

Designing Strategies using IFE, EFE, IE, and QSPM analysis: Digital Village Case

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Abstract. *Digital SMEs Village is a program initiated by Telekomunikasi Indonesia. The program is expected to grow entrepreneurial spirit among business actors, as well as to facilitate business actors to expand their business network by utilizing technological developments in Indonesia. The common problem of Digital SMEs Village Indonesia today is the number of human resources that still lack the understanding of using smartphones and computers to interact with consumers in cyberspace. One of the Digital SMEs Village in Bandung district is the Baraya Digital SMEs Village. This study aims to identify the formulation strategy in the development of the Baraya Digital SMEs Village by SWOT analysis. Furthermore, Quantitative Strategies Planning Matrix (QSPM) is used to decide and determine which alternative strategies can best be recommended. The research method used is qualitative method with case study approach by doing depth-interview to several key actors in the Baraya Digital SMEs Village. The results showed that the Baraya Digital SMEs Village needs to implement intensive strategy. The development of strategies that need to be implemented as a top priority is market penetration, by expanding the market share of existing products through online marketing.*

Keywords: *Digital SMEs Village, cyberspace, SWOT Analysis, QSPM*

1. Introduction

The existence of SMEs (Small Medium Enterprises) has an important role as a driver of the country's economy. SMEs contribute to employment, both in developed and developing countries such as Indonesia, especially in reducing unemployment. Currently, SMEs have become the main agenda of Indonesia's economic development especially since the implementation of the MEA (ASEAN Economic Community). Based on data from the Statistics Indonesia (2013), the number of MSMEs reached 57.9 million units spread throughout Indonesia. With the large number of SMEs, business actors are required to increase their competitiveness in order to continue to maintain and develop their business. The use

of information technology is one strategy to improve business process through speed, accuracy, and efficiency of information exchange in large quantities.

Based on data APJII (2016), the number of internet users in Indonesia is 132.7 million people or about 51.5% of the total population of Indonesia amounted to 256.2 million. When compared to internet users in Indonesia in 2014, internet users only 88.1 million users, it shows within 2 years (2014-2016) an increase of 44.6 million. From these data it can be concluded that the use of technology as an opportunity for SMEs in their business process.

One of the corporate social responsibility programs of the Telekomunikasi Indonesia is Digital SMEs Village. Digital SMEs Village

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Initiation is an effort to assist SMEs in Indonesia in order to modernize and improve the competence of SMEs through ICT, so that SMEs are expected to compete in the global level and contribute to the economic growth of Indonesia. Digital SMEs Village aims to educate SMEs in the utilization of information technology in a comprehensive and integrative to support business processes in the center of SMEs, so as to realize millions of SMEs into advanced, independent, and modern through ICT.

Currently, the number of Digital SMEs Village in Indonesia reaches 340 villages. Meanwhile, the number of Digital SMEs Village in West Java reached 104 villages. One of the Digital SMEs Village in West Java is the Baraya Digital SMEs Village located in Banjaran, Bandung Regency, West Java. The Baraya Digital SMEs Village formed as a place or media to help develop all types of SMEs in Banjaran, especially business development with the use of technology. Baraya Digital SMEs Village has a total of 36 actors of SMEs, with a variety of excellent products, including fashion products, welding services, culinary, and wooden toys manufacturing.

Based on the identification, the Baraya Digital SMEs Village experienced several problems, including the marketing process that is still conventional despite having an online store. Generally, SMEs conduct conventional marketing activities where such activities will absorb many costs such as opening new branches, engaging in various exhibition activities, making and distributing brochures, and others. Whereas in today's digital era, SME actors should be aware of the growing e-commerce can be an efficient means to conduct various marketing activities for SME products, because the costs incurred will be cheaper and wider range. Most of the production activities undertaken by Baraya Digital SMEs Village are still traditional, ranging from raw material processing to packing goods. However, the production of Baraya Digital SMEs Village already has market share outside Bandung area.

Baraya Digital SMEs Village requires a business strategy in developing business processes, especially in the utilization of information technology facilitated by Telekomunikasi Indonesia. According to Pearce and Robinson (2013), strategy is a set of decisions and actions that result in formulation and implementation of plans designed to achieve the goals of a company. Baraya Digital SMEs Village needs to develop its business strategy to survive in business competition and increase its business potential.

