Ambidexterity Strategy, Digital Innovation for Street Vendor Sustainability in the Creative Economy Era

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ABSTRACT

***Purpose*:** This research aims to identify an effective strategy for sustaining street vendor entrepreneurship in Tangerang City, particularly by integrating ambidexterity and digital innovation with approaches to economic, technological, organizational, and environmental factors relevant to the challenges entrepreneurs often face.

Design/Methodology/Approach: In this research, researchers tested models and hypotheses using the PLS technique. PLS (Partial Least Squares) analysis consists of two parts: outer model and inner model evaluation. Using a survey or questionnaire with 200 respondents, street vendors in Cipondoh District, Tangerang City. Data was collected for 13 days. Data was collected using purposive sampling.

***Findings*:** The research results show that the Ambidexterity Strategy and Digital Innovation play significant roles for the Street Vendor Sustainability Business in Cipondoh, Tangerang. Economic, Environmental, and technological factors significantly affect the Ambidexterity Strategy. In contrast, Organizational Factors have an impact but do not significantly impact the Ambidexterity Strategy for Street Vendors in Cipondoh, Tangerang.

Keywords: *Ambidexterity Strategy; Street Vendor Sustainability; Digital Innovation; Business Sustainability*

INTRODUCTION

In the digital era, the creative economy continues to grow, including roadside entrepreneurship. In Tangerang City, there are 21,668 street vendors distributed across 13 sub-districts (Department of Industry, Trade, Cooperatives and SMEs, 2022). These street vendors play an important role in the local economy, offering goods and services at affordable prices and creating employment opportunities for local communities. (Yamin, 2024), However, street vendors face various

challenges in maintaining their businesses, such as intensifying competition, changes in government policies, and technological transformations that require them to adapt to survive. (Da Silva et al., 2023; Chaudhuri et al., 2022).

As part of the informal sector, these entrepreneurs have an important role in the local economy by providing employment opportunities and meeting community needs, this is in line with SDGs point 1 eradicating poverty and SDGs point eight decent work and economic growth, as well as the third aspirations of President Prabowo's government, namely increasing quality employment opportunities, encouraging entrepreneurship, developing creative industries and continuing infrastructure development. However, limited access to capital, limited understanding of digital technologies, and changing consumption patterns are obstacles that street vendors often face. Because many factors need to be considered, including food products that must be hygienic and nutritious (Mukhaira et al., 2024), digital and other technologies, then in this situation, the ambidexterity strategy, namely the ability to maintain existing business models while exploring new opportunities (Josephat Deusidedith Sengura et al., 2024), is crucial for the sustainability of the businesses of roadside entrepreneurs. Ambidexterity, the ability to simultaneously manage exploration (innovation) and exploitation (operations), is crucial to the development and sustainability of a business concept. (Imanuddin et al., 2024)

To improve a business's financial performance, the business owner must actively engage as a stakeholder. Business transformation through digital technology can enhance competitiveness. However, small entrepreneurs often experience difficulties in adopting these innovations due to limited capital, low digital literacy, and other structural barriers (Bettiol et al., 2023).

This research examines roadside entrepreneurship in Tangerang City, with a focus on Cipondoh District, a subdistrict along the Sipoun River. Cipondoh was chosen because it is the center of an area often used by street vendors to sell. In this context, where few street vendors adopt digital technologies, there is limited digital innovation among roadside entrepreneurs and insufficient digital literacy to sustain their businesses in Tangerang City.

In this research, researchers partnered with the Tangerang City Satpol PP, which is responsible for coaching and counseling street vendors in Tangerang City. The results of preliminary studies and discussions with partners, the main problem of street vendors is that they have not been able to adapt digital technology, this is due to several factors, including economic factors, individual abilities who have not been able to innovate digitally, as well as a lack of awareness among street vendors regarding trade competition which is increasingly moving towards digital technology.

The urgency of this research is the threat to business continuity for street vendors in Tangerang City who compete with other business actors who have been adaptive in adopting the use of digital technology in their businesses, so that competition is increasingly fierce, not only from competitors around their area but street vendors will compete with all business actors throughout Indonesia who have adopted the digital role. This is also consistent with President Prabowo's Asta Cita No., which aims to increase quality employment opportunities, encourage entrepreneurship, and develop creative industries. In addition, this research is expected to contribute to SDG 1 (poverty alleviation) and SDG 8 (decent work and economic growth).

