FACTORS INFLUENCING SME INNOVATION IN LOCAL GOVERNMENT: THE CASE OF SMES IN NAGARI

Prima Fithri, Donard Games, Eka Candra Lina and Rahmat Hidayat
Universitas Andalas, Indonesia

ABSTRACT

This paper aims to understand what factors explain the strategy of SME product innovation in Nagari (village) in Minangkabau. SME product innovation strategy is an essential achievement in an intensely competitive market in Indonesia. However, there is little research that investigates SME innovation in terms of Nagari (village) in Minangkabau. For a long time, SMEs in Nagari is seen as "backward" and "laggards." This is unfortunate because Nagari has been expected to become a new source of economic growth in West Sumatra. Also, Nagari has been identified as a manifestation of Minangkabau values, which directly implements Minangkabau wisdom. Small and Medium Enterprise (SME) has become an essential issue in Indonesia as an emerging market economy. The present study examines the relationship between innovation-related concepts (i.e., organizational structure, creativity, and risk-taking) and SME innovation implementation. A purposive sampling technique was used to select the respondents for this study. A total of 60 SMEs in Nagari constituted the sample. The results showed that among the innovation-related concepts, two variables were found to be significant predictors of SME innovation implementation. Creativity contributed 46.9% to SME innovation implementation, while Risk-Taking contributed an additional 17.1%. It was found that creativity has a strong link with SME innovation implementation. This may indicate the importance of SME policies that provide opportunities for creativity in Nagari. The position of Nagari's flagship product innovation based on the Internal External matrix is in quadrant V, where the position shows that the internal condition is strong and the external is high. This indicates that Nagari's flagship product innovation can compete with its business environment. The development strategy that must be carried out by Nagari's flagship product innovation is an intensive strategy consisting of market penetration, market development, and product development.

Keywords: SME innovation implementation, nagari, SME policy, organizational structure, creativity, strategy and risk taking

1. INTRODUCTION

Innovation is a critical point in developing competitiveness and the economy (Chung, 2011; Gibson & Naquin, 2011; Wonglimpiyarat, 2015). However, one of our main problems is the lack of quality of small and medium businesses (SMEs) in line with the low capability and implementation of their innovations in Indonesia. One thing that can be done is the creation of champions (winners) who can become role models for the development of SMEs (Games & Rendi, 2019). They can be an example because they have passed all obstacles that could potentially break their efforts. During the problematic climate of innovation in Indonesia, they can not only survive but also can make improvements and even business expansion.

In the context of Indonesia and West Sumatra, the development of village-based SME innovations is essential. This is because the village has been designed to be a basis for populist economic growth that can improve community welfare in real terms. In the context of West Sumatra, Nagari, as the lowest form of government, is increasingly considered crucial because there are historical and cultural nuances of the Minangkabau. Nagari is a representation of the Minangkabau culture itself (Hadijah, 2019). Thus, the development of UKM champions in the villages not only has an economic impact but also has a significant effect on the pride and aspects of the Minangkabau culture.

West Sumatra Province has 11 districts and 648 villages, as shown in Figure 1 With the number of villages, identification of leading SMEs will provide an overview of the economic development of the village in the future. This research aims to identify superior Nagari products and also formulate an innovation strategy that has been and will be carried out by Nagari excellent products. This step will provide motivation, inspiration, and even knowledge sharing among fellow SMEs in the villages in West Sumatra.

Figure 1 Map of West Sumatra

Seeing the position of regencies in West Sumatra in the mainland and coastal areas, researchers are interested in conducting research only villages that are in these areas. The study is expected to know factors that influencing SME Innovation Implementation in nagari and see the strategy of a Nagari to implement innovations on superior products of the Nagari.

2. RESEARCH METHODOLOGY

2.1. Research Design

This is essentially correlation research that applies a quantitative approach and uses the survey method to collect data. The focus of this research is on nigari in West Sumatera. This study focuses on the innovation-related concepts (i.e., organizational structure, creativity, and risk-taking) as an independent variable and their influence on SME innovation implementation as a dependent variable. The research instrument used in this study is a structured questionnaire.