Based on the need to determine the strategy business development, EFE (External Factor Evaluation) and IFE (Internal Factor Evaluation) matrices can be effective alternative tools. The purpose of this study is to determine the external factors (economic, social, cultural, demographic, environmental and competitive information) and internal factors (main strengths and weaknesses in functional areas of business) in Baraya Digital SMEs Village. Moreover, to formulate a strategy that will be used based on the attractiveness of the existing alternative strategies. Given that business development requires time and the accuracy of business planning, the activity of setting up the external and internal factors is a crucial stage that must be flexible, even after the business begins its operations.

2. Literature Study

2.1. Small Medium Enterprises (SME)

Although the role of local development is still adopted in developing countries, SMEs have proven successful in creating jobs while increasing people's incomes. (Fiseha & Oyelana, 2017). In Indonesia there are some of the issues were related to internal aspects like marketing & finance (Tambunan, 2011a), promotion, technology, human capital (Tambunan, 2009), high cost of raw materials, and lack of capital (Tambunan, 2011b). Nugroho, Susilo, Fajar, and Rahmawati (2017) state that the decision to use information technology is not affected by the success of

competitors, but because of the personal experience of decision makers.

The developments of ICT-based entrepreneurs need to increase its growth and performance (Yuldinawati, Tricahyono, Anggadwita, & Alamanda, 2018). Small businesses if managed by people who understand information technology will be able to improve organizational efficiency and effectiveness (Rahab & Hartono, 2012).

2.2. Smart Village

The emerging concept of Smart Villages refers to rural areas and communities which build on their existing strengths and assets as well as on developing new opportunities (European Commission, 2014). It is possible for residents in a smart village to use technology in line with the development of their infrastructure (Zavratnik, Kos, & Duh 2018). In Malaysia, the UN's Sustainable Development Solutions Network (SDSN) is quite aggressive in improving people's welfare with the development of smart villages (AAAS & Eurekalert, 2014). In Indonesia, the indicator of the success of the smart village program is if there are supporting elements that include 5 smart technologies, namely: (1) smart sensors, (2) communication from one machine to another, (3) cloud computing, (4) media social, and (5) Geographical Information System (GIS) technology (Faujiah, 2017).

The project of smart village is developed in several villages in the world. Smart digital transformation of village projects are based on funding from Interreg Alpine Space at Alpin Space. The partnership consists of most of the regional territory (Switzerland, Austria, Germany, Italy, France, Slovenia) (Zavratnik et al., 2018). Other examples are Tasik (lake), Kenyir resort area and Cyberjaya in Malaysia (AAAS & Eurekalert, 2014). In Indonesia, smart villages are developing in Geluran Taman Sidoarjo (Faujiah, 2017), Lamajang Village (West Java) and Temulus Village (Middle Java).

2.3. Digital SME Village

ICT for development initiative have been or are still being undertaken in the developing countries (Atieno & Moturi, 2014). A process model that aims to describe and explain how SME entrepreneurs is examined by Li, Su, Zhang, and Mao (2017) with support from the digital platform service provider, drive digital transformation through managerial cognition renewal, managerial social capital development, business team building, and organizational capability building.

Digital Village Projects were initiated with one major goal in mind and that is to bridge the digital gap that exists between rural and urban areas (Atieno & Moturi, 2014). The hope of implementing the digital village program is that villages are able to create a profile and potential of their villages in an integrated manner as well as publishing it to various information media (Telkomuniversity, 2018).

2.4. Strategy Business Development

The advantages of using the EFE and IFE matrices are (Senthilkumar et al., 2014):

- 1) It does not require certain skills because it is easy to use;
- 2) It can avoid misunderstanding because it is easy to understand;
- 3) It focuses on the key factors both internal and external that affect the company's strategy;
- 4) It can be used to construct other analyzes such as SWOT, IE matrix, comparison matrix and GE matrix.

SWOT analysis and Quantitative Strategic Planning Matrix (QSPM) are advanced analyzes that commonly used to improve managerial strategy (Rezazadeh et al., 2017; Zulkarnain, Wahyuningtias, & Putranto, 2018). In addition to the advantages, there are also weaknesses that need to be considered, among others (Capps & Glissmeyer, 2012):

- 1) IFE and EFE matrices can be replaced almost entirely with PEST analysis, SWOT analysis, competitive

- profile matrix, and some other analyzes;
- 2) Both analyzes only identify and evaluate factors but do not help the company directly in determining the next strategic step or the best strategy;
- 3) Each factor must be very specific to avoid confusion about the factors must be determined.

