

# SME Performance Analysis: Reviewed from the TOE Framework Perspective to Support Sustainable Economic Resilience in Indonesia

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## ABSTRACT

Adopting e-commerce in the business sector requires technological resources such as IT infrastructure, internet connectivity, software and hardware systems, as well as qualified IT personnel which often poses financial challenges for small and medium-sized enterprises (SMEs). This study investigates whether technology adoption by SMEs translates into competitive advantage and improved performance. The research emphasizes the Technology–Organization–Environment (TOE) framework, which highlights the role of technological readiness, organizational capacity, and environmental factors in shaping competitiveness. Combined with the diffusion of innovation theory, this framework is expected to guide SMEs in developing effective strategies for technology adoption. A quantitative approach was applied using survey methods and data analysis through Partial Least Squares Structural Equation Modeling (PLS-SEM). Purposive sampling yielded 398 SME respondents across Indonesia. Findings show that entrepreneurial orientation and technological readiness significantly influence SME performance—measured by personal wealth and firm growth—through competitive advantage. Entrepreneurial orientation exhibits a full mediation effect, while technological readiness demonstrates partial mediation. These results suggest that within the TOE framework, technology, organization, and environment must first generate competitive advantage before exerting a significant impact on SME performance. This study confirms that integrating TOE with diffusion of innovation theory provides a strategic foundation for SMEs to adopt technology effectively, enhance competitiveness, and achieve sustainable growth.

**Keywords :** Entrepreneurial Leadership; Technological Readiness; Competitive Advantage; SME Performance; Entrepreneurial Orientation

## ABSTRAK

Mengadopsi *e-commerce* dalam dunia usaha membutuhkan sumber daya teknologi seperti infrastruktur TI, jaringan internet, perangkat lunak dan keras serta staff TI. Biaya yang timbul dari penggunaan teknologi ini terasa sangat berat bagi pelaku UKM. Oleh karena itu, dalam penelitian ini ingin mengkonfirmasi penggunaan teknologi bagi pelaku UKM sepadan dengan keunggulan bersaing yang akhirnya meningkatkan kinerja mereka. Urgensi penelitian ini untuk mengkonfirmasi bahwa *TOE Framework* yang didalamnya terdapat *technology*, *organization* dan *environment* dari pelaku UKM dapat membuat keunggulan bersaing dan diharapkan meningkatkan kinerja UKM secara berkelanjutan. Tujuan dari penelitian ini untuk mengkonfirmasi model *TOE framework* yang dikolaborasi dengan *theory diffusion of innovation* dapat membantu mengembangkan strategi pelaku UKM dalam pengadopsian teknologi untuk membantuk usahanya dalam bersaing. Penelitian ini dengan pendekatan kuantitatif melalui metode survei dan untuk analisis data dengan PLS-SEM. Teknik pengambilan sampe menggunakan *purposive sampling* dan penentuan jumlah sampel sebanyak 398 responden pelaku UKM di seluruh Indonesia. Hasil penelitian menunjukkan orientasi kewirausahaan dan kesiapan teknologi memberikan pengaruh kinerja UKM (*personal wealth* dan *firm growth*) melalui mediasi keunggulan bersaing dengan karakteristik *full mediation* untuk orientasi kewirausahaan dan *partial mediation* untuk kesiapan teknologi. *TOE framework* yang terdiri dari *technology*, *environment* dan *organization* untuk mempengaruhi kinerja UKM harus didahului dengan memunculkan keunggulan bersaing pada pelaku UKM yang pada akhirnya bisa memberikan pengaruh yang signifikan pada kinerja UKM.

## Kata Kunci

: Kepemimpinan Wirausaha; Kesiapan Teknologi; Keunggulan Bersaing; Kinerja UKM; Orientasi Wirausaha

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## INTRODUCTION

Becoming an entrepreneur is one way to revive the economy amid economic uncertainty and a lack of job opportunities in Indonesia. A country can be considered prosperous if at least 2% of its population is entrepreneurs or business owners. Countries with strong economies usually have solid and strong foundations. Small and medium-sized enterprises are important drivers of economic growth and are currently a focus of attention in many countries. (Aidis & Estrin, 2010; Tengeh, 2013). This is also consistent with the eight main missions, including the third mission: to increase quality employment, encourage entrepreneurship, develop creative industries, and continue infrastructure development. Based on BAPPENAS (2022) Strategic issues of youth development predicted to emerge in the era of Industry 5.0 at the global level include, among others, a more integrated and cohesive world economy, increasing global connectivity, and a strengthening of global cultural diffusion due to advances in communication technology. Therefore, technology can also affect SME performance. Performance is essential for measuring the success of business actors in achieving their goals.

Performance is a key consideration in investment decisions. (Endri et al., 2020). Increasingly fierce competition and technological advances are driving businesses to be more creative and innovative, prompting them to seek new opportunities to achieve success and sustainability. (Hailuddin et al., 2022; Sari et al., 2025). To improve their competitive advantage and business performance, businesses must enhance their entrepreneurial competencies and adopt e-commerce. (Akbar et al., 2022; Virgiawan et al., 2021; Zhu et al., 2003). Previous empirical studies (Lim et al., 2017; Maulana et al., 2024; Ramanathan et al., 2012; Uray & Setiawan, 2024) It has been shown that SME performance can be improved through e-commerce across the domains of competency, operations, and marketing.

