

The Role of Moderating Digital Leadership and Digital Entrepreneurship in Enhancing the Resilience and Independence of MSMEs Towards Business Sustainability

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ABSTRACT

This research aims to examine and analyze the moderating role of Digital Leadership and Digital Entrepreneurship in enhancing the resilience and independence of MSMEs towards Business Sustainability among tourism MSME actors in the provinces of Daerah Istimewa Yogyakarta (DIY), Central Java, and West Java. The population consists of all owners/managers of tourism MSMEs across these provinces. The target sample in this study is purposive sampling, taken from the three provinces, amounting to 450 respondents. However, only 286 MSMEs returned complete questionnaires that could be further processed. The statistical technique used is Partial Least Square 3.0. The research results demonstrate that: (1) resilience has a significant positive effect on business sustainability (Business Performance, Environment Performance, Social Performance), (2) independence does not have a significant positive effect on business sustainability (Business Performance, Environment Performance, Social Performance), (3) digital leadership strengthens the resilience towards business sustainability (Business Performance, Environment Performance, Social Performance), and (4) digital entrepreneurship does not strengthen independence towards business sustainability (Business Performance, Environment Performance, Social Performance). The result of this research provides a comprehensive framework for understanding how digital leadership and digital entrepreneurship interact to influence MSMEs (Micro, Small, and Medium Enterprises).

Keywords: resilience, independence, business sustainability, digital leadership, digital entrepreneurship.

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1. INTRODUCTION

The tourism industry is a strategic and flagship industry for the Indonesian government. This industry can significantly contribute to and lead the nation's economy (Hasibuan, 2023; Supriono, 2022). It provides substantial contributions to GDP, foreign exchange income, and employment. Currently, Indonesia's tourism ranking in 2022 is 32nd out of 117 countries. This indicates that post-Covid-19, this sector has progressed and

improved in condition (Hasibuan et al., 2022; Supriono, 2022). The Tourism Office (DISPAR) DIY, together with the Indonesian Tourism Industry Association (GIPI) DIY, assesses that the contribution of the tourism sector in DIY is quite high in driving the DIY economy. This situation also occurs in the provinces of Central Java and West Java (jogjapolitan, 2022; jatengprov, 2023). The growth of tourists cannot be separated from the role of MSMEs in tourism. They have high resilience and independence in overcoming the obstacles and challenges faced. The digital era further necessitates that MSMEs have strong resources, especially from a technological aspect, to develop their digital products and services. Without strong resources, it is feared that their business performance will decline sustainably in the long term (Ellyawati et al., 2024). Currently, digital transformation has been widely implemented for MSMEs, yet research on the role of digital leadership and digital entrepreneurship related to the resilience and independence of tourism MSMEs in enhancing business sustainability is still rare. So this article addresses gaps in the literature regarding the specific role of digital leadership and entrepreneurship in MSME sustainability. This adds depth to the understanding of how these factors interplay and provides a foundation for future research in this area.

In the context of entrepreneurship, research related to the resilience and independence of MSMEs is a strategic aspect (Doern et al., 2019). MSMEs need strong resources to overcome the Covid-19 pandemic crisis. They must maintain resilience and independence to find effective and efficient solutions to minimize the impact of crises from uncertain environments (Spillan & Hough, 2003). Business systems and processes can be disrupted when companies cannot handle them well, which can interfere with business sustainability (Shibuya et al., 2023; Duchek, 2020; 2018; Linnenluecke & Griffiths, 2012; Dewald & Bowen, 2010; Vogus & Sutcliffe, 2007; Williams et al., 2017; Spillan & Hough, 2003).

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Resilience, Self-Reliance, Digital Leadership, Digital Entrepreneurship

Resilience is an important concept in entrepreneurial crisis management (Doern et al., 2019). Crisis conditions not only challenge business actors to continue innovating during disruptive events but also consider which resources are accumulated before the crisis and then utilized during and after the crisis (Williams et al., 2017). Companies must manage uncertainty crises to foster resilience and minimize the impact of the crisis (Spillan & Hough, 2003; McEwen, 2011). When organizations handle crises well, they can quickly restore their systems' health (Suardi & Nugroho, 2021; Williams et al., 2017). Kuckertz et al. (2020) argue that the government has an obligation to address macro issues related to MSMEs' resilience. In contrast, MSME managers or owners are responsible for overcoming problems and sustaining themselves independently and robustly.