3. Methodology

This research used qualitative method with case study approach. In-depth interviews were conducted towards some key-informants. The informants are all elements involved in the Baraya Digital SMEs Village which is divided into four parts of communities of knowledge but only represented by two communities of knowledge, namely, community of practices represented by experts, and community of interests represented by innovator. In addition, secondary data is obtained through articles listed in journals or scientific papers or other data sources.

3.1 Stage 1: EFE and IFE Matrices

The results of interviews toward 5 key-persons representing the community of knowledge and community of interest produced 10 external factors and 9 internal factors that needed further analysis.

- 1) Weight is obtained from the results of the average of informants' answer regarding how important these factors are compared to overall internal / external factors;
- 2) Determination of rating on these factors is done by filling out a questionnaire with the following provisions:
 - a. For IFE: 1 Matrix = Big weakness; 3 = small strength; 2 = small weakness; 4 = Great power.

- b. And for the EFE Matrix: 1 = Bad response; 3 = Response above average; 2 = Average response 4 = Exceptional response

3.2 Stage 2: SWOT and TOWS Matrices

EFE and IFE Matrices are used to compile the SWOT Matrix. Then the TOWS matrix is used to match the development of 4 strategies, namely the S-O strategy (Strength - Opportunity), W-O (Weakness - Opportunity) strategy, SS-T strategy (Strength - Threat) and W-T (Weakness - Threat) strategy. Then, an IE matrix analysis is used to position a strategic business unit (SBU) of a company into a matrix of 9 cells.

3.3 Stage 3: QSPM Matrix

The last step, a QSPM analysis is the only analytical technique in the literature designed to determine the relative attractiveness of alternative measures (David, 2011). This technique objectively shows which strategy is best.

After identifying alternative strategies that must be considered by the organization to be implemented. In QSPM the determination of Total Attractiveness Scores-TAS is also carried out with the following conditions:

- (1) Value 1 = not attractive
- (2) Value 2 = rather interesting
- (3) Value 3 = quite interesting
- (4) Value 4 = very interesting

TAS is obtained by multiplying weights by attractiveness scores.

4. Results and Discussion

4.1. EFE and IFE Matrix Analysis

After the calculation of the weight and rating value of each internal and external factors, then obtained the score of each factor shown in Table 1 and Table 2:

Table 1.
IFE Matrix

Internal Factors			
Strength	Weight	Rating	Score
Opening jobs, because anyone can become a reseller	0.2	3	0.6
The biggest income from fashion products	0.2	4	0.8
Production activities went well	0.02	4	0.08
Ease and low cost in marketing the product	0.1	4	0.4
Strong brand	0.2	4	0.8
Weakness			
Not all members understand the technology	0.15	4	0.6
Expenditure is unpredictable	0.02	3	0.06
Resources are easily imitated	0.1	2	0.2
It is not easy to gain trust from consumers	0.01	2	0.02
Total	1.0		3.56

Table 2.
EFE Matrix

External Factors			
Opportunity	Weight	Rating	Score
Increased value proposition	0.15	4	0.6
There is another revenue stream	0.1	4	0.4
There are various trainings and seminars to add insight	0.15	3	0.45
Technology helps efficiency in general	0.1	4	0.4
Opportunity cooperation with new partners	0.1	4	0.4
Online media as a means of increasing business revenue	0.05	3	0.15
Ease in getting suppliers	0.1	4	0.4
Broad market segment	0.05	4	0.2
Threat			
Not all products are in accordance with the wishes of consumers	0.1	4	0.4
Many competitors	0.1	4	0.4
Total	1.0		3.8

Values range from 0.1 - 4.0, with an average of 2.5. An average total below 2.5 represents a weak internal organization, whereas above 2.5 indicates a strong internal position. In the above table obtained the average result is 3.56 which means the position of Internal Baraya Digital SMEs Village is in a strong position.

In the Table 2, the highest score for an organization is 4.0 indicating that the organization responds very well to opportunities and threats. In other words, corporate strategy effectively takes advantage

of current opportunities and minimizes the possible effects of external threats. Based on the above table, the results of the calculation score is 3.8, which means Baraya Digital SMEs Village respond very well to the opportunities and threats that exist. Baraya Digital SMEs Village realizes the great opportunity of the business of selling products through online media, while business threats such as business competition will always happen, but it can be a motivation to always work better, and create new innovations according to the development of customer needs and lifestyle.