The theory of diffusion of innovation supports research on the use of e-commerce technology in SMEs to improve efficiency and gain a competitive advantage. (Mohtaramzadeh et al., 2018; Zhu et al., 2003). Within the TOE framework, three aspects can influence SMEs' adoption of e-commerce: technological context (technological readiness), organizational context (leadership style and entrepreneurial orientation), and environmental context (competitive pressure). DOI covers the individual characteristics of leaders and the internal characteristics of organizations that support TOE theory. However, the DOI theory is often referred to as the basis for e-commerce adoption. (Akbar et al., 2021; Al-Qirim, 2007).

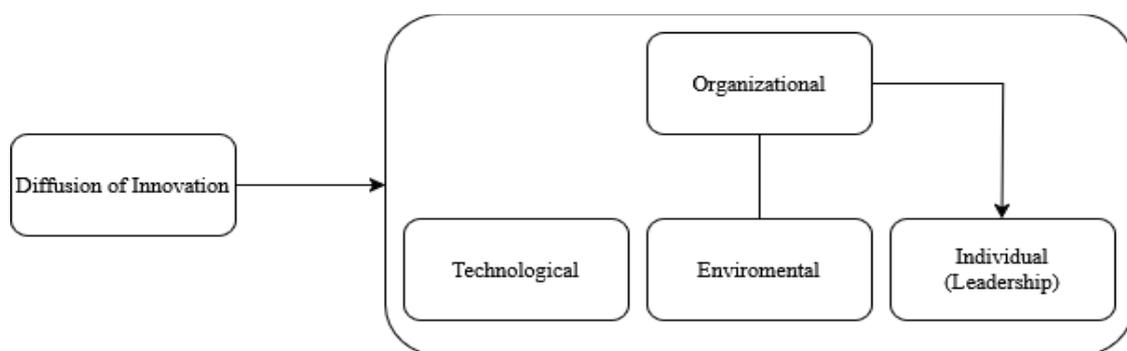


Figure 1. Conceptual Framework

The integration of the Diffusion of Innovation (DOI) theory with the Technology–Organization–Environment (TOE) framework provides a robust conceptual foundation for understanding innovation adoption within organizations. DOI emphasizes how innovations spread through social systems, highlighting factors such as relative advantage, compatibility, and complexity. These elements align naturally with the TOE framework, which categorizes adoption

influences into three dimensions: technological, organizational, and environmental. Within this integrated model, the organizational context becomes a critical conduit for individual-level factors—particularly leadership. Leadership is not merely a structural component; it embodies the cognitive, motivational, and strategic capacities that shape how organizations perceive and respond to innovation. By positioning leadership as an individual characteristic nested within the organizational domain, the model acknowledges that decision-makers play a pivotal role in interpreting technological opportunities, allocating resources, and fostering a culture of change. The diagram illustrates this relationship clearly: DOI informs the broader TOE structure, while leadership connects directly to the organizational layer, reinforcing the idea that innovation adoption is both a systemic and human-driven process. This synthesis allows researchers and practitioners to examine not only what influences adoption, but also who drives it—and how their actions ripple through technological and environmental contexts.

Adopting e-commerce requires significant technological resources, including IT infrastructure, internet connectivity, software and hardware, and IT staff. This is very expensive, especially for SMEs. In addition, fixed IT costs are a significant barrier to technology adoption. (Jafari-Sadeghi et al., 2021; Wymer & Regan, 2005). Therefore, this study aims to confirm that SMEs' use of technology is commensurate with the competitive advantages it confers and ultimately improves their business performance. Based on the phenomena and issues described above, it is important to conduct research to examine and answer how TOE shapes competitive advantage and drives strong SME performance in terms of personal wealth and firm growth.

The indicator of *personal wealth* among SME owners should be viewed not only as individual prosperity but as a reflection of microeconomic stability that supports national resilience. Financially secure SME owners sustain operations, preserve jobs, and reinvest in technology and innovation, thereby enhancing productivity and competitiveness. Their prosperity also stimulates local consumption, generates employment, and expands fiscal contributions through taxes, strengthening the state's capacity for infrastructure, education, and healthcare investment. Thus, personal wealth functions as a bridge between micro-level success and macro-level resilience, aligning SME growth with Indonesia's long-term vision of *Sustainable Economic Resilience* and *Indonesia Emas 2045*. It is hoped that this research will demonstrate that the use of the TOE framework can create a competitive advantage and deliver good performance, ultimately supporting the goal of achieving a golden Indonesia by 2045.

## RESEARCH METHOD

This research employs a quantitative methodology. A quantitative approach is a research method used to examine a certain population (Sugiyono, 2021). This approach uses research tools to gather data, which is then quantitatively analyzed to test the hypotheses. This study focuses on SME actors in Indonesia. The number of SME actors in Indonesia are 89,129 (Kementerian UMKM, 2024). The sample in this research uses formula proposed by Isaac and Michael. Based on Isaac and Michael formula, the sample size for this research was 398 respondents. In additional information, 398 SMEs use Tiktok, Shopee, Tokopedia, Gofood, Grabfood and other food e-commerce apps.