Duchek (2020) found that in highly uncertain and unpredictable times, organizations need to develop resilience capacities to effectively cope with unexpected events, recover from crises, and even drive future success. Resilience involves three sequential stages: anticipation, coping, and adaptation, forming the foundation of organizational resilience. Duchek's (2020) research indicates that resilience includes cognitive and behavioral indicators followed by necessary actions. Akmal & Arifa (2023; Portuguez et al., 2020; Duchek, 2018) add that organizational resilience involves

adaptability, anticipation, efficiency, flexibility, innovation, and the importance of relationships with partners to sustain the organization. Ayala & Manzano (2014) identify three dimensions of resilience that help entrepreneurs succeed: hardiness, resourcefulness, and optimism. Akmal & Arifa (2023) suggest that MSMEs need survival strategies to face the COVID-19 pandemic, including price adjustment adaptation, digital marketing use, anticipation through savings, cost reduction efficiency, MSME flexibility, product and process innovation, customer relations, and relations with the government and universities.

In the context of corporate strategy, incumbent firms can react when faced with uncertain environmental conditions, typically choosing among three options: to take no action, to reject change, to adopt new practices, or even to persevere (Dewalt & Bowen, 2010). Nurunnabi (2020; Emueje et al., 2020) found that implementing resilience strategies enhances organizational performance. Fatoki (2018; Webb & Schlemmer, 2006) further reinforces the finding that resilience indeed impacts company performance and competitive advantage. During crises and critical periods, companies need to focus more on resilience strategies rather than merely pursuing growth to sustain their operations (Prastian et al., 2022).

Self-reliance is also a strategic issue for MSMEs as they must be able to actualize their strategic actions to survive (Setyaningrum et al., 2023). Strategic actions must be independent and capable of making appropriate and efficient strategic decisions. Organizations can empower themselves without relying on external resources and manage them efficiently according to their business scale (Setyaningrum et al., 2023; Nelson & Quick, 2013; Siswoyo, 2009). Yusi (2021; Parker, 2005) adds that business self-reliance occurs when SMEs' behavior and conditions can independently meet their needs, make independent decisions, compete courageously, and self-regulate. Business self-reliance significantly positively impacts sustainable SME performance and green competitive advantage (Ellyawati et al., 2024; Setyaningrum et al., 2023; Setyaningrum & Muafi, 2023; Muafi et al., 2022). When organizations are self-reliant, employees typically feel comfortable and safe, experience less stress, and engage in strategic behaviors and actions (Ainsworth et al., 2015; Auerbach & Blatt, 2001). Self-reliance is also influenced by entrepreneurship, entrepreneurial values, and behavior (Yusi, 2021).

2.2. The Moderating Role of Digital Leadership and Digital Entrepreneurship on Business Sustainability

Both manufacturing and service companies are currently facing demands related to digitalization (Trischler & Li-Ying, 2023). Conventional business processes are gradually being abandoned by stakeholders. Therefore, organizations need leaders who understand the digital context in every business process from upstream to downstream (Benitez et al., 2022). Digital leadership becomes a crucial aspect for organizations, even for MSMEs. When digital leadership is implemented, it has been shown to improve business performance, particularly in innovation performance (Benitez et al., 2022). Companies need to allocate investments in R&D to implement digital leadership, which can also impact business sustainability (Shibuya et al., 2023; Benitez et al., 2022).

Digital transformation is also closely linked with entrepreneurship (Ghezzi & Cavallo, 2020; Steinger, 2019). New trends and strategic issues in digital transformation (Fachrunnisa et al., 2020; Cavallo et al., 2019) demand that business actors be open to new things, especially related to digital entrepreneurship (Dutta Gupta

et al., 2023; Elia et al., 2020; Hansen, 2019; Nambisan, 2017). Digital entrepreneurship becomes a business model that can be utilized by leveraging the internet and digital platforms (Elia et al., 2020; Richter et al., 2015). Digital entrepreneurship can also take the form of digital entrepreneurial processes, digital ecosystems, digital entrepreneurship education, and social digital entrepreneurship. When implemented, it can create entrepreneurial opportunities at lower costs because it can reach a wider and more accessible market (Ghezzi & Cavallo, 2020; Elia et al., 2020), with a promising future prospect (Elia et al., 2020; Nambisan et al., 2019; Geissinger et al., 2018).

