

# The Mediating Role of Entrepreneurial Resilience in Transforming Environmental Factor Turbulence into Sustainable Competitive Advantage

Received 23 June 2024  
Revised 16 January 2025  
Accepted 31 January 2025

Nurul Hidayatinnisa<sup>1\*</sup>, Riska Ayu Setiawati<sup>2</sup>, Suci Nurfauziah<sup>3</sup>

*Malang State Polytechnic<sup>1</sup>, Sunan Ampel State Islamic University of Surabaya<sup>2</sup>, Malang State Polytechnic<sup>3</sup>*  
[nurulnisa@polinema.ac.id](mailto:nurulnisa@polinema.ac.id)  
[riska.ayu@uinsa.ac.id](mailto:riska.ayu@uinsa.ac.id)  
[sucinurfauzi@polinema.ac.id](mailto:sucinurfauzi@polinema.ac.id)

## Abstract

**Objective** – This study aims to investigate the influence of Environmental Factor Turbulence (EFT) on Sustainable Competitive Advantage (SCA), with Entrepreneurial Resilience (ER) as a mediating factor, in the context of Micro, Small, and Medium Enterprises (MSMEs) in Malang.

**Design/methodology/approach** – This research employs a quantitative approach using a survey method. Data were gathered from 150 MSME owners in Malang through structured questionnaires, and Structural Equation Modeling (SEM) PLS was utilized for analysis. The variables examined include Environmental Factor Turbulence, Entrepreneurial Resilience, and Sustainable Competitive Advantage.

**Findings** – The results indicate that while Environmental Factor Turbulence does not directly influence Sustainable Competitive Advantage, its impact is significant when mediated by Entrepreneurial Resilience. Entrepreneurial Resilience plays a crucial role in enhancing the adaptability and strategic agility of MSMEs, enabling them to transform turbulence into opportunities for long-term competitiveness.

**Research limitations/implications** – This study focuses on MSMEs in Malang, limiting its generalizability to other regions or sectors. Future research could explore similar frameworks in different geographical and sectoral contexts or employ longitudinal methods to assess resilience over time.

**Practical implications** – The findings underscore the importance of fostering Entrepreneurial Resilience as a strategic priority for MSMEs. Policymakers and practitioners should implement capacity-building programs, provide financial support, and promote collaborative ecosystems to bolster resilience and ensure sustainable competitive advantage in dynamic environments.



\*Corresponding author

Jurnal Manajemen dan Inovasi  
© Manova Publishing  
DOI  
<https://doi.org/10.15642/manova.v7i1.19>

Copyright: © 2024. The author(s).

Manova: Jurnal Manajemen dan Inovasi is licensed under a Creative Commons Attribution ShareAlike License

---

## INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are essential contributors to Indonesia's economy, accounting for approximately 60.51% of the national GDP and employing around 97% of the national workforce (BPS, 2023). These businesses serve as economic backbones in both urban and rural areas, fostering entrepreneurship, reducing unemployment, and promoting equitable income distribution. However, MSMEs face significant challenges due to the ever-changing external environment. This dynamic, referred to as environmental factor turbulence (EFT), involves unpredictable market conditions, regulatory shifts, and technological disruptions that threaten business sustainability (Zahra, 2020).

Environmental factor turbulence encapsulates external forces that disrupt business operations and decision-making processes. For MSMEs, these forces can manifest as fluctuating consumer preferences, economic instability, and rapid technological changes (Linnenluecke, 2017). For instance, the COVID-19 pandemic accelerated digital transformation across industries, leaving many MSMEs unprepared for such abrupt changes. The rise of e-commerce platforms has further intensified competition, especially for traditional MSMEs lacking technological adaptation. In this volatile environment, MSMEs often struggle to respond effectively, leading to diminished market share and declining profitability.

Environmental turbulence refers to the uncertainty arising from various external factors that influence business decision-making processes. This includes unpredictability in market demand, supply conditions, and technological advancements. Environmental turbulence captures the inability to forecast the success or failure of decisions due to the dynamic and uncontrollable nature of these external factors. In this context, turbulence is commonly categorized into three primary indicators: demand uncertainty, supply uncertainty, and technological uncertainty. Demand uncertainty arises from fluctuating customer preferences and purchasing patterns, which can shift drastically over time. Supply uncertainty reflects challenges in securing raw materials, including variability in quality, quantity, and delivery timelines. Meanwhile, technological uncertainty relates to rapid technological changes that affect production processes and product innovation, compelling companies to adapt quickly to maintain competitive advantage.