Table 1. Research and Variables Indicators

Variable	Dimension	Item	Source
Entrepreneurial Leadership (X <sub>1</sub> )	1. Vision	4	(Campos & Valenzuela, 2013)
	2. Creativity	3	
	3. Passion	7	
Entrepreneurship Orientation (X <sub>2</sub> )	1. Proactive	3	(Vallerand et al., 2003)
	2. Risk Taking	3	
	3. Competitive Aggressiveness	2	

	4. Autonomy	3	
	5. Inovation	3	
Technology Readiness (X <sub>3</sub> )	1. Adequate business resources	1	(Tornatzky et al., 1990)
	2. A flexible system	1	
	3. The system suits customer needs	1	
Competitive Pressure (X <sub>4</sub> )	1. Promotion war	1	(Harini et al., 2023)
	2. Price competition characteristics	1	
	3. New competitive measures	1	
Competitive Advantage (Z)	1. Differentiated Product	3	(Ramaswami et al., 2009)
	2. Market Sensing	4	
	3. Market Responsiveness	5	
SME Performance (Y <sub>1</sub> ) (personal wealth)	1. Ability to buy food	1	(Eijdenberg, 2016)
	2. Ability to buy insurance	1	
	3. Ability to buy shelter/house	1	
SME Performance (Y <sub>2</sub> ) (firm growth)	1. Asset Growth	1	(Shepherd & Wiklund, 2009)
	2. Employee Growth	1	
	3. Income Growth	1	

## FINDING AND DISCUSSION

### A. Evaluation of Measurement Models (outer model)

The outer model test is part of the path that describes the relationship between indicators and variables. (Hair et al., 2019). To view the results of the outer model test using SmartPLS 3.0, use the validity test (convergent validity and discriminant validity) and the reliability test (composite reliability and Cronbach's alpha). (Ghozali & Latan, 2015).

### B. Convergent Validity Test

Convergent validity testing is the result of the output of the loading factor value and the average variance extracted (AVE) value of each variable indicator instrument used. The convergent validity indicators for reflective indicators in confirmatory research are a loading factor > 0.7 and an AVE > 0.5. (Ghozali & Latan, 2015).

Table 2. Convergent Validity

Variable	Measurement Item	Loading Factor	AVE	Test Results
Entrepreneurial Leadership (X <sub>1</sub> )	CRT.1	0.758	0.610	Fulfilled
	CRT.2	0.817		
	PAS.2	0.841		
	PAS.3	0.794		
	PAS.4	0.745		
	PAS.5	0.741		
	VSN.1	0.775		
	VSN.2	0.803		
	VSN.3	0.746		
Entrepreneurship Orientation (X <sub>2</sub> )	AUT.1	0.736	0.622	Fulfilled
	AUT.2	0.858		
	AUT.3	0.833		
	CAG.1	0.809		
	CAG.2	0.779		
	INO.1	0.762		
	PRO.2	0.776		
	PRO.3	0.761		
	RST.1	0.761		
Technology Readiness (X <sub>3</sub> )	RST.2	0.822	0.749	Fulfilled
	RST.3	0.769		
	KT.1	0.853		
	KT.2	0.907		
Competitive Pressure (X <sub>3</sub> )	KT.3	0.834	0.719	Fulfilled
	CP.1	0.824		
	CP.2	0.885		

	CP.3	0.834		
	DPR.1	0.829		
	DPR.2	0.896		
Competitive Advantage (Z)	DPR.3	0.845	0.719	Fulfilled
	MSG.1	0.900		
	MSG.2	0.789		
	MSG.3	0.901		
SME Performance (Personal Wealth) Y <sub>1</sub>	ABF	0.880	0.761	Fulfilled
	ABI	0.864		
SME Performance (Firm Growth) Y <sub>2</sub>	ABS	0.873	0.730	Fulfilled
	AG	0.849		
	EG	0.883		
	IG	0.830		

Source: output smartPLS, 2025

Based on Table 2 above, the loading factor values for all latent variable measurement items are greater than 0.7, and the AVE values for latent variables are greater than 0.5.

### C. Discriminant Validity Test

Discriminant validity testing aims to ensure that the construct data are valid based on the Heterotrait-Monotrait Ratio (HTMT) output value. The HTMT indicator value must be less than 0.9. (Sarstedt et al., 2021)

Table 3. Discriminant Validity

	Competitive Pressure	Firm Growth	Entrepreneurial Leadership	Technology Readiness	Competitive Advantage	Personal Wealth
Competitive Pressure						
Firm Growth	0.813					
Entrepreneurial Leadership	0.357	0.369				
Technology Readiness	0.661	0.598	0.685			
Competitive Advantage	0.552	0.632	0.618	0.890		
Entrepreneurship Orientation	0.502	0.542	0.688	0.866	0.845	
Personal Wealth	0.864	0.874	0.325	0.552	0.605	0.481

Source: output smartPLS, 2025

Based on Table 3, the HTMT value is below 0.9, indicating that the discriminant validity test is satisfied.