Research by Yin et al. (2019) proves that digital entrepreneurship has been widely optimized by MSMEs to improve company performance. Research by Chatterjee et al. (2023; Zhong et al., 2023) highlights the important role played by digital leadership in digital transformation in the workplace. Digital leadership can strengthen the relationship between work-life balance and employee performance in the digital workplace, enhancing organizational performance. Dutta Gupta et al. (2023; Nambisan et al., 2019; Richter et al., 2017) also found that digital entrepreneurship can improve a country's economic welfare. Countries need technologies that can enhance technological entrepreneurship, leading to better economic welfare. Therefore, knowledge and human resources as the main resources for developing digital entrepreneurship must be nurtured and managed optimally so that digital entrepreneurship can be realized with maximum benefits (Hansen, 2019; Nambisan et al., 2019; Richter et al., 2017).

Hypotheses

H1. Resilience has a significant positive effect on Business Sustainability (Business Performance, Environment Performance, Social Performance).

H2. Self-Reliance has a significant positive effect on Business Sustainability (Business Performance, Environment Performance, Social Performance).

H3. Digital Leadership strengthens the effect of Self-Reliance on Business Sustainability (Business Performance, Environment Performance, Social Performance).

H4. Digital Entrepreneurship strengthens the effect of Resilience on Business Sustainability (Business Performance, Environment Performance, Social Performance).

3. RESEARCH METHOD

This research uses a quantitative approach because the researcher tests specific theories by collecting data (Creswell, 2014). The population in this study consists of MSME (Micro, Small, and Medium Enterprises) actors in the tourism sector across three regions: the Special Region of Yogyakarta, Central Java, and West Java. These three regions were selected as the population because they are areas with a significant number of tourist destinations and have higher tourist visits compared to other regions. The target sample in this study was 450. From this population, a sample was taken using purposive sampling, with the criterion for respondents being the managers or owners of tourism-related MSMEs. After filtering the population to determine the sample, 286 respondents were identified as the research sample. Subsequently, data collection was carried out by distributing questionnaires to the 286 respondents. The questionnaire was designed using a Likert scale ranging from 1 to 7. A total of 450 questionnaires were distributed; however, only 286 were fully and properly completed, aligning with the sample criteria. Quantitative analysis was used to explore and analyze the role of digital leadership and digital entrepreneurship in strengthening the resilience and self-reliance of tourism MSMEs to achieve more business sustainability. The statistical technique

used in this research is Structural Equation Modeling with the assistance of Smart Partial Least Square 3.0 software. This research uses 5 variables with operational definitions, indicators, and variable measurements as shown in Table 1.

Based on 286 respondents who completed the survey, the respondents mostly came from Sleman and Bandung, contributing 20.28% each. The demographic breakdown is as follows: Female respondents accounted for 66.43%, those with high school education (59.44%), and over 6 million IDR per month income (55.24%). Nearly half of the respondents (47.90%) had 1-3 years of work experience, while 45.80% had 4-6 years of business management experience.

Table 1: Variables, Operational Definitions, Measurement Scales, and Indicators/Items