Recent global events such as the COVID-19 pandemic have further amplified environmental turbulence by disrupting supply chains worldwide. This has highlighted the need for companies to enhance supply chain integration and operational agility to remain competitive. Additionally, shortened product life cycles driven by rapid technological advancements and evolving consumer demands have increased the pressure on companies to innovate continuously. Globalization has also added layers of complexity to supply chains, requiring organizations to manage international operations while mitigating risks associated with volatile market conditions and geopolitical shifts. These phenomena underline the importance of addressing environmental turbulence as a strategic imperative for achieving sustainable competitive advantage.

Studies indicate that EFT can either undermine or stimulate business performance depending on the organization's ability to adapt and innovate (Zahra et al., 2020). Businesses that proactively embrace change often leverage turbulence as an opportunity to innovate and redefine their competitive positioning. Conversely, those unable to adjust suffer from operational inefficiencies and lost opportunities. This duality underscores the critical role of adaptive strategies and entrepreneurial capabilities in turbulent environments.

Entrepreneurial resilience (ER) is increasingly recognized as a vital capability for MSMEs to thrive amid uncertainty. ER is defined as the psychological and strategic ability of entrepreneurs to adapt, recover, and grow despite adversity (Shepherd & Haynie, 2011). Resilient entrepreneurs exhibit proactive behaviors, such as seeking new opportunities, reallocating resources effectively, and maintaining optimism during crises.

For MSMEs, resilience translates into tangible actions like adopting digital tools, diversifying

---

product lines, and engaging with local communities to strengthen market connections. Research by Manzano-García and (Ayala & Manzano, 2014) highlights that resilient entrepreneurs demonstrate higher innovation rates and improved financial performance compared to their non-resilient counterparts. Furthermore, resilience fosters a culture of learning and experimentation, enabling businesses to pivot strategies when faced with external shocks.

Sustainable competitive advantage (SCA) refers to the ability of a business to maintain a superior market position over time through unique value creation (Porter, 1985). For MSMEs, achieving SCA involves leveraging core competencies, such as product differentiation, operational efficiency, and customer relationships. However, sustaining this advantage in a turbulent environment requires constant adaptation and innovation. In today's rapidly changing and highly competitive business environment, achieving sustainable competitive advantage (SCA) has become increasingly critical for firms. The study by Koç et al. (2022) highlights that environmental uncertainties such as fluctuating demand, unpredictable supply conditions, and rapid technological advancements pose significant challenges to businesses. These uncertainties compel companies to innovate and adopt strategies that ensure their long-term competitiveness. For instance, firms that leverage supply chain agility the ability to quickly adapt to changes and supply chain integration collaborative efforts with partners to enhance efficiency are better positioned to maintain a competitive edge. Moreover, SCA is rooted in unique resources and capabilities, such as offering high-quality, customized products, ensuring dependable delivery, and responding swiftly to market demands. In environments characterized by volatility and uncertainty, these factors not only mitigate risks but also enable firms to capitalize on emerging opportunities, thereby strengthening their competitive positioning over time (Koç et al., 2022).

In the content of MSMEs, SCA often hinges on their ability to align business strategies with external demands. For example, MSMEs that integrate sustainability practices into their operations, such as reducing waste or using eco-friendly materials, appeal to environmentally conscious consumers. Similarly, adopting digital marketing strategies enhances customer engagement and expands market reach. These practices not only differentiate MSMEs from competitors but also ensure long-term relevance in dynamic markets.

Malang, a city renowned for its vibrant MSME ecosystem, provides an ideal context for examining the interplay between EFT, ER, and SCA. The city's MSMEs predominantly operate in food and beverage, fashion, and handicrafts sectors characterized by high consumer demand and intense competition. While these sectors contribute significantly to local economic development, they are also highly susceptible to external shocks such as rising raw material costs, shifting consumer preferences, and regulatory changes.

A notable challenge faced by Malang's MSMEs is their limited access to advanced technology and financial resources. Many businesses rely on traditional practices, which hinder their ability to adapt to modern market demands. For instance, during the COVID-19 pandemic, numerous MSMEs in Malang experienced severe disruptions due to their lack of online presence and digital capabilities. These challenges highlight the urgent need for resilience-building initiatives to enhance their adaptive capacities.

Despite these challenges, several MSMEs in Malang have demonstrated remarkable resilience. For example, local food producers have pivoted to online sales platforms, while fashion entrepreneurs have embraced eco-friendly designs to cater to sustainability-conscious consumers. These examples underscore the importance of entrepreneurial resilience in fostering innovation and maintaining competitiveness in turbulent environments.

The ability to sustain a competitive advantage is particularly critical for MSMEs operating in turbulent environments. In Malang, businesses that invest in adaptive strategies, such as digital transformation and sustainable practices, have been more successful in navigating external pressures. Research suggests that resilient entrepreneurs are better equipped to leverage EFT as a catalyst for innovation, thereby enhancing their competitive positioning (Zahra et al., 2020).