### D. Reliability Test

Reliability testing aims to assess the consistency of responses to questionnaire items or statements by using the same questions or statements twice to measure the same symptom (Ghozali & Latan, 2015). Reliability is supported by composite reliability and Cronbach's alpha, which indicate that all indicators exceed 0.7. (Ghozali Imam, 2018).

Table 4. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Entrepreneurial Leadership	0.920	0.933
Entrepreneurship Orientation	0.939	0.948
Technology Readiness	0.832	0.899
Competitive Pressure	0.804	0.885
Competitive Advantage	0.930	0.945
Firm Growth	0.814	0.890
Personal Wealth	0.843	0.905

Source: output smartPLS, 2025

Based on Table 4, Cronbach's alpha and composite reliability exceed 0.7, indicating that the statement items in this study demonstrate good internal consistency.

**E. Structure Measurement Evaluation (Inner Model)**

The next step after evaluating the outer model measurement is to measure the inner model of the structure. This inner-model measurement is based on the relationships among constructs (model fit), effect size (f-square), predictive relevance (Q-square), and coefficient of determination (R-square).

**F. Fit Model**

According to (Sarstedt et al., 2021) The model fit in the study is indicated by the Standardised Root Mean Square Residual (SRMR), which is < 0.08.

Table 5. Fit Model

	Saturated Model	Estimate Model
SRMR	0.057	0.057

Source: output smarPLS, 2025

**G. Coefficient of Determination**

The coefficient of determination test assesses the extent to which the endogenous variables jointly explain the exogenous variables. The closer the index value is to 1, the better the model's predictive performance in this study. (Ghozali Imam, 2018).

Table 6. Coefficient of Determination

	R-Square	Adjusted R-Square
Firm Growth	0.733	0.729
Competitive Advantage	0.799	0.797
Personal Wealth	0.699	0.695

Source: smartPLS, 2025

Based on the output values in Table 6, the R-Square value for the first structural relationship is 0.781, which is strong, while the values for the second and third structural relationships are 0.733 and 0.699, which are strong. (Chin, 1998).

**H. Predictive Relevance (Q-square) and Effect Size (f-Square)**

Predictive relevance values are used to assess how well the observed values are and to evaluate the model's structural relevance. If the predictive relevance value (Stone Gisser) Q Square > 0, then the observed values are good/have good structural relevance to the model. If the predictive relevance value (Stone Gisser) Q Square < 0, then the observed values are not good/have poor structural relevance to the model.

Table 7. Predictive Relevance and Effect Size

	Q <sup>2</sup>	f <sup>2</sup>	Category
Competitive Advantage	0.587		Good
Firm Growth	0.527		Good
Personal Wealth	0.524		Good
Entrepreneurial Leadership → Firm Growth		0.000	Weak
Technology Readiness → Firm Growth		0.103	Moderate
Competitive Pressure → Firm Growth		1.588	Strong
Competitive Advantage → Firm Growth		0.156	Strong
Entrepreneurship Orientation → Firm Growth		0.003	Weak
Entrepreneurial Leadership → Competitive Advantage		0.000	Weak
Technology Readiness → Competitive Advantage		0.709	Strong
Entrepreneurship Orientation → Competitive Advantage		0.170	Strong
Competitive Pressure → Competitive Advantage		0.000	Weak
Entrepreneurial Leadership → Personal Wealth		0.000	Weak
Competitive Advantage → Personal Wealth		0.197	Strong
Technology Readiness → Personal Wealth		0.110	Moderate

Competitive Advantage → Personal Wealth

0.197

Strong

*Source: smartPLS, 2025*

Based on Table 7, the predictive relevance values for the three structures are above 0 (Q-square > 0), which means that the observed values are good or have good structural predictive relevance for the model. For the effect sizes of the relationships between variables, six relationships have strong effects, two relationship have moderate effects and five relationship have weak effects.

## I. Path Analysis

In testing the hypothesis in this study, a probability value of 0.05 was used. If the output value of the test result is less than 0.05, the research hypothesis is accepted, and vice versa. (Ghozali Imam, 2018).

Table 8. Path Analysis (Direct Effect)

Hypothesis	Variable Relationships	P-Value	Description
H <sub>1</sub>	Entrepreneurial Leadership → Competitive Advantage	0.828	Rejected
H <sub>2</sub>	Entrepreneurship Orientation → Competitive Advantage	0.700	Rejected
H <sub>3</sub>	Technology Readiness → Competitive Advantage	0.000	Accepted
H <sub>4</sub>	Competitive Pressure → Competitive Advantage	0.943	Rejected
H <sub>5</sub>	Competitive Pressure → Competitive Personal Wealth	0.000	Accepted
H <sub>6</sub>	Competitive Pressure → Firm Growth	0.000	Accepted
H <sub>7</sub>	Competitive Advantage → Personal Wealth	0.000	Accepted
H <sub>8</sub>	Competitive Advantage → Firm Growth	0.000	Accepted
H <sub>9</sub>	Entrepreneurial Leadership → Personal Wealth	0.997	Rejected
H <sub>10</sub>	Entrepreneurship Orientation → Personal Wealth	0.386	Rejected
H <sub>11</sub>	Technology Readiness → Personal Wealth	0.000	Accepted
H <sub>12</sub>	Entrepreneurial Leadership → Firm Growth	0.806	Rejected
H <sub>13</sub>	Entrepreneurship Orientation → Firm Growth	0.259	Rejected
H <sub>14</sub>	Technology Readiness → Firm Growth	0.000	Accepted