The structured questionnaire also used in making the strategy of a Nagari to implement innovations on superior products of Nagari.

2.2. Sampling and Population

The list of Nagari was obtained from West Sumatera Government. A systematic sampling method was used to select the samples for this study. The primary data are data gathered and assembled through a structured questionnaire. A total of 80 questionnaires were sent to the chosen Nagari. A total of 60 completed and useable questionnaires were returned. This represents a response rate of 75 percent. Secondary data for this study had been collected from journals, articles, magazines, books, and newspapers, which contributed to the review of the literature.

In making a strategy, a questionnaire distributed to the expert that knows Nagari well. They are Head of Guardian Nagari (R1), Business Actor (R2), Business Actor (R3), Local Nagari Industry and Trade Service (R4), Community (R5).

2.3. Data Analysis

Data analysis was performed using Statistical Packages of the Social Science (SPSS). Multiple regression analysis using the enter method was used to determine the relationship between the independent variables and the dependent variable. Stepwise regression analysis was used to determine which among the predictor variables contributed most to SME innovation implementation of Nagari in West Sumatera. The level of significance was set at $p = 0.05$.

SWOT analysis is used for making strategy, where the input stage is carried out using the IFE matrix and EFE matrix (GÜREL, 2017; Helms & Nixon, 2010; Lidstone & MacLennan, 2018). It also uses the IE matrix to determine the position of Nagari from the results of evaluations of external and internal factors that have been carried out.

3. RESULTS AND DISCUSSIONS

3.1. Relationship between Innovation-Related Concepts and SME Innovation Implementation

This section presents results of the multiple regression analysis where Innovation-Related Concepts are regressed with SME Innovation Implementation using the enter method to determine the correlation between the independent variables and dependent factor. This is also to determine the total contribution of Innovation-Related Concepts to SME Innovation Implementation.

Table 1. Multiple regression of analysis with Innovation-Related Concepts as predictors of SME Innovation Implementation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.686[a]	0.471	0.443	0.71062

a. Predictors: (Constant), Risk_Taking, Organizational_Structure, Creativity

b. Dependent Variable: Innovation_Implementation

In table 1, the R-squared value from model summary is 0.471 which means 47.1% of variation in SME Innovation Implementation is accounted by variation in the 3 Innovation-Related Concepts namely, organizational structure, creativity, and risk taking.

Table 2 ANOVA[b] for enter method

Model	sum of squares	df	mean square	F	sig.
Regression	25.17	3	8.39	16.614	.000[b]
Residual	28.279	56	0.505		
Total	53.449	59			

The results of ANOVA are presented in table 2. $F_{(3,56)} = 16.614$ and $p < 0.05$. That means that least one of the 3 independent variables can be used to explain SME Innovation Implementation.

Table 3 Coefficients*for the relationship between predictor variable and SME Innovation Implementation

Model	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	Beta		
(Constant)	0.502	0.694		0.723	0.473
Organizational_Structure	-0.066	0.156	-0.053	-0.423	0.674
Creativity	0.81	0.171	0.625	4.73	0
Risk_Taking	0.236	0.143	0.177	1.648	0.105

*Dependent variable: SME Innovation Implementation

Table 3 presents the correlation between Innovation-Related Concepts and SME Innovation Implementation. The results show that there is significant relationship between creativity and SME innovation implementation (B = 0.81, $p < 0.05$). However the relationship between organizational structure and SME innovation implementation (B = -0.066, $p > 0.05$), risk taking and SME innovation implementation (B = 0.236, $p > 0.05$) were found to be not significant.

Therefore H_2 are not rejected. H_1 and H_3 are rejected.

Table 4 Model summary for stepwise method

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.667[a]	0.444	0.435	0.71565

a. Predictors: (Constant), creativity

Table 4 (model summary), displays the results of the multiple regression analysis between Innovation-Related Concepts and SME Innovation Implementation using the Stepwise Method. The results indicate that creativity is the most significant predictor of SME Innovation Implementation contributing to 44.4% of SME Innovation Implementation.