To address this issue, the researcher integrates the theory of ambidexterity and digital innovation as a theoretical problem-solving approach. The ambidexterity strategy was chosen because it can explain technological, economic, organizational, and environmental factors in the decision to adopt new technology. (Chaudhuri et al., 2022; Wiratmadja et al., 2021; Marchetti, 2022) Moreover, business sustainability is particularly well-suited to explaining the phenomena faced by roadside entrepreneurs. The results of this research can also inform practical problem-solving by conducting in-depth analyses of ambidexterity strategies and implementing them in line with the findings to encourage digital innovation and enhance business sustainability.

Few studies have examined the application of this concept in the context of roadside entrepreneurship, which plays an important role in regional economies. This results in a population gap, with street vendors underrepresented as research participants in studies on ambidexterity and digital innovation, as well as in their contributions to business sustainability. This research seeks to fill this gap by directly evaluating and analysing the relationship between ambidexterity strategies and digital innovation and their impact on the business continuity of street vendors in Tangerang City, thereby contributing both theoretically and practically to enhancing the business sustainability of street vendors in Tangerang City. Thus, this research integrates ambidexterity and digital innovation strategies with approaches to economic, technological, organizational, and environmental factors within the framework that will be developed. (Marchetti, 2022).

The urgency of this research stems from the threat to the business continuity of street-side entrepreneurs in Tangerang City, who compete with businesses that have already adapted to digital technologies. This increasingly fierce competition not only comes from local competitors but also from businesses across Indonesia that have adopted digital practices. Therefore, this research aims to identify appropriate strategies to sustain street-side entrepreneurs in Tangerang City by integrating ambidexterity and digital innovation

with an approach that addresses economic, technological, organizational, and environmental factors relevant to the problems frequently faced by entrepreneurs.

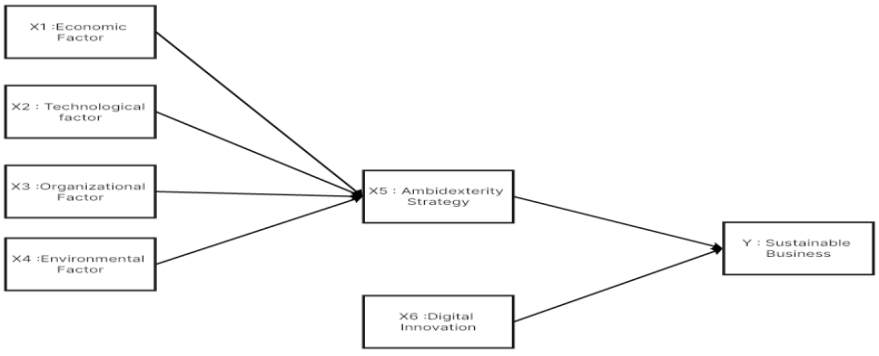
METHODS

In this study, researchers tested models and hypotheses using PLS. PLS (Partial Least Squares) analysis consists of two parts: outer model and inner model evaluation. According to Ghazali (2016), the required number of respondents for SEM is 100–200; in this research, we used 200 respondents, namely street vendors in Cipondoh District, Tangerang City. Data was collected for 13 days. Data were collected through purposive sampling of all street vendors in Cipondoh aged 15-50, as they are still relatively easy to adapt to new technology.

To measure the ambidexterity variable, researchers adopted strategies from prior research (Marchetti, 2022) because they are well-suited to the nature of the problems faced by street vendors in Tangerang City. The measurement comprises four factors: economic, technological, organizational, and environmental.

Table 1. Research Instrument

X1	X2	X3	Y
Economic Factor: • Perceived Benefits • Service Quality • Perceived Risk	**Technological factor:** • Technology Complexity • Facilitating Condition	**Organizational factor:** • Financial Readiness • Management Support	**Sustainable Business** • Financial Efficiency • Flexibility • Quality
X4	**X5**	**X6**	
Environmental factor: • Government Policy • BDA adoption of competitor	**Ambidexterity strategy:** • Exploration • Exploitation	**Digital Innovation:** • Process Innovation • Organizational Innovation • Marketing Innovation	



Source: Authors' illustration

Figure 1. Research Framework

H1: Economic factors have a positive effect on the ambidexterity strategy
H2: Technological factors have a positive effect on the ambidexterity strategy
H3: Organizational factors have a positive effect on ambidexterity strategy
H4: Environmental factors have a positive effect on the ambidexterity strategy
H5: Ambidexterity strategy has a positive effect on sustainable business
H6: Digital Innovation has a positive effect on sustainable business