*Source: output smartPLS, 2025*

Based on the results shown in Table 8, the results for testing the hypotheses proposed in this study for H<sub>3</sub>, H<sub>5</sub>, H<sub>6</sub>, H<sub>7</sub>, H<sub>8</sub>, H<sub>11</sub> and H<sub>14</sub> are accepted because the test probability value is less than 0.05, while for H<sub>1</sub>, H<sub>2</sub>, H<sub>4</sub>, H<sub>9</sub>, H<sub>10</sub>, H<sub>12</sub> and H<sub>13</sub> are rejected because the test probability value is greater than 0.05.

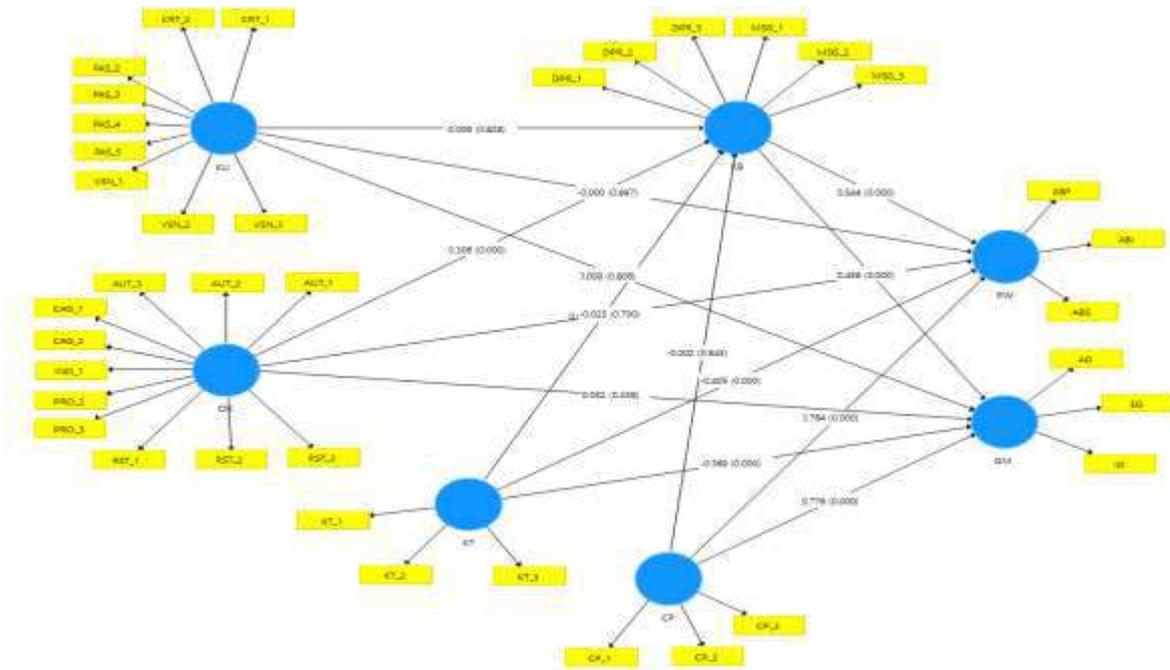


Figure 2. Path Model  
Table 9. Indirect Effects

Path	P-values	Mediation
Entrepreneurial Leadership → Competitive Advantage → Firm Growth	0.830	No significant and no mediation Effect
Entrepreneurship Orientation → Competitive Advantage → Firm Growth	0.000	Significant and full mediation effect
Technology Readiness → Competitive Advantage → Firm Growth	0.000	Significant and partial mediation
Competitive Pressure → Competitive Advantage → Firm Growth	0.943	No significant and no mediation effect
Entrepreneurial Leadership → Competitive Advantage → Personal Wealth	0.829	No significant and no mediation effect
Entrepreneurship Orientation → Competitive Advantage → Personal Wealth	0.000	Significant and full mediation effect
Technology Readiness → Competitive Advantage → Personal Wealth	0.000	Significant and partial mediation
Competitive Pressure → Competitive Advantage → Personal Wealth	0.942	No significant and no mediation effect

Source: output smartPLS, 2025

**J. Entrepreneurial Leadership and Competitive Advantage**

The p-value for the relationship between entrepreneurial leadership and competitive advantage is 0.818, indicating that entrepreneurial leadership does not affect competitive advantage ( $p > 0.05$ ). The results of this study indicate that the entrepreneurial leadership style does not affect competitive advantage in SMEs. This finding makes an important contribution to understanding the dynamics of management in small and medium-sized organizations, while contradicting the widespread belief that entrepreneurial leadership is always a significant determinant of competitive advantage. The insignificance of this relationship can be explained from various perspectives: theoretical, organizational, and empirical.