Therefore, from table 4, it can be concluded that the creativity are the significant predictors of SME Innovation Implementation in nagari in West Sumatera.

3.2. Strategy formulation for Nagari

3.2.1. The Input Stage

3.2.1.1. External Factor Matrix (EFE)

The EFE matrix shows the condition of Nagari's flagship product innovation's external environment. The preparation of the EFE matrix identifies external factors in the form of opportunities and threats faced by Nagari's flagship product innovation. The determination of weights and rankings was carried out by five respondents who are Head of Guardian Nagari (R1), Business Actor (R2), Business Actor (R3), Local Nagari Industry and Trade Service (R4), Community (R5).

Table 1 Nagari's flagship product innovation EFE Matrix

	Opportunity	Weight	Score	Weighted Score
1	There is a role for the government as a legal umbrella for the development of superior product innovation in the Nagari	0,10	3,00	0,29
2	Collaboration with government agencies and the private sector	0,09	3,40	0,31
3	Featured Products Nagari already has legality	0,08	3,40	0,28
4	The culture and influence of the Nagari people's habits in developing innovative Nagari superior products	0,11	3,20	0,36
5	The development of equipment technology in creating superior nagari product innovation	0,10	3,20	0,33
6	The development of marketing technology such as E-commerce	0,08	3,20	0,24
7	Customers' opinions on Nagari innovation products	0,10	3,20	0,33
8	Influence of Nagari Population Growth on the growth of Nagari product innovation	0,07	3,20	0,22
9	Nagari economic growth rate	0,09	3,00	0,27
	Threat			
10	The number of innovations in similar Nagari superior products	0,09	1,80	0,16
11	The level of customer loyalty in buying superior Nagari products	0,08	2,20	0,18
	TOTAL	1,00		2,99

Table 1 shows that the total score weighting of Nagari's flagship product innovation's EFE matrix is 2.99. Meanwhile, according to (David 2009), the average value for the total weight score on the EFE matrix is 2.5. Thus, the total weighting score of Nagari's flagship product innovation is above the average. This value indicates that Nagari's flagship product innovation, on average, can take advantage of external opportunities and avoid existing threats. Furthermore, the EFE matrix calculation also shows that the scores for opportunities and threats

are 2.64 and 0.35, respectively. The value of the opportunity score that is greater than the threat score indicates that the product gives a higher response to the opportunity factor than its response to the threat factor.

The most significant opportunity faced by Nagari's flagship product innovation is The culture and influence of the Nagari people's habits in developing innovative Nagari's flagship product innovation with a weight of 0.11 and a ranking value of 3.2. While for the most significant threat faced by Nagari's flagship product innovation is The level of customer loyalty in buying superior Nagari products with a weight of 0.08. The response of Nagari's flagship product innovation to the threat factor is still low at 2.20.

3.2.1.2. Internal Factor Matrix (IFE)

The IFE matrix is carried out after the identification of internal factors of Nagari's flagship product innovation, which consists of strengths and weaknesses owned by the product. The preparation of the IFE matrix is done by giving the value of the weights and ratings determined by the respondents. The determination of weights and rankings was carried out by five respondents who are Head of Guardian Nagari (R1), Business Actor (R2), Business Actor (R3), Local Nagari Industry and Trade Service (R4), Community (R5).

Table 2 Nagari's flagship product innovation IFE Matrix

	Strength	Weight	Score	Weighted Score
1	Minimum labor education level is high school	0,05	3,40	0,17
2	The average age of a productive person	0,05	3,20	0,17
3	The community has been trained or has work skills to improve the innovation of superior Nagari products	0,04	3,20	0,13
4	Permberian bonuses to the people who can create innovative Nagari superior products	0,07	3,40	0,23
5	Bonuses received by appropriate creators of innovation communities	0,05	3,20	0,17
6	The quality of the resulting innovation is very good	0,07	3,56	0,25
7	The resulting product innovations are very diverse	0,06	3,11	0,19
8	The price of the offered innovation products is affordable by tourists / the public and according to quality	0,05	3,33	0,17
9	Locations where innovation products are sold are easy to find	0,06	2,89	0,17
10	The production capacity of innovative products is higher than other similar products	0,06	3,00	0,17
11	Availability of raw materials used in producing	0,06	3,60	0,21
12	Affordability in obtaining raw materials for producing innovative products	0,04	3,20	0,14
13	Quality raw materials used	0,07	3,20	0,21