However, the mechanisms through which EFT influences SCA remain underexplored, particularly in

---

the MSME context. This gap underscores the need for empirical studies that examine the mediating role of ER in this relationship. Understanding this dynamic is essential for designing interventions that strengthen MSME resilience and competitiveness.

The relationship between EFT, ER, and SCA is complex yet critical for business sustainability. EFT serves as both a challenge and an opportunity, depending on the entrepreneur's ability to adapt. ER acts as a mediating factor that enables businesses to transform turbulence into strategic opportunities. For instance, resilient entrepreneurs can identify emerging market trends during periods of uncertainty and align their strategies accordingly.

Existing literature highlights that ER not only mitigates the negative impacts of EFT but also amplifies its positive effects on SCA. Linnenluecke (2017) argues that resilience fosters a proactive mindset, encouraging businesses to innovate and explore untapped markets. This perspective aligns with Porter's (1985) theory, which emphasizes the role of differentiation and innovation in sustaining competitive advantage.

This study aims to investigate the direct and indirect effects of EFT on SCA through ER in the context of MSMEs in Malang. The research addresses the following questions: How does EFT influence SCA in MSMEs? What role does ER play as a mediator between EFT and SCA?

By exploring these questions, the study seeks to contribute to the strategic management literature and provide actionable insights for MSME practitioners and policymakers. The findings are expected to guide the development of resilience-building programs that enhance the adaptive capacities of MSMEs, ensuring their long-term competitiveness in turbulent environments.

## **THEORETICAL BACKGROUND AND RESEARCH MODEL**

Environmental factor turbulence (EFT) refers to the unpredictable and rapidly changing external conditions that disrupt business operations. This includes economic instability, technological advancements, regulatory changes, and shifting consumer preferences (Zahra, 2020). The concept of EFT is grounded in contingency theory, which posits that organizations must adapt to environmental demands to sustain their competitive advantage. Studies highlight that EFT can act as both a threat and an opportunity, depending on the organization's capacity to respond effectively (Linnenluecke, 2017). Environmental turbulence refers to the uncertainty arising from various external factors that influence business decision-making processes. This includes unpredictability in market demand, supply conditions, and technological advancements. Environmental turbulence captures the inability to forecast the success or failure of decisions due to the dynamic and uncontrollable nature of these external factors. In this context, turbulence is commonly categorized into three primary indicators: demand uncertainty, supply uncertainty, and technological uncertainty.

Entrepreneurial resilience (ER) is a key capability that enables businesses to navigate environmental turbulence. Defined as the ability to recover, adapt, and thrive in adverse conditions, ER encompasses both psychological and strategic dimensions (Shepherd & Haynie, 2011). The resource-based view (RBV) of the firm provides a theoretical framework for understanding ER, emphasizing the role of intangible resources, such as resilience, in achieving sustainable competitive advantage Ayala & Manzano, (2014) Entrepreneurial Resilience (ER) has emerged as a critical concept in enhancing the durability of Micro, Small, and Medium Enterprises (MSMEs). ER is defined as the dynamic ability of entrepreneurs to remain forward-thinking, adapt, and overcome pressures and challenges arising in business operations. Studies indicate that entrepreneurial characteristics such as risk propensity, need for achievement, locus of control, optimism, competitiveness, and innovativeness play significant roles in building resilience. These traits help entrepreneurs make strategic decisions that determine their ability to survive and thrive, particularly in uncertain market conditions.

Natural disasters pose significant challenges for MSMEs. According to the World Risk Report, the Philippines ranks third globally in terms of disaster risk. Additionally, the COVID-19 pandemic has exacerbated the situation, forcing many businesses to shut down operations or adopt survival

---

strategies. In this context, ER becomes a vital element in ensuring business continuity and enabling MSMEs to recover from crises.

However, research on MSME resilience has predominantly focused on organizational or firm-level approaches. The lack of attention to individual-oriented approaches, particularly from the entrepreneur's perspective, creates a gap in understanding how personal characteristics influence business resilience. Therefore, this study aims to explore the impact of entrepreneurial characteristics on MSME resilience. A better understanding of this relationship will help develop programs and policies that support entrepreneurial characteristics, thereby strengthening MSME resilience against future challenges.

By identifying and enhancing relevant entrepreneurial traits, MSMEs can not only improve their capacity to endure but also seize opportunities for inclusive and sustainable growth. This research represents a vital step in uncovering the essential role of entrepreneurs in creating a more resilient business ecosystem

Resilient entrepreneurs are characterized by their ability to maintain focus and optimism during crises, reconfigure resources efficiently, and identify new opportunities. For MSMEs, ER facilitates proactive responses to external shocks, such as diversifying product lines, adopting digital tools, and strengthening customer relationships. These actions not only mitigate the adverse effects of EFT but also position businesses to capitalize on emerging opportunities. Entrepreneurial resilience in this study is measured using the Connor-Davidson Resilience Scale 10 (CD-RISC 10), a validated tool designed to assess individual resilience. The CD-RISC 10 is a shortened version of the original 25-item scale and is widely recognized for its reliability and ease of use.