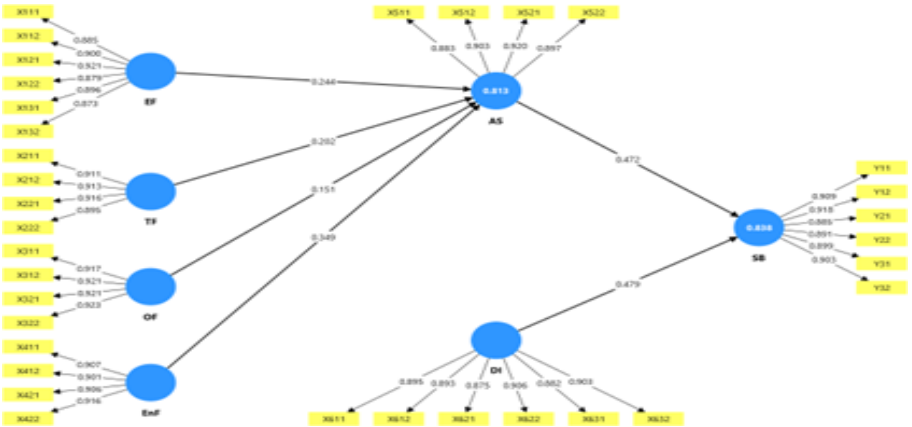
RESULTS

Model Analysis

In this study, models and hypotheses were tested using PLS. PLS (Partial Least Squares) analysis consists of two parts: outer model evaluation and inner model evaluation.

1. Convergent Validity Testing

The first outer model analysis examines convergent validity. Convergent validity in PLS can be assessed by examining the magnitude of each loading factor. The loading factor quantifies the magnitude of the correlation between each measurement item (questionnaire indicator) and the latent variable (construct). An indicator item is said to have met convergent validity if the loading score on each path (path) between the component (latent variable) and the manifest variable is > 0.5 (Hair et al., 2021).



Source: Author's computation using SMART-PLS

Figure 2. Outer Model Analysis

Table 2. Factor loading

	AS	DI	EF	EnF	OF	SB	TF
X111			0.885				
X112			0.900				

X121			0.921				
X122			0.879				
X131			0.896				
X132			0.873				
X211							0.911
X212							0.913
X221							0.916
X222							0.895
X311					0.917		
X312					0.921		
X321					0.921		
X322					0.923		
X411				0.907			
X412				0.901			
X421				0.906			
X422				0.916			
X511	0.883						
X512	0.903						
X521	0.920						
X522	0.897						
X611		0.895					
X612		0.893					
X621		0.875					
X622		0.906					
X631		0.882					
X632		0.903					
Y11						0.909	
Y12						0.918	
Y21						0.885	
Y22						0.891	
Y31						0.899	
Y32						0.903	

Source: Processed by the author

The table above shows that all loadings for each variable exceed 0.5. This indicates that the indicators in this study are statistically valid and meet the rules of thumb set by Hair et al. (2021), namely,> 0.5, and can be used to measure constructs in research.

2. Construct Validity

The outer model analysis in the second stage examines construct validity. Construct validity is the extent to which a test measures the

theoretical construct that is the basis for preparing the test. A construct is said to have good construct validity if the average variance extracted (AVE) value is > 0.5. An AVE value > 0.5 means that the probability of an indicator in a construct entering another variable is lower (less than 0.5), so that the probability of the indicator converging and entering the construct in question is greater, namely above 50 percent (Abdillah & Hartono, 2016).

Table 3. Average variance extracted (AVE)

Average variance extracted (AVE)		Critical Value
AS	0.812	> 0.5
DI	0.796	> 0.5
EF	0.797	> 0.5
EnF	0.824	> 0.5
OF	0.847	> 0.5
SB	0.811	> 0.5
TF	0.826	> 0.5

Source: Processed by the author

Based on the table above, the AVE for each variable in this research model indicates good construct validity, as it exceeds 0.5.