No.	Variable/Source	Operational Definition	Measurements Scales	Indicators/Items
1.	Resilience (RES)	The ability of tourism MSMEs to respond to extreme external conditions by being more resilient, more responsive, recovering more quickly, and having extraordinary ways to overcome difficult situations with high environmental uncertainty.	Likert Scale 1 (strongly disagree) to 7 (strongly agree)	<ol style="list-style-type: none"> 1. We always respond quickly to customer demands. 2. We have a strong mindset to survive in business because our employees and families need to eat. 3. We have effective ways to overcome difficulties. 4. We strive hard to produce products according to market tastes. 5. We must quickly change our business approach when our current methods become saturated.
2.	Self reliance (REL)	Strategic actions and decisions that are precise and efficient, relying on one's own resources, daring to compete, and being self-regulating.	Likert Scale 1 (strongly disagree) to 7 (strongly agree)	<ol style="list-style-type: none"> 1. We act decisively when making decisions. 2. We can optimize existing resources. 3. We dare to compete with other similar MSMEs because we have uniqueness. 4. We know the right time to offer our products.
3.	Digital leadership (DL)	Transformational leadership style combined with the optimization of digital technology utilization.	Likert Scale 1 (strongly disagree) to 7 (strongly agree)	<ol style="list-style-type: none"> 1. We are capable of enhancing digital technology skills and trends. 2. We are capable of digital innovation, developing employee skills, and implementing digitalization in our MSME. 3. We are capable of coordinating various skills that we possess towards digital skills. 4. We are capable of influencing employees to adapt to changes and advancements in digital technology.
4	Digital entrepreneurship (DE)	The process of digitalization in entrepreneurship, digital ecosystems, entrepreneurship education, and digital entrepreneurship with efficient costs and accessible markets.	Likert Scale 1 (strongly disagree) to 7 (strongly agree)	<ol style="list-style-type: none"> 1. In managing our business, we focus on digital orientation. 2. We have implemented end-to-end digital-based business processes. 3. We always prioritize efficiency in our digital business processes. 4. We are confident that we can reach a wide market because we have adopted digital processes.
5	Business sustainability (SB)	The performance achieved by the company in the last three years includes business performance, environmental	Likert Scale 1 (strongly disagree) to 7 (strongly agree)	<p>Business Performance:</p> <ol style="list-style-type: none"> 1. Sales achievement 2. Return on investment (ROI) achievement 3. Market share acquisition 4. Profit acquisition

		performance, and social performance compared to similar tourism MSMEs.		Environmental Performance: <ol style="list-style-type: none"> 1. Electricity consumption 2. Toxic waste disposal 3. Electricity efficiency 4. Use of natural raw materials Social Performance: <ol style="list-style-type: none"> 1. Stakeholder satisfaction 2. Compliance with government regulations and laws 3. Maintaining communication with the local community 4. Allocation of social funds to needy communities
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4. RESEARCH RESULT

4.1. Respondent Characteristics

Table 2.1: Respondent Characteristics

Characteristics		Amount	Percentage
Gender	Male	96	33,57%
	Female	190	66,43%
Education	Senior High School	170	59,44%
	Bachelor	73	25,56%
	Master	29	10%
	Doctoral	14	5%
Income	Under 3,5 million IDR	57	20%
	3,6 – 6 million IDR	71	24,76%
	6 – 10 million IDR	158	55,24%
Work Experience	1-3 years	137	47,90%
	4-6 years	131	45,80%
	7-10 years	9	3,3%
	More than 10 years	9	3%

4.2. Measurement Model Evaluation (Outer Model)

In conducting a measurement model evaluation, it is explained that the provided outer loadings indicate the correlation between each indicator and its corresponding latent variable. This is used to evaluate the reliability and validity of the measurement model within the structural equation model, as depicted in Figure 1.

Figure 1 explains that the indicators/items within each variable produce strong and reliable measures of their respective latent variables. High loadings across most constructs indicate a well-defined measurement model with good convergent validity, suggesting that these indicators effectively capture the intended latent constructs.