	Strength	Weight	Score	Weighted Score
	Weakness			0,00
14	A sufficient number of nagari communities with production capacity	0,06	2,00	0,12
15	Nagari promotions such as placing advertisements on print media or social media such as websites	0,05	2,22	0,12
16	The Nagari researches the sustainability and development of future product innovations	0,05	1,80	0,10
17	Organizing human resources in the clear village	0,05	2,00	0,10
18	Clarity of vision and mission of the local Nagari is related to the improvement of innovation on the superior products of the Nagari	0,05	2,00	0,10
	TOTAL	1,00		2,92

Weight values are given based on the influence of these factors on the development of Nagari's flagship product innovation. This value is used as an input for the IFE matrix to find the total weight score value multiplied by the ranking value. In the Nagari's flagship product innovation IFE matrix, the total weight score is 2.92. This total weighting score is above the average (2.5), so it can be said that the situation of Nagari's flagship product innovation can utilize its strengths and can overcome existing weaknesses.

The greatest strength possessed by Nagari's flagship product innovation is The quality of the resulting innovation is excellent, with a rating value of 3.56. While for the most significant weaknesses possessed by Nagari's flagship product innovation are a sufficient number of Nagari communities with production capacity and Nagari promotions such as placing advertisements on print media or social media such as websites with a rating of 2.22.

3.2.2. The Matching Stage

3.2.2.1. Internal External Matrix (IE)
IE matrix is a combination of information obtained at the input stage, namely the EFE matrix and the IFE matrix.
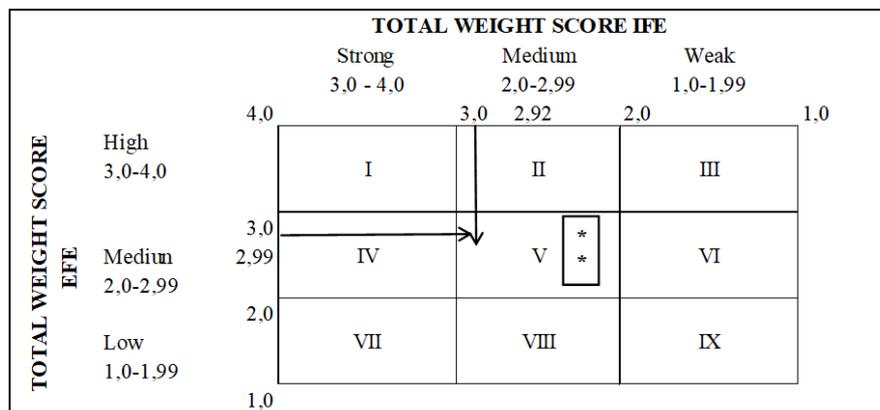

Figure 2 IE Matrix

Based on the total score, it is shown that the position of Nagari's flagship product innovation is in cell V (Figure 2). In the cell, I strategies that can be used is to grow and build. Alternative strategies that can be carried out for nagari's product innovation conditions like this are integrated strategies such as backward-forward or horizontal integration and intensive strategy such as market penetration, product development, and market development. Market penetration is an effort to increase sales of old products in the mature market by strengthening the promotion aspects with more useful and varied advertisements according to the target market. Furthermore, market development is a strategy where companies seek growth by marketing existing products to new markets. Product development is an effort to increase sales by improving or modifying existing products and services.

3.2.2.2. SWOT Matrix

Based on the opportunities, threats, strengths, and weaknesses that have been obtained from the analysis of Nagari's flagship product innovation 's external and internal environment (Appendix 1), an alternative strategy is formulated using SWOT (Table 3).