3. Composite Reliability

Reliability is assessed using Cronbach's alpha and the Composite reliability. A construct can be said to be reliable if it has a Cronbach's alpha value that must be > 0.6 and a Composite reliability value that must be > 0.7 (Abdillah & Hartono, 2016). Composite reliability measures the actual reliability value of a variable, while Cronbach's alpha measures the lowest value (lower bound) of the reliability of a variable, so that the Composite reliability value is always higher than the Cronbach's alpha value (Abdillah & Hartono, 2016)

Table 4. Composite Reliability dan Cronbach's alpha

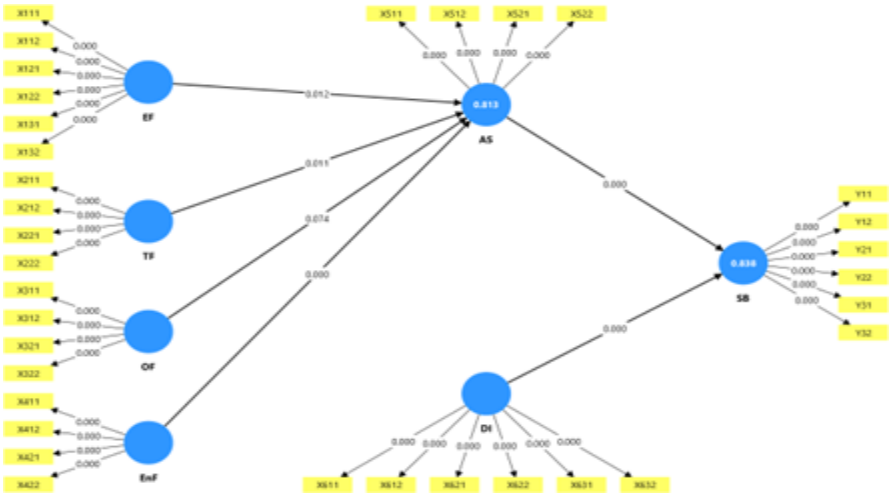
	Cronbach's alpha	Composite reliability	Description
AS	0.923	0.945	Reliable
DI	0.949	0.959	Reliable
EF	0.949	0.959	Reliable
EnF	0.929	0.949	Reliable
OF	0.940	0.957	Reliable
SB	0.953	0.963	Reliable
TF	0.930	0.950	Reliable

Source: Processed by the author

As shown in Table 4, all constructs in this study have Cronbach's alpha > 0.6 and composite reliability > 0.7, indicating acceptable reliability. This indicates that each construct in the research model exhibits internal consistency in the instrument reliability test.

4. Inner Model Evaluation

Inner-model or structural-model testing is conducted to predict causal relationships between variables or to test hypotheses. This test is reflected in the results of the coefficient of determination, predictive relevance, goodness of fit, as well as path and parameter coefficients. When a significant relationship between variables is established, a hypothesis can be formulated regarding the variables under study.



Source: Author's computation using SMART-PLS.

Figure 3. Inner Model Analysis

Coefficient of Determination (R^2)

The coefficient of determination can be seen in the R-square table by multiplying the R-square value by 100%, if the result is more than 67% it indicates a good coefficient of determination, if the result is less than 67% but more than 33% it indicates a moderate coefficient of determination, and if it is less than 33% but more than 19% it indicates a weak coefficient of determination (Ghazali, 2016). The following is a table that shows the coefficient of determination values:

Table 5. R Square

	R-square	Critical Value
AS	0.813	>0.67
SB	0.838	>0.67

Source: Processed by the author

Based on the R-squared value shown in the table above, the coefficient of determination for the Ambidexterity Strategy is 81.3%. This means that the coefficient of determination for the Ambidexterity Strategy variable accounts for 81.3% of the variance in the dependent variable. In comparison, the remaining 18.7% is explained by variables outside the research model. The sustainable business variable accounts for

83.8% of the variance in this study, whereas variables outside the research model account for the remaining 16.2%.

Hypothesis Testing

The next step is hypothesis testing, in which the path coefficient is estimated and evaluated using the t-statistic. The path efficiency estimate quantifies the relationship between latent variables. A measurement item is considered significant if the t-statistic exceeds 1.96 and the p-value is less than 0.05 (5%). Meanwhile, the parameter coefficient indicates the direction and magnitude of the independent variable's influence on the dependent variable, as indicated by its sign and magnitude. The following is a path coefficient table presenting the t-statistics.

Table 6. Path Coefficients

	Original sample (O)	T statistics	P values	Description
EF → AS	0.244	2.526	0.012	Significant
TF → AS	0.202	2.552	0.011	Significant
OF → AS	0.151	1.787	0.074	Not Significant
EnF → AS	0.349	4.094	0.000	Significant
AS → SB	0.472	8.239	0.000	Significant
DI → SB	0.479	8.451	0.000	Significant

Source: Processed by the author

AS → SB

The coefficient estimate is 0.472, the t-statistic is 8.239 (> 1.975), and the p-value is 0.000 (< 0.05), indicating a significant effect.