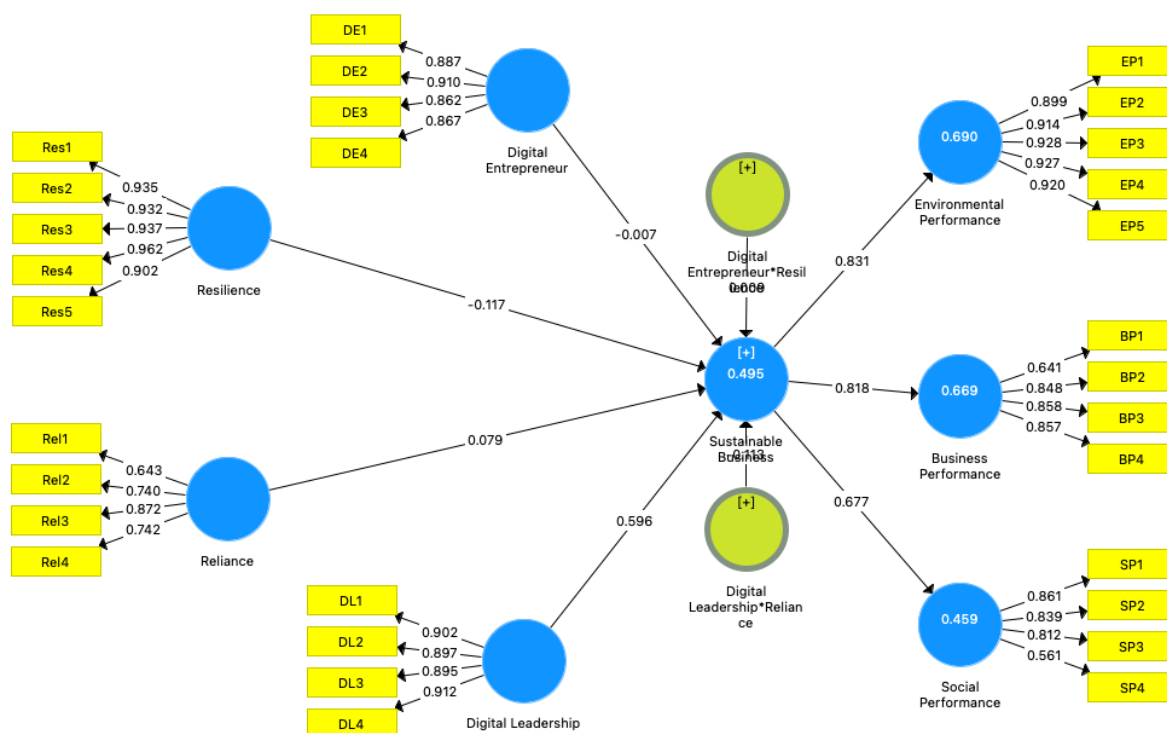


Figure 1. Outer Loadings Result

4.3. Convergent Validity

Furthermore, it is explained that Average Variance Extracted (AVE) is a measure used to assess convergent validity of constructs in structural equation modeling.

Table 2.2: Average Variance Extracted Result

	Average Variance Extracted (AVE)
Business Performance	0.805
Digital Entrepreneur	0.778
Digital Entrepreneur*Resilience	1
Digital Leadership*Reliance	1
Digital Leadership	0.812
Environmental Performance	0.842
Reliance	0.682
Resilience	0.872
Social Performance	0.807
Business sustainability	0.521

Overall, Table 1 shows that the AVE values for most constructs in the model indicate strong convergent validity, where these constructs effectively explain the variance in their indicators. The high AVE values for most constructs confirm the reliability and validity of the measurement model.

4.4. Discriminant Validity

The Fornell-Larcker criterion was used to assess the discriminant validity of the constructs in the structural equation model. Discriminant validity is confirmed when the square root of the AVE for each construct is higher than its correlation with all other constructs. Based on Table 3, it is explained that the data provided includes the square root of the AVE for each construct: Business Performance (0.897), Digital Entrepreneur (0.882), Digital Entrepreneur*Resilience (1), Digital Leadership*Reliance (1), Digital Leadership (0.901), Environmental Performance (0.917), Reliance (0.826), Resilience (0.934), Social Performance (0.898), and Business sustainability (0.722). In summary, the Fornell-Larcker analysis confirmed that most of the constructs in the model have good discriminant validity. This implies that the constructs are distinct from each other and accurately measure the intended concepts.

Table 3: Fornell-Larcker Criterion Result

	BP	DE	DE*Res	DL*Rel	DL	EP	Rel	Res	SP	SB
BP	0.897									
DE	0.312	0.882								
DE*Res	0.129	0.48	1							
DL*Rel	-0.195	-0.11	0.101	1						
DL	0.437	0.747	0.321	-0.136	0.901					
EP	0.276	0.543	0.171	-0.101	0.661	0.917				
Rel	0.111	0.074	0.03	-0.03	0.128	0.083	0.826			
Res	-0.17	-0.577	-0.12	0.017	-0.587	-0.618	0.096	0.934		
SP	0.681	0.142	0.124	-0.169	0.251	0.097	0.051	0.054	0.898	
SB	0.695	0.555	0.193	-0.178	0.71	0.876	0.117	-0.534	0.472	0.722

4.5. Reliability

The Cronbach's Alpha values provided reflect the internal consistency of the constructs in the dataset, indicating how well the items in each construct measure a single unidimensional latent variable. In Table 5 it is evident that overall, the high Cronbach's Alpha values indicate that this measurement model is reliable and that the items effectively capture the intended latent variable, supporting the consistency and reliability of the constructs in this dataset.

