illustrate how a proactive environmental strategy can generate cost and differentiation advantages, further strengthening the idea that proactive firms are more likely to achieve competitive advantage through innovation. The empirical evidence supporting the mediation of competitive advantage is very strong. For example, Dahana et al., (2021) show that competitive advantage acts as a partial mediator between product innovation and marketing performance, highlighting the importance of competitive position in translating innovative efforts into tangible business outcomes. Furthermore, Putri & Setiawan, (2022) emphasized that product innovation has

a positive impact on competitive advantage, which in turn affects overall company performance, thus building a clear path from proactivity through competitive advantage to innovation.

Specific Indirect Effects

	Original ...	Sample ...	Standard ...	T Statistic...	P Values
proactive...	0.108	0.112	0.052	2.089	0.037
risk -> co...	0.041	0.039	0.039	1.045	0.296

Figure 7 Hypotesis Indirect Effect Test

4. CONCLUSIONS

The results of this study, it can be concluded that business risk directly inhibits innovation, but does not have a direct impact on competitive advantage or innovation through competitive advantage. Proactiveness has a positive effect on competitive advantage and innovation through competitive advantage. Competitive advantage has a key role in driving innovation. Thus, a business strategy that focuses on increasing competitive advantage through a proactive approach is more effective in driving innovation than simply managing business risk.

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