Sustainable competitive advantage (SCA) is the ability of a firm to maintain a superior position in the market over an extended period. Porter's (1985) generic strategies—cost leadership, differentiation, and focus—serve as foundational concepts for understanding SCA. Achieving SCA in turbulent environments requires a combination of innovation, operational efficiency, and customer-centric strategies (Zahra et al., 2020).

For MSMEs, SCA is often realized through value-creating activities, such as leveraging local resources, building strong community ties, and integrating sustainability practices. However, sustaining this advantage amid EFT necessitates continuous adaptation and resilience. Research indicates that ER plays a critical role in enabling businesses to align their strategies with external demands, thereby enhancing their competitiveness (Manzano-García & Ayala, 2014).

EFT and SCA: EFT influences SCA by creating both challenges and opportunities for innovation. While turbulent environments can disrupt operations, they also incentivize firms to develop unique solutions that differentiate them from competitors (Zahra, 2020).

EFT and ER: EFT acts as a stimulus for resilience, compelling entrepreneurs to develop adaptive capabilities to survive and thrive in volatile conditions. Resilient entrepreneurs are better equipped to reconfigure resources and strategies in response to external shocks (Shepherd & Haynie, 2011).

ER and SCA: ER enhances SCA by fostering innovation, agility, and resource optimization. Resilient entrepreneurs can identify and exploit market opportunities, ensuring long-term competitiveness (Ayala & Manzano, 2014)

ER as a Mediator: ER mediates the relationship between EFT and SCA by transforming environmental challenges into strategic opportunities. By leveraging resilience, businesses can adapt to turbulence and sustain their competitive advantage (Linnenluecke, 2017).

This model hypothesizes that EFT has both direct and indirect effects on SCA, with ER serving as the mediating factor. The relationships are articulated through the following hypotheses:

H1: EFT has a positive influence on SCA.

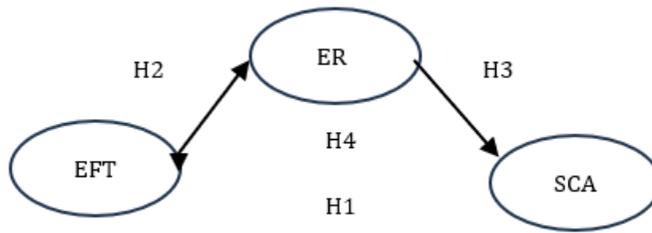
H2: EFT has a positive influence on ER.

H3: ER has a positive influence on SCA.

H4: ER mediates the relationship between EFT and SCA.

By testing these hypotheses, the study aims to provide empirical evidence on the interplay between environmental turbulence, entrepreneurial resilience, and sustainable competitiveness in the MSME

context.



Source: Researcher Design

Figure 3. RESEARCH THINKING FRAMEWORK

The respondents in this study consisted of 150 MSME owners and managers in Malang who participated in the survey. The distribution of respondents was as follows: Gender: 65% were male and 35% were female. Age: The majority (45%) were aged between 31-40 years, followed by 25% aged 41-50 years, 20% aged 21-30 years, and 10% aged over 50 years. Business Sector: The respondents represented three main sectors: food and beverage (40%), fashion (30%), and handicrafts (30%). Business Tenure: 60% of the respondents had operated their businesses for more than 5 years, 25% for 3-5 years, and 15% for less than 3 years. Education Level: 50% of respondents had completed a high school education, 35% had a bachelor’s degree, and 15% had a diploma or vocational training.

**Tabel 1.**  
**RESPONDENT CHARACTERISTICS**

Category	Sub-category	Frequency (n)	Percentage (%)
Gender	Male	98	65%
	Female	52	35%
Age	21-30 years	30	20%
	31-40 years	68	45%
	41-50 years	38	25%
	Over 50 years	14	10%
Business Sector	Food and Beverage	60	40%
	Fashion	45	30%
	Handicrafts	45	30%
Business Tenure	Less than 3 years	22	15%
	3-5 years	38	25%
	More than 5 years	90	60%
Education Level	High School	75	50%
	Bachelor’s Degree	53	35%
	Diploma/Vocational	22	15%

Source: Researcher

The demographic profile reflects a diverse group of MSMEs with varied experiences and educational backgrounds, providing a comprehensive understanding of the factors influencing entrepreneurial resilience and sustainable competitive advantage.

## RESEARCH METHODS

This research employs a quantitative approach to examine the relationships between environmental factor turbulence, entrepreneurial resilience, and sustainable competitive advantage. The following outlines the key elements of the methodology:

**Type of Research:** This study is an explanatory research aimed at understanding the causal relationships among variables. It focuses on analyzing the direct and indirect effects of environmental factor turbulence on sustainable competitive advantage, with entrepreneurial resilience as a mediating variable.