Table 3 Alternative SWOT Strategies

No.	SWOT Matrix Strategy	Strategy Type
	S-O Strategy	
1	Improve the quality of Nagari's superior product innovation	Intensive Strategy
2	Expand the promotion area for innovative Nagari superior products	Intensive Strategy
3	Using the latest innovation product production equipment technology	Intensive Strategy
	S-T Strategy	
1	The innovation of the products produced	Intensive Strategy
	W-O Strategy	
1	increase bonuses or incentives for people who can come up with superior product innovation ideas	Defensive Strategy
2	Increase the number of people who care about the existence of Nagari superior product innovation	Intensive Strategy
3	Using e-commerce in the sale of innovative products	Integration Strategy
	W-T Strategy	
1	Increase promotion	Intensive Strategy

4. CONCLUSION AND SUGGESTION

Based on the research objectives, the conclusion of this research is creativity is the most significant predictor of SME Innovation Implementation contributing to 44.4% of SME Innovation Implementation. This may indicate the importance of SME policies that provide opportunities for creativity in nagari.

The position of Nagari's flagship product innovation based on the Internal External matrix is in quadrant V, where the position shows that the internal condition is strong and the external is high. This indicates that Nagari's flagship product innovation can compete with its business environment. The development strategy that must be carried out by Nagari's flagship product

innovation is an intensive strategy consisting of market penetration, market development, and product development.

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APPENDIX 1

Table 1 SWOT Matrix

	OPPORTUNITY	*THREAT*
External	O.1 There is a role for the government as a legal umbrella for the development of innovative Nagari superior products	T.1 The number of innovations in similar Nagari excellent products
	O.2 Cooperation with government agencies and the private sector	T.2 The level of customer loyalty in buying superior Nagari products
	O.3 Featured Products Nagari has legality	
	O.4 Culture and influence of the Nagari people's habits in developing innovative Nagari superior products	
	O.5 Development of equipment technology in creating superior product innovation in the Nagari	
Internal	O.6 The development of marketing technologies such as E-commerce	
	O.7 Customers' opinions on Nagari innovation products	
	O.8 Effect of Nagari Population Growth on the growth of Nagari product innovation	
	O.9 Nagari economic growth rates	
STRENGTH	S-O STRATEGY	S-T STRATEGY
S.1 Minimum labor education level of high school		
S.2 The average age of a productive person		
S.3 Communities have been trained or have work skills to improve the innovation of superior Nagari products		
S.4 Permberian bonuses for people who can create innovations for superior nagari products	1. Improving the quality of Nagari superior product innovations (O2, O4, O5, O7, S3, S4, S5, S6, S7, S13) 2. Expanding the promotion area for Nagari superior product innovation (O1, O2, O3, O4, O6, O7, O8, O9, S6, S7, S8, S9, S10, S11, S12, S13) 3. Using the latest technology innovation product production equipment (O1, O5, O7, S6, S7, S8, S10)	1. Innovations on the products produced (T1, T2, S3, S6, S7, S8, S13)
S.5 Bonuses received by creators of suitable innovations		
S.6 The quality of the innovations produced is very good		
S.7 The resulting product innovations are very diverse		
S.8 The price of the offered innovation products is affordable by tourists / the public and according to quality		
S.9 Locations where you can easily find innovation products		
S.10 The production capacity of innovative products is higher		

than that of other similar products		
S.11 Availability of raw materials used in producing		
S.12 Affordability in obtaining raw materials for producing innovative products		
S.13 quality raw materials used		
WEAKNESSES	W-O STRATEGY	W-T STRATEGY
W.1 A sufficient number of Nagari communities with production capacity	1. Increase bonuses or incentives for people who can come up with superior product innovation ideas of the Nagari (O8, O9, W1, W4) 2. Increase the number of people who care about the existence of innovative Nagari superior products (O6, W1, W4) 3. Using e-commerce in the sale of innovative products (O6, O8, W2)	1. Increase promotion (T1, T2, W3, W4)
W.2 Promotions made by the Nagari such as placing advertisements on print or social media such as websites		
W.3 The research is carried out by the Nagari for the sustainability and development of future product innovations		
W.4 Organizational HR in the already clear village		
W.5 Clarity of vision and mission in the local Nagari is related to the improvement of innovations in the superior products of the Nagari		