The next step is to map the IE matrix based on the total IFE and EFE matrix scores to

gain strategy in the development of Baraya Digital SMEs Village.

IFE SCORE		Strong 3.0 – 4.0	Average 2.0 – 2.99	Weak 1.0 – 1.99
E F E S C O R E	High 3.0 – 4.0	4.0 I	II	III
	Medium 2.0 – 2.99	3.0 IV	V	VI
	Low 1.0 – 1.99	2.0 VII	VIII	IX

Figure 1. IE Matrix

Figure 1. shows that Baraya Digital SMEs Village is in division I of cell 1, that is strategy which can be explained as growth and build, and strategy development used is intensive strategy (market penetration). Baraya Digital SMEs Village develops a business with online marketing priority, as it is more profitable and reduces marketing costs. In the current era of technology, online business will make it easier for customers and producers to interact and

transact. In addition, the marketing coverage for Baraya Digital SMEs Village will be wider by reaching various customer segments.

4.2 SWOT/ TOWS Analysis

After getting a portrait of business model Baraya Digital SMEs Village then perform a SWOT analysis of the business model canvas. Figure 1 below is the map of SWOT Matrix.

<p>Strengths</p> <ol style="list-style-type: none"> 1) Opening jobs, because anyone can become a reseller (S1) 2) The biggest income from fashion products (S2) 3) Production activities went well (S3) 4) Ease and low cost in marketing the product (S4) 5) Strong brand (S5) 	<p>Weaknesses</p> <ol style="list-style-type: none"> 1) Not all members understand the technology (W1) 2) Expenditure is unpredictable (W2) 3) Resource are easily (W3) 4) It is not easy to gain trust from consumers (W4)
<p>Opportunities</p> <ol style="list-style-type: none"> 1) Increased value proposition (O1) 2) There is another revenue stream (O2) 3) There are various trainings and seminars to add insight (O3) 4) Technology helps efficiency in general (O4) 5) Opportunity cooperation with new partners (O5) 6) Online media as a means of increasing business revenue (O6) 7) Easy in getting supplies (O7) 8) Broad market segment (O8) 	<p>Threats</p> <ol style="list-style-type: none"> 1) Not all products are in accordance with the wishes of consumers (T1) 2) Many competitors (T2)

Figure 1. SWOT Matrix

The TOWS analysis ensures that we can take into account and make good use of every opportunity outside for business improvement. At the same time we can also know and utilize internal potential. By analyzing the external we are also able to anticipate challenges from any external changes, even changing those (challenges) into new opportunities. The following are the results of the TOWS analysis:

- 1) S – O
 - a) Expand order distribution network (O4, O5, O6, O7, O8, S1, S4)
 - b) Optimization of god company name for business actors incorporated in SMEs Digital Village with better management (O1, S5)
 - c) Open sewing lessons (O2, S2)

- d) Improving HR Performance by providing regular training and seminar opportunities (O3, S3)
- e) Providing the best service (O8, S3, S5)
- 2) W – O
 - a) Maximizing the use of information technology in production and marketing process to increase business revenue (O4, O6, W1, W6)
- 3) S – T
 - a) Maintaining product quality to remain consumers choice (T1,S3)
 - b) Always innovate to stay competitive (T2, S3)
- 4) W – T
 - a) Conducting recruitment process to get employee who have competence in their field (T1, W1)
 - b) Active in seeking information on various technological advances to compete (T2, W1)

4.3. QSPM Analysis

Based on SWOT/ TOWS analysis, there are alternative strategies to support the economic growth of Baraya Digital SMEs Village by utilizing technology. To determine the right strategy alternative as a priority, QSPM analysis is performed. The QSPM analysis can be seen in Table 3.

Table 3. QSPM Matrix

No	Strategy Alternative	Weight	AS	TAS	Rating
1	Expand order distribution network	0.1	2.5	0.25	7
2	Optimization of good company name for business actors incorporated in SMEs Digital Village with better management	0.1	3	0.3	5
3	Open sewing lessons	0.05	3	0.15	9
4	Improving HR performance by providing regular training and seminar opportunities	0.15	4	0.6	1
5	Providing the best service	0.1	2	0.2	8
6	Maximizing the use of information technology in production and marketing processes to increase business revenue	0.12	3.1	0.37	2
7	Always innovate to stay competitive	0.1	3.1	0.31	4
8	Maintaining product quality to remain consumer choice	0