Table 4: Cronbach's Alpha Result

	Cronbach's Alpha
Business Performance	0.879
Digital Entrepreneur	0.905
Digital Entrepreneur*Resilience	1
Digital Leadership*Reliance	1
Digital Leadership	0.923
Environmental Performance	0.953
Reliance	0.781
Resilience	0.963
Social Performance	0.886
Business sustainability	0.88

4.6. Hypothesis Testing

The results of hypothesis testing explain the relationship between various constructs and **business sustainability** based on the significance level of the P values.

Table 5. Hypothesis Testing Result

	P-Values	Note
Resilience -> Business Sustainability	0.001*	H1 accepted
Reliance -> Business Sustainability	0.126	H2 rejected
Digital Leadership moderate Reliance -> Business Sustainability	0.045*	H3 accepted
Digital Entrepreneur moderate Resilience -> Business Sustainability	0.444	H4 rejected

Note: *=sign alpha 0.05

Hypothesis testing can be seen in Table 5. The results of hypothesis testing apparently conclude that; (1) resilience has an effect in increasing business sustainability, (2) self-reliance has no significant effect on business sustainability, (3) digital leadership strengthens the influence of self-reliance on business sustainability, and (4) digital entrepreneurship does not strengthen the influence of resilience on business sustainability.

5. DISCUSSION AND IMPLICATION

The results prove that resilience has a significant positive effect on business sustainability (Business Performance, Environment Performance, Social Performance)

(Hypothesis 1 accepted), but independence does not have a significant positive effect on business sustainability (Business Performance, Environment Performance, Social Performance) (Hypothesis 1 accepted).

After the Covid-19 pandemic, it turns out that SME tourism actors can still survive. They apparently have experience doing entrepreneurial crisis management (Doern et al., 2019), well. During a crisis, it is indeed a condition that makes tourism actors learn a lot and continue to be required to innovate by optimizing the resources they have (Williams et al., 2017). They simply have to be careful in allocating and prioritizing the use of resources used in expediting their business processes. They are quite resilient in dealing with the Covid-19 crisis and already have a very valuable experience and a very meaningful lesson. This turns out to have an impact on how to survive and become independent (Muafi & Roostika, 2022; Spillan & Hough, 2003), and can be healthier organizationally (Suardi & Nugroho, 2021; Williams et al., 2017). Kuckertz et al. (2020) argue that the government has an obligation to be able to address macro issues related to MSME resilience issues. Meanwhile, in the context of MSMEs, managers or owners are responsible for being able to overcome problems and survive strongly so that they can become independent. This is also supported by the results of research from Duchek (2020) that organizations need to increase their strong resilience capacity in order to overcome the uncertainty of the environment faced and events that cannot be predicted in advance.

Organizations can anticipate, have appropriate and effective ways and solutions to overcome them, and can anticipate them. All of this can be done by mobilizing cognition and behavior to take strategic action. It should also be noted to prioritize innovation and establish excellent relationships with partners (Akmal & Arifa, 2023; Portuguez et al., 2020; Duchek, 2018), remain hardiness, resourcefulness and optimism (Ayala & Manzano (2014). It is suggested by Akmal & Arifa (2023) that in the implementation of business, it is necessary to adapt selling price adjustments, innovate in the use of digital marketing, have savings funds, and make efficiency in business processes. Nurunnabi (2020; Emueje et al (2020) recommends that companies be as strong as possible under any crisis pressure because companies can be more resilient and have increased organizational performance. Tourism SMEs should not only seek profit but need to have strong resilience (Fatoki (2018; Webb & Schlemmer (2006; Prastian et al., 2022).