**Data Collection:** Data were collected using structured questionnaires distributed to 150 MSME owners and managers in Malang. The questionnaire included sections on demographic information, environmental factor turbulence, entrepreneurial resilience, and sustainable competitive advantage. Respondents provided their responses using a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree."

**Data Analysis:** The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the help of SmartPLS software. PLS-SEM was chosen for its ability to handle complex models and smaller sample sizes while ensuring robust path analysis. This method was utilized to test both the direct effects of environmental factor turbulence on sustainable competitive advantage and the mediating role of entrepreneurial resilience.

**Table 2.**  
**DEFINITION OPERATIONAL VARIABLE**

Variable	Indicator	Definition
Environmental factor turbulence (EFT)	<ol style="list-style-type: none"> <li>1. Demand Uncertainty</li> <li>2. Supply Uncertainty</li> <li>3. Technological Uncertainty</li> </ol> (Jansen et al., 2006)	Defined as the level of uncertainty arising from dynamic external environmental factors that influence organizational decision-making. This uncertainty encompasses fluctuations in market demand, supply availability, and rapid technological advancements. Environmental turbulence creates challenges for companies in responding to environmental changes, managing risks, and maintaining competitiveness. The degree of environmental turbulence reflects how fast and unpredictable changes occur in the external environment, often forcing companies to enhance their

Entrepreneurial Resilience (ER)	Connor–Davidson Resilience Scale 10 (CD-RISC 10)	flexibility and adaptability in their business operations. (Koç et al., 2022)
	<ol style="list-style-type: none"> <li>1. I am able to adapt to change.</li> <li>2. I can deal with whatever comes my way.</li> <li>3. I try to see the humorous side of problems.</li> <li>4. Coping with stress can make me stronger.</li> <li>5. I tend to bounce back after illness or hardship.</li> <li>6. I can achieve goals despite obstacles.</li> <li>7. I can stay focused under pressure.</li> <li>8. I am not easily discouraged by failure.</li> <li>9. I think of myself as a strong person.</li> <li>10. I can handle unpleasant feelings.</li> </ol>	Entrepreneurial resilience is a dynamic adaptation process that allows entrepreneurs to remain forward-thinking despite challenging market conditions and destabilizing events that they face in the marketplace (Bernard & Barbosa, 2016)
Sustainable competitive advantage (SCA)	(Connor and Davidson, 2003)	
	<ol style="list-style-type: none"> <li>1. Unique Benefits and Novel Features</li> <li>2. High Product Quality</li> <li>3. Dependable Delivery</li> <li>4. Customized</li> </ol>	Sustainable competitive advantage (SCA) refers to a company's ability to develop unique resources, capabilities, and strategies that deliver superior value to customers compared to competitors, and that are difficult to replicate or substitute. It emphasizes long-

Products.	term advantages that persist despite changes in the market or industry dynamic. (Barney, J. B., 1991)
5. Quick Market Response (Day, G. S., 1994).	

Source: Researcher

## RESULTS AND DISCUSSION

### Results

The reliability analysis of the constructs—Environmental Factor Turbulence (EFT), Entrepreneurial Resilience (ER), and Sustainable Competitive Advantage (SCA)—demonstrates strong internal consistency and validity. Cronbach's Alpha values for all constructs exceed the recommended threshold of 0.7, with scores of 0.85 for EFT, 0.88 for ER, and 0.90 for SCA. This indicates a high level of internal consistency among the items measuring each construct. Similarly, the Composite Reliability (CR) values are 0.87, 0.89, and 0.91 for EFT, ER, and SCA, respectively, further confirming the constructs' reliability. Moreover, the Average Variance Extracted (AVE) values, which measure the degree to which each construct explains the variance of its indicators, are all above the acceptable threshold of 0.5 (EFT: 0.56, ER: 0.58, SCA: 0.60). These results collectively ensure that the measurement model is both reliable and valid, providing a strong foundation for further structural model analysis.

**Table 3.**  
**RELIABILITY RESULT**

Construct	Construct	Construct	Construct
EFT	0,85	0,87	0,56
ER	0,88	0,89	0,58
SCA	0,95	0,91	0,60

Source: Researcher

Cronbach's Alpha: All constructs exceed the threshold of 0.7, ensuring internal consistency.

Composite Reliability (CR): All constructs have CR > 0.7, confirming reliability.

Average Variance Extracted (AVE): All constructs have AVE > 0.5, supporting convergent validity.