Recent studies show that entrepreneurial leadership more often directly influences organizational outcomes than shapes intermediary variables. For example, (Hensellek et al., 2023) Found that business performance is enhanced by entrepreneurial leadership through flexibility strategies, namely the ability of organizations to adjust their strategies when the environment changes quickly. Similarly, (Ercantan et al., 2024) Stated that entrepreneurial leadership impacts competitive advantage, particularly through employee creativity. Consequently, no direct influence was found in this study, supporting the idea that entrepreneurial leadership's influence is more indirect, operating through internal organizational mechanisms such as innovation, creativity, and strategic flexibility.

These results can also be explained by considering the unique situation of SMEs. SMEs do not always have sufficient capital, labour, or market access, unlike large companies, which have abundant resources. In such situations, competitive advantage is determined more by external and operational elements such as cost efficiency, access to distribution networks, and government policy support than by the leadership style of the owner or manager. According to research (Thomran et al., 2022), External providers, such as technology, network support, and the institutional environment, foster competitive advantage in SMEs. In other words, other factors that are more important for SME sustainability can assume the role of leadership.

### **K. Entrepreneurial Orientation and Competitive Advantage**

The p-value for the relationship between entrepreneurial orientation and competitive advantage is 0.000, indicating that entrepreneurial orientation significantly influences competitive advantage ( $p < 0.05$ ). This result is consistent with growing empirical evidence that EO plays an important role in shaping organizational capabilities, enabling SMEs to compete more effectively in volatile markets. Theoretically, EO encompasses elements of proactivity, innovation, and the courage to take risks. This encourages SMEs to discover market opportunities early, develop a diverse range of goods and services, and adjust their business strategies to align with changes in the external environment. This process yields a strategic orientation that can be quantified as a competitive advantage, such as market response speed, market share, and product differentiation. (Maulana et al., 2024; Ngo, 2023; Uray & Setiawan, 2024).

EO is viewed as an intangible resource that encompasses strategic decision-making and behavioural patterns. When combined with innovation capabilities and social networks, these elements generate competitive advantages that are difficult for competitors to replicate. Empirical studies and literature reviews also show that EO is consistently associated with positive outcomes when organizations translate it into practices that enhance customer value and operational efficiency, particularly in SMEs with limited resources. Thus, the contribution of EO appears strongest when it is directly linked to the development of innovative capabilities and market orientation, as well as to factors that enable SMEs to execute differentiation and/or cost strategies. (Thomran et al., 2022).

### **L. Technological Readiness and Competitive Advantage**

The p-value for the relationship between technological readiness and competitive advantage is 0.000, indicating that technological readiness significantly affects competitive advantage ( $p < 0.05$ ). The results show that technological readiness helps SMEs gain a competitive advantage. This finding aligns with previous studies that emphasise the importance of digital readiness in enhancing business competitiveness, particularly in the digital economy era. Technological capabilities include SMEs' ability to implement digital infrastructure, manage data, and utilise technology applications to enhance innovation and operational efficiency. Highly technologically ready SMEs are better able to respond quickly to market changes, create differentiated products, and strengthen

customer relationships through digital platforms. This relationship is demonstrated by several empirical studies, including research by (Cervantes-Zacarés et al., 2023), which found that digital capabilities strengthen the relationship between entrepreneurial orientation and SMEs' competitive advantage.

### **M. Competitive Pressure and Competitive Advantage**

The p-value for the relationship between entrepreneurial leadership and competitive advantage is 0.941, indicating that competitive pressure does not affect competitive advantage ( $p > 0.05$ ). The lack of a significant relationship between competitive pressure and competitive advantage can be interpreted through the lens of strategic response. Competitive pressure frequently operates as an environmental trigger rather than a direct determinant of superior performance. Its influence on competitive advantage is contingent upon the firm's ability to respond proactively by fostering innovation, cultivating dynamic capabilities, and managing internal resources effectively. This suggests that when firms adopt reactive strategies or merely imitate their competitors, competitive pressure does not evolve into a source of advantage. Consequently, such responses tend to generate strategic convergence across firms, thereby diminishing opportunities for differentiation and sustainable competitiveness (Teece, 2018; Wang et al., 2025).

### **N. Competitive Advantages and Performance of SMEs (Personal Wealth)**

The p-value for the relationship between competitive advantage and SME performance (personal wealth) is 0.000, indicating that competitive advantage affects SME performance (personal wealth) ( $p < 0.05$ ). The results show that SME business owners benefit from a competitive advantage, reflected in their ability to purchase necessities like food and insurance, as well as long-term assets such as houses. These results align with the Resource-Based View (RBV), which holds that competitive advantages derived from innovation, differentiation, and cost efficiency can improve business financial performance. This performance improvement directly flows into the owners' income, increasing personal welfare.

New study results support these findings, including (Maulana et al., 2024; Uray & Setiawan, 2024) Found that digitalization-based competitive advantages increase SME profits and give owners greater access to basic needs and financial protection, and research (Wach et al., 2025) The data shows that gaining competitive advantages increases business growth and improves opportunities for personal wealth accumulation through tangible assets, such as homes. In other words, SME owners must continue to develop sustainability-oriented competitive advantage strategies so that the benefits can be felt not only in their businesses but also in their financial well-being and personal lives.