The research results prove that becoming independent is not easy. It needs strengthening and assistance in business and technology aspects so that it can become independent (Ellyawati, et al., 2024; Setyaningrum et al., 2023; Metin et al., 2018; Bai et al., 2016). It is suggested by (Setyaningrum et al., 2023; Nelson & Quick, 2013; Siswoyo, 2009) that when they are independent, they should not have high dependence on any party, whether government, private or other stakeholders. The findings of this research apparently corroborate previous research that business independence can make a real contribution to improving sustainable SME performance and green competitive advantage (Setyaningrum et al., 2023; Prottas, 2005). This is what needs to be considered by tourism actors in DIY, Central Java and West Java. The research results apparently prove that Digital Leadership strengthens Independence on Business Sustainability (Business Performance, Environment Performance, Social Performance) (Hypothesis 3 accepted) while Digital entrepreneurship does not strengthen Resilience on Sustainability Business (Business Performance, Environment (Hypothesis 4 accepted)).

Currently, tourism actors in DIY, West Java and Central Java are increasingly realizing that digital leadership can be used to strengthen their independence in improving company performance. They are more able to innovate on the efforts of leaders / owners to move the organization they manage to continue to grow and learn to innovate (Benitez et al., 2022). The important thing to note is that the manager / owner of SMEs of tourism actors must allocate funds to invest ((Al Husban et al. 2021). However, it must pay attention to the benefits aspect, especially from the aspect of learning related to business processes related to entrepreneurship (Ghezzi & Cavallo, 2020; Steininger, 2019; Dutta Gupta et al., 2023; Elia et al. 2020; Hansen, 2019; Nambisan, 2017). Tourism actors in Yogyakarta, Central Java and West Java must use and optimize the internet and digital platforms they manage (Elia et al. 2020; Richter et al. 2015). They can conduct promotions and sales directly to customers and offer their products and services more attractively, of course, this is also through the role of leadership that can be done by utilizing digital (Chatterjee et al., 2020; Zhong et al., 2020). (2023; Zhong et al., 2023). There are several benefits that can be generated including; being able to reach customers more widely, and prices are offered more cheaply and can deliver goods more quickly and efficiently so as to increase business sustainability (Yin et al., 2019; Ghezzi & Cavallo, 2020; Elia et al. 2020; Martinez et al. 2018; Elia et al. 2020; Nambisan, et al. 2019; Geissinger et al. 2018). This is important considering the research findings provide results that digital entrepreneurship is not able to moderate the resilience of tourism MSMEs on business sustainability.

5.1 Research Limitation

- This research uses a market potential approach from the demand and supply side of society towards tourism in Indonesia. The demand side uses market potential mapping where the current tourism market has grown again rapidly, on the other hand it turns out that tourism actors in the provinces of DIY, Central Java and West Java can still survive. But this research only looks at the side using the perceptions of SME owners/managers of tourism actors.
- Although academic interest in organizational resilience and self-reliance research has increased in recent years, there is little consensus on what resilience and self-reliance mean and how they are structured. Therefore, more research and knowledge is needed on the organizational capabilities that shape resilience and self-reliance, as well as the conditions for their development.
- Extraordinary ways to escape the difficult circumstances that have befallen them are very difficult when implemented in small-scale tourism SMEs. This is because it usually collides with the level of education and limited capital.
- It is necessary to conduct research with similar themes from various provinces in Indonesia so that it can better capture and generalize the conditions of other tourism actor MSMEs.

6. CONCLUSION

The research finds that (1) resilience has a significant positive effect on business sustainability (Business Performance, Environment Performance, Social Performance), (2) independence does not have a significant positive effect on business sustainability (Business Performance, Environment Performance, Social Performance), (3) digital leadership strengthens the resilience towards business sustainability (Business Performance, Environment Performance, Social Performance), and (4) digital entrepreneurship does not strengthen independence towards business sustainability (Business Performance, Environment Performance, Social Performance). It provides a comprehensive framework for understanding how digital leadership and digital entrepreneurship interact to influence MSMEs (Micro, Small, and Medium Enterprises). By integrating these two aspects, the article extends the existing literature on both fields, highlighting their combined effects on business resilience and independence. This article also addresses gaps in the literature regarding the specific role of digital leadership and entrepreneurship in MSME sustainability. This adds depth to the understanding of how these factors interplay and provides a foundation for future research in this area.

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