The convergent validity analysis confirms that the constructs—Environmental Factor Turbulence (EFT), Entrepreneurial Resilience (ER), and Sustainable Competitive Advantage (SCA)—are valid and well-measured. The factor loadings for all constructs fall within the acceptable range of 0.7 to 0.9, with EFT ranging from 0.72 to 0.85, ER from 0.75 to 0.88, and SCA from 0.78 to 0.89. These results indicate strong relationships between the indicators and their respective constructs. Furthermore, the Average Variance Extracted (AVE) values for EFT (0.56), ER (0.58), and SCA (0.60) exceed the minimum threshold of 0.5, confirming that each construct explains more variance in its indicators than is attributed to error. Collectively, these findings demonstrate that all constructs meet the criteria for convergent validity, ensuring that the indicators effectively capture the underlying theoretical concepts they are intended to measure.

**Table 4.**  
**CONVERGENT VALIDITY RESULT**

Construct	Average Variance Extracted (AVE)
EFT	0,56
ER	0,58
SCA	0,60

Source: Researcher

The structural model analysis provides critical insights into the relationships between Environmental Factor Turbulence (EFT), Entrepreneurial Resilience (ER), and Sustainable Competitive Advantage (SCA). This analysis examines both the direct and indirect effects of EFT on SCA, as well as the mediating role of ER. By evaluating path coefficients, significance levels, and effect sizes, the study highlights how turbulent environmental conditions influence entrepreneurial resilience and, in turn, enhance competitive advantage. The findings emphasize the importance of resilience as a strategic capability that mediates the impact of external environmental challenges on long-term business sustainability.

**Table 5.**  
**PATH COEFFICIENTS AND HYPOTHESIS TESTING**

Path	Path Coefficient ( $\beta$ )	t-Value	P-Value	Sig
H1: EFT $\rightarrow$ SCA	0,12	1.45	0.152	Not Significant
H2: EFT $\rightarrow$ ER	0,68	12.3	<0.001	Significant
H3: ER $\rightarrow$ SCA	0,55	8.75	<0.001	Significant
H4: EFT $\rightarrow$ ER $\rightarrow$ SCA	Indirect: 0,37	7.22	<0.001	Significant Mediation

Source: Researcher

## DISCUSSION

### **Environmental Factor Turbulence (EFT) has a positive influence on Sustainable Competitive Advantage (SCA)**

The findings indicate that Environmental Factor Turbulence (EFT) does not directly enhance Sustainable Competitive Advantage (SCA). This aligns with the observed challenges faced by Micro, Small, and Medium Enterprises (MSMEs) in Malang, which are often exposed to volatile market conditions, fluctuating demand, and regulatory uncertainties. For instance, Malang's MSMEs in sectors like food processing, craft-making, and tourism rely heavily on local and seasonal markets. Environmental turbulence, such as shifts in customer preferences or the introduction of new regulations, creates instability that cannot be directly leveraged into competitive advantage unless businesses develop adaptive capabilities. Many MSMEs in Malang struggle with limited access to resources, which exacerbates their inability to cope with such turbulence effectively. This reinforces the idea that external environmental challenges need to be paired with internal capabilities, such as entrepreneurial resilience, to create meaningful and sustainable advantages. This aligns with the observed challenges faced by Micro, Small, and Medium Enterprises (MSMEs) in Malang, which are often exposed to volatile market conditions, fluctuating demand, and regulatory uncertainties. For instance, Malang's MSMEs in sectors like food processing, craft-making, and tourism rely heavily on local and seasonal markets. Environmental turbulence, such as shifts in customer preferences or the introduction of new regulations, creates instability that cannot be directly leveraged into competitive advantage unless businesses develop adaptive capabilities. Many MSMEs in Malang struggle with limited access to resources, which exacerbates their inability to cope with such turbulence effectively. This reinforces the idea that external environmental challenges need to be paired with internal capabilities, such as entrepreneurial resilience, to create meaningful and sustainable advantages. Previous research Khourouh et al., (2020) suggests that while environmental turbulence alone may not directly enhance sustainable competitive advantage, firms can leverage dynamic capabilities and entrepreneurial marketing to navigate turbulent environments effectively, thereby achieving a sustainable competitive edge.