DI → SB

The coefficient estimate is 0.479, the t-statistic is 8.451 (> 1.975), and the p-value is 0.000 (< 0.05), indicating a significant effect.

EF → AS

The coefficient estimate is 0.244, the t-statistic is 2.526 (> 1.975), and the p-value is 0.012 (< 0.05), indicating a significant effect.

EnF → AS

The coefficient estimate is 0.349, the t-statistic is 4.094 (> 1.975), and the p-value is 0.000 (< 0.05), indicating a significant effect.

OF → AS

The coefficient estimate is 0.151, the t-statistic is 1.787 (> 1.975), and the p-value is 0.074 (> 0.05), indicating an effect but not statistical significance.

TF → AS

The coefficient estimate is 0.202, the t-statistic is 2.552 (> 1.975), and the p-value is 0.011 (< 0.05), indicating a significant effect.

DISCUSSION

The Influence of Economic Factors on Ambidexterity Strategy

The results of this study indicate that the economic factor significantly influences ambidexterity strategies among street vendors in Cipondoh, Tangerang City. In this context, business actors consider the profits they expect to earn and the costs they will incur in implementing a new strategy. This economic value calculation is the driving force behind the implementation of the ambidexterity strategy in their business—the greater the expected future economic value, the more ambidexterity they adopt. The results of this research align with Marchetti's (2022) findings.

The Influence of Environmental Factors on Ambidexterity Strategy

Environmental factors significantly influence ambidexterity strategies among street vendors in Cipondoh, Tangerang City. In this context, considerations are informed by government policies that support street vendors in Cipondoh and by competitors' adoption of these policies. The higher the government support and the adoption of strategies from successful competitors, the easier it will be for business actors to adopt an ambidexterity strategy. The results of this research are in line with the findings of previous research conducted by Marchetti (2022)

The Influence of Organizational Factors on Ambidexterity Strategy

In this study, Organizational factors have an impact but are not significant to the Ambidexterity Strategy for Street Vendors in Cipondoh, Tangerang. In this study, the complexity of progress in decision-making influences the decision to adopt an ambidexterity strategy. However, in the case of street vendors in Cipondoh, Tangerang, this does not apply, as decision-making in street-vending businesses is generally not particularly complex. In fact, it is generally sole ownership, so organizational complexity does not significantly influence the adoption of an ambidexterity strategy. The results of this study are inconsistent with prior research, attributable to the unique characteristics of street vendors, which differ from those of other small and medium enterprises or other businesses.

The Influence of Technology Factor on Ambidexterity Strategy

Environmental factors significantly influence ambidexterity strategies among street vendors in Cipondoh, Tangerang City. The ease with which technology can be adopted can influence the adoption of ambidexterity strategies among street vendors. For street vendors, the required technology is not particularly complex. For example, they often use gadgets and social media for marketing, QR codes for payments, and spot vendors on Google Maps, which are readily adopted. The results of this study are in line with the research conducted by Marchetti (2022)

The Influence of Ambidexterity Strategy on Sustainable Business

The ambidexterity strategy received positive attitudes and had a significant influence on Sustainable Business among street vendors in Cipondoh, Tangerang City. The Ambidexterity strategy (willing to explore and exploit) in the Creative Economy Era can help businesses remain sustainable. Companies that can simultaneously explore and exploit innovations outperform those that pursue only exploration or exploitation. The results of this study are consistent with research by Wiratmadja et al. (2021) and Paiola et al. (2024).

The Influence of Digital Innovation on Sustainable Business

Digital innovation was positively perceived and significantly influenced Sustainable Business among street vendors in Cipondoh, Tangerang City. The use of mobile, social, analytics, cloud, Internet of Things, platforms, and ecosystems digital technologies fosters market disruptions, whose implications alter consumer behaviour and user expectations, and affect the competitive environment, leading to sustainable business (Da Silva et al., 2023).

CONCLUSION

The research results show that the Ambidexterity Strategy and Digital Innovation play significant roles for the Street Vendor Sustainability Business in Cipondoh, Tangerang. Economic, Environmental, and technological factors significantly affect the Ambidexterity Strategy. In contrast, Organizational Factors have an impact but do not significantly impact the Ambidexterity Strategy for Street Vendors in Cipondoh, Tangerang. The strongest variables influencing ambidexterity strategy are environmental factors, followed by technological and economic factors. It means that government policy and support play the most significant roles in enabling street vendors to adopt an ambidexterity strategy.

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