### **O. Competitive Advantages and SME Performance (Firm Growth)**

The probability value of the relationship between competitive advantage and SME performance (firm growth) is 0.000, which means that competitive advantage affects SME performance (firm growth) ( $p$ -values  $< 0.05$ ). The results of this study reinforce the Resource-Based View (RBV), which emphasises that competitive advantage derived from unique resources, innovation, and product differentiation can drive sustainable growth. This finding indicates that competitive advantage significantly affects firm growth among SMEs. Successful SMEs can build a competitive advantage through product quality, operational efficiency, and proximity to customers. This facilitates expansion of market share and profitability, thereby driving long-term company growth.

This relationship is supported by empirical research. (Maulana et al., 2024; Uray & Setiawan, 2024) They found that product differentiation and market orientation as forms of

competitive advantage contribute significantly to SME growth. The practical implications of the research findings are that SME owners should develop strategies focused on creating unique value through product innovation, technology adoption, and the building of long-term customer relationships. As a result, competitive advantage enhances the company's competitiveness in both the short and long term.

#### **P. Entrepreneurial Leadership and SME Performance (Personal Wealth)**

The p-value for the relationship between entrepreneurial leadership and SME performance (personal wealth) is 0.997, indicating that entrepreneurial leadership does not affect SME performance (personal wealth) ( $p > 0.05$ ). The results of this study indicate that entrepreneurial leadership does not have a direct impact on SME owners' personal wealth, particularly their ability to purchase food, insurance, and housing. The results show that, even though SME leaders possess traits such as proactivity, innovation, and risk-taking, these traits are insufficient to meet owners' basic needs. Entrepreneurial leadership has a greater impact on organizational factors such as innovation, efficiency, and business opportunities than on directly increasing owners' income to improve their personal prosperity.

Recent research supports the idea that contextual variables often mediate the influence of entrepreneurial leadership. For example, research conducted in East Java found that entrepreneurial leadership positively impacts innovation and business performance. However, achieving sufficient economic growth or financial gains to improve household welfare often requires innovative capabilities and external assistance. (Srimulyani et al., 2023).

#### **Q. Entrepreneurial Orientation and SME Performance (Personal Wealth)**

The p-value for the relationship between entrepreneurial orientation and SME performance (personal wealth) is 0.707, indicating that entrepreneurial orientation does not affect SME performance (personal wealth) ( $p > 0.05$ ). This study shows that SME owners' personal welfare is not directly influenced by entrepreneurial orientation (EO). SME performance is measured by their ability to meet basic needs (e.g., food), obtain protection (e.g., insurance), and accumulate assets (e.g., housing). The results show that although EO is often associated with improving business performance through innovation, proactivity, and risk-taking, its impact is typically organization-centric and does not automatically translate into profits for the owner's household or personal wealth. (Hanaysha & Al-Shaikh, 2024).

Furthermore, research on socio-emotional wealth and indicators of personal wealth indicates that the impact of EO on owner prosperity may be masked by non-economic factors, such as family preferences, profit sharing with household dependents, and structural barriers, including capital constraints and regulations. In a study by Kiyabo & Isaga (2020) It was found that although EO can improve business performance, measuring results at the individual level requires a model that includes a mediating variable (profitability  $\rightarrow$  income distribution) and moderators (access to credit, family dependents).

#### **R. Technology Readiness and SME Performance (Personal Wealth)**

The p-value for the relationship between technological readiness and SME performance (personal wealth) is 0.000, indicating that technological readiness affects SME performance (personal wealth) ( $p < 0.05$ ). The findings indicate that technology readiness does not exert a significant influence on SME performance when measured through the indicator of personal wealth. This result suggests that technology readiness functions more as an initial enabling factor rather than a direct determinant of the financial well-being of SME owners. From the perspectives of the Technology–Organization–Environment (TOE) framework and the Resource-Based View (RBV),

technology readiness merely reflects a basic capacity to access and utilize technology, but it does not necessarily generate economic value unless it is integrated with managerial capabilities, financial literacy, and effective business strategies. Moreover, the enhancement of personal wealth among SME owners tends to be shaped by long-term factors such as profit accumulation, efficiency in financial management, and the separation of personal and business finances, which are not immediately derived from technology readiness. Therefore, these findings underscore that the impact of technology readiness on SME owners' financial well-being is indirect and is typically mediated by innovation, digital capabilities, and sound financial management practices (Annisa et al., 2024; Civelek, 2024).