### **Environmental Factor Turbulence (EFT) has a positive influence on Entrepreneurial Resilience (ER)**

---

The positive and significant relationship between EFT and ER confirms that environmental turbulence acts as a catalyst for building entrepreneurial resilience. Turbulent environments, characterized by unpredictability and rapid changes, often force entrepreneurs to adapt, innovate, and develop stronger coping mechanisms. This finding aligns with the resource-based view, which suggests that firms develop unique resources and capabilities in response to external pressures. In this case, resilience becomes a critical capability that allows entrepreneurs to navigate challenges effectively. The strong influence of EFT on ER highlights that resilience is not just a reactive trait but a dynamic capability shaped by external conditions. According to Ikhwan et al., (2022) find that adaptability to environmental changes supports businesses in maintaining a competitive edge. This finding underscores the importance of supporting entrepreneurs in turbulent environments, as building resilience can enhance their ability to adapt and thrive. highlighting that turbulence acts as a driver for building resilience among entrepreneurs. For MSMEs in Malang, environmental turbulence often takes the form of competitive pressures from similar businesses, unpredictable supply chains, and the impact of macroeconomic changes. For example, during the COVID-19 pandemic, many small businesses in Malang were forced to quickly adapt their models—such as switching to online platforms for sales and implementing creative marketing strategies—to stay afloat. This adaptation demonstrates how external challenges can foster resilience by pushing entrepreneurs to innovate and strengthen their problem-solving skills. MSMEs in Malang that successfully navigated these challenges often emerged stronger, showcasing the transformative power of resilience in a turbulent environment.

### **Entrepreneurial Resilience (ER) has a positive influence on Sustainable Competitive Advantage (SCA)**

The relationship between ER and SCA is both positive and significant, indicating that resilience is a critical driver of sustainable competitive advantage. Resilient entrepreneurs are better equipped to adapt to changes, recover from setbacks, and maintain operational efficiency, which are essential for sustaining a competitive edge. This finding supports prior research emphasizing the role of resilience in fostering innovation, improving decision-making, and maintaining long-term business viability. By leveraging resilience, entrepreneurs can turn challenges into opportunities, enhancing their ability to create value and differentiate themselves from competitors. This result also highlights the strategic importance of resilience training and development programs, as they can significantly contribute to an organization's ability to sustain its competitive advantage. For MSMEs in Malang, resilience manifests in their ability to overcome challenges such as limited capital, fluctuating raw material prices, and intense competition from similar businesses. Resilient entrepreneurs in Malang often leverage their creativity and resourcefulness to create unique products or services, which helps them stand out in the market. For example, tempeh chip producers in Malang's Sanan neighborhood have sustained their competitive advantage by introducing innovative product variants and improving packaging to meet market demands. This adaptability, driven by resilience, enables these businesses to maintain customer loyalty and achieve long-term sustainability despite operating in a highly competitive environment. This research in line with previous research found that entrepreneurial orientation positively impacts competitive advantage, which, in turn, enhances business performance. Putra, I. M. S., & Suparna, G. (2020).

### **Entrepreneurial Resilience (ER) mediates the relationship between Environmental Factor Turbulence (EFT) and Sustainable Competitive Advantage (SCA)**

The mediation analysis reveals that Entrepreneurial Resilience fully mediates the relationship between EFT and SCA. While EFT alone does not directly influence SCA, its impact is channeled through the development of resilience. This finding underscores the importance of resilience as a bridging capability that allows firms to transform environmental challenges into competitive advantages. Turbulent environments provide the stimuli for developing resilience, and resilience,

---

in turn, equips firms with the tools to achieve sustainable competitive advantage. This aligns with the dynamic capabilities framework, which posits that firms need to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. The mediation effect highlights the need for businesses to focus on fostering resilience as a strategic priority, particularly in sectors characterized by high turbulence and uncertainty. For MSMEs in Malang, this finding is particularly relevant, as resilience bridges the gap between navigating turbulence and achieving sustained growth. Many MSMEs in the region, such as dairy farms in Ngantang and craft-based industries, have demonstrated that resilience enables them to transform external pressures into opportunities. For instance, dairy farmers who initially struggled with inefficiencies in feed supply adapted by adopting new feeding technologies, improving productivity, and expanding their product offerings (e.g., cheese and pasteurized milk). These examples highlight that resilience not only mitigates the negative impacts of turbulence but also allows businesses to capitalize on new growth avenues.

The study contributes to both theory and practice by highlighting the central role of Entrepreneurial Resilience in achieving Sustainable Competitive Advantage in turbulent environments. For practitioners, the findings suggest that firms should prioritize building resilience through targeted training, resource allocation, and strategic planning. Policymakers and industry stakeholders should also consider creating supportive ecosystems that foster resilience among entrepreneurs, particularly in high-risk industries. For academics, the study extends existing frameworks by demonstrating how resilience mediates the relationship between environmental turbulence and competitive advantage, offering new insights into the dynamic interplay between external conditions and internal capabilities. Entrepreneurial resilience refers to the ability of entrepreneurs and businesses to adapt, recover, and grow despite adverse conditions. This capability enables firms to navigate uncertainty, mitigate risks, and transform challenges into opportunities (Kolade et al., 2020). Resilient entrepreneurs develop problem-solving skills, strategic agility, and innovation, allowing them to sustain competitive advantages even in volatile environments.