### **S. Competitive Pressure and SME Performance (Personal Wealth)**

The p-value for the relationship between technological readiness and SME performance (personal wealth) is 0.000, indicating that competitive pressure affects SME performance (personal wealth) ( $p < 0.05$ ). Theoretically, competitive pressure represents the intensity of market competition that compels businesses to enhance efficiency, foster innovation, and adopt strategic orientations in order to sustain their existence and market share. High levels of competitive pressure encourage SMEs to adapt proactively by improving the quality of products or services, expanding marketing networks, and strengthening customer-oriented strategies, which in turn can increase revenues and contribute to the accumulation of the owners' personal wealth in line with the long-term objectives of the enterprise. Empirical evidence from studies in developing countries demonstrates that the intensity of market competition has a positive relationship with SME performance, whereby competitive pressure drives improvements in both operational and financial outcomes, such as profitability growth and market expansion, ultimately impacting the personal wealth of SME owners. This finding is consistent with the literature that identifies competitive pressure as a factor shaping proactive and innovative strategic orientations, thereby fostering enhanced performance outcomes, including the financial well-being of SME owners. Consequently, competitive pressure should not be viewed merely as an external environmental challenge but also as a critical stimulus that strengthens entrepreneurial motivation, promotes product differentiation, and optimizes internal resources, thereby exerting a positive influence on the financial prosperity of SME owners. (Keelson et al., 2024).

### **T. Entrepreneurial Leadership and SME Performance (Firm Growth)**

The probability value of the relationship between entrepreneurial leadership and SME performance (firm growth) is 0.807, which means that entrepreneurial leadership does not affect SME performance (firm growth) ( $p$ -values  $> 0.05$ ). The results indicate no significant correlation between entrepreneurial leadership and company growth. This indicates that, although leadership is important for encouraging innovation and entrepreneurial behaviour, it is not always sufficient to trigger asset expansion, workforce growth, or increased revenue in SMEs. A consistent explanation in the literature is that leadership often functions through mediation. Previous studies have found that entrepreneurial leadership improves the innovation climate and employee capabilities, but the effects on financial/quantitative growth measures often depend on advanced capabilities and external support. (Malibari & Bajaba, 2022).

### **U. Entrepreneurial Orientation and SME Performance (Firm Growth)**

The probability value of the relationship between entrepreneurial leadership and SME performance (firm growth) is 0.246, which means that entrepreneurial leadership does not affect SME performance (firm growth) ( $p$ -values  $> 0.05$ ). This study shows that entrepreneurial orientation (EO) does not affect firm growth in SMEs, as measured by asset growth, employee

count, and revenue. These results align with studies that emphasise that the effect of EO on quantitative outcomes, such as growth, is often indirect and mediated by pathways (e.g., innovation capability, absorptive capacity, marketing capability) and contextual conditions. A systematic, empirical study found that EO enhances internal capabilities when resources and market access support this growth. (Meekaewkunchorn et al., 2021).

#### **V. Technological Readiness and SME Performance (Firm Growth)**

The probability value of the relationship between entrepreneurial leadership and SME performance (firm growth) is 0.000, which means that entrepreneurial leadership has no effect on SME performance (firm growth) ( $p$ -values  $< 0.05$ ). The finding that technological readiness significantly affect business growth in SMEs indicates that technology adoption alone is insufficient to increase revenue, expand the workforce, or grow assets. According to the literature, digital capabilities are more often considered a prerequisite for improving operational and market capabilities. However, their benefits for growth usually depend on complementary capabilities, such as human resource skills, digital marketing, access to financing, and implementation strategies, which enable technology to generate tangible business results. (Pingali et al., 2023).

#### **W. Competitive Pressure and SME Performance (Firm Growth)**

Competitive pressure represents the level of competition faced by SMEs in dynamic and highly competitive markets. Such pressure compels SME actors to refine operational strategies, enhance product and service innovation, and strengthen customer orientation, thereby enabling them to expand market share and achieve higher business growth. Under intense competition, SMEs are driven to adopt strategic adaptations such as product differentiation, cost efficiency improvements, and the development of internal capabilities that are more responsive to changes in the business environment. This aligns with the literature, which emphasizes that market competition forces firms to think strategically and act proactively in managing their resources, ultimately improving firm growth through increased operational scale, market expansion, and the accumulation of assets and revenues. These findings reinforce the argument that competitive pressure is not merely an external challenge but also a critical stimulus that encourages SMEs to innovate, improve business processes, and maximize growth opportunities in the midst of intense market competition. (Keelson et al., 2024)

### **CONCLUSION**

The Government of Indonesia has consistently positioned SMEs as strategic actors in national economic development through various policies, such as Law No. 20 of 2008 on SMEs, the People's Business Credit (KUR) program, and the digitalization agenda for SMEs integrated into the national economic transformation policy. A strong entrepreneurial orientation—characterized by innovation, proactivity, and risk-taking—supports these policy objectives by encouraging SMEs to move up the value chain, enhance productivity, and expand market reach. At the same time, SME technology readiness aligns with national programs such as *UMKM Go Digital*, the *National Movement Proud of Indonesian Products (Gernas BBI)*, and the *Making Indonesia 4.0* agenda, all of which aim to strengthen the competitiveness of domestic enterprises through the adoption of digital technologies. The combination of entrepreneurial orientation and technology readiness fosters sustainable competitive advantage, which ultimately improves SME performance and reinforces national economic resilience by creating employment opportunities, stabilizing household incomes, and reducing dependence on large-scale economic sectors. Thus, these research findings provide empirical justification that national policies focusing on strengthening

entrepreneurship and SME technology readiness represent an appropriate and relevant strategy for building an inclusive and sustainable economic resilience in Indonesia.

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