## **CONCLUSION**

This study highlights the critical role of Entrepreneurial Resilience (ER) in bridging the relationship between Environmental Factor Turbulence (EFT) and Sustainable Competitive Advantage (SCA), particularly in the context of Micro, Small, and Medium Enterprises (MSMEs). While EFT alone does not directly influence SCA, it acts as a catalyst for building resilience, which in turn significantly enhances competitive advantage. The findings emphasize that resilience is not merely a reactive capability but a dynamic and proactive strength that enables entrepreneurs to adapt, recover, and thrive in volatile environments.

For MSMEs in Malang, resilience has proven to be a vital capability for navigating challenges such as market volatility, limited resources, and competitive pressures. Entrepreneurs who effectively develop and leverage resilience can transform environmental turbulence into opportunities for innovation, customer loyalty, and long-term sustainability. Moreover, the mediation effect of ER underscores the importance of fostering entrepreneurial capabilities as a strategic priority for both individual businesses and policymakers.

Practical implications of this research include the need for targeted interventions to enhance resilience among MSMEs. These include capacity-building programs, financial and policy support, and fostering collaborative ecosystems. By addressing these areas, stakeholders can ensure that MSMEs are better equipped to manage external challenges and sustain their competitive advantage over time.

Future research should explore additional factors that may influence the resilience-competitive advantage relationship, such as digital transformation, social capital, or government policies. By

---

integrating these perspectives, researchers can provide a more comprehensive understanding of the mechanisms that drive resilience and sustainability in dynamic environments.

## BIBLIOGRAPHY

- Ayala, J. C., & Manzano, G. (2014). The resilience of the entrepreneur. Influence on the success of the business. A longitudinal analysis. *Journal of Economic Psychology*, 42(June 2014), 126–135. <https://doi.org/10.1016/j.joep.2014.02.004>
- Badan Pusat Statistik (BPS). (2023). Statistik UMKM Indonesia 2023. Jakarta: BPS.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Bernard, M.-J., & Barbosa, S. D. (2016). *Resilience and entrepreneurship: A dynamic and biographical approach to the entrepreneurial act*. *M@n@gement*, 19(2), 89–123. <https://doi.org/10.3917/mana.192.0089>
- Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depress Anxiety*. 2003;18(2):76-82. doi: 10.1002/da.10113. PMID: 12964174
- Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, 58(4), 37–52. DOI: 10.1177/002224299405800403
- Ikhwan, M., Wulandari, A., & Anis, B. Y. (2022). Peran Adaptabilitas Lingkungan dalam Memediasi Orientasi Pasar dan Kewirausahaan Terhadap Keunggulan Bersaing Berkelanjutan. *EKOMABIS: Jurnal Ekonomi Manajemen Bisnis*, 3(01), 43–56. <https://doi.org/10.37366/ekomabis.v3i01.300>
- Jansen, J. J. P., Van Den Bosch, F. A. J., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management Science*, 52(11), 1661–1674. <https://doi.org/10.1287/mnsc.1060.0576>
- Khourouh, U., Sudiro, A., Rahayu, M., & Indrawati, N. K. (2020). The mediating effect of entrepreneurial marketing in the relationship between environmental turbulence and dynamic capability with sustainable competitive advantage: An empirical study in Indonesian MSMEs. *Management Science Letters*, 10, 709–720. <https://doi.org/10.5267/j.msl.2019.9.007>
- Koç, E., Delibaş, M. B., & Anadol, Y. (2022). Environmental Uncertainties and Competitive Advantage: A Sequential Mediation Model of Supply Chain Integration and Supply Chain Agility. *Sustainability (Switzerland)*, 14(14). <https://doi.org/10.3390/su14148928>
- Kolade, O., Egbetokun, A., Rae, D., & Hussain, J. (2020). Entrepreneurial resilience in turbulent environments: the role of spiritual capital. *Research Handbook on Entrepreneurship in Emerging Economies: A Contextualized Approach, October 2020*, 354–372. <https://doi.org/10.4337/9781788973717.00028>
- Linnenluecke, M. K. (2017). Resilience in Business and Management Research: A Review of Influential Publications and a Research Agenda. *International Journal of Management Reviews*, 19(1), 4–30. <https://doi.org/10.1111/ijmr.12076>
- Manzano-García, G., & Ayala, J. C. (2014). Entrepreneurial Resilience during Economic Crises: An Analysis of the Spanish Context. *Journal of Small Business Management*, 52(4), 626–648. <https://doi.org/10.1111/jsbm.12109>
- Putra, I. M. S., & Suparna, G. (2020). PERAN KEUNGGULAN BERSAING MEMEDIASI PENGARUH ORIENTASI KEWIRAUSAHAAN TERHADAP KINERJA BISNIS. *E-Jurnal Manajemen Universitas Udayana*, 9(7), 2852.
- Zahra, S. A. (2020). Dynamic capabilities and entrepreneurial resilience. *Journal of Business Research*, 113, 123–134. <https://doi.org/10.1016/j.jbusres.2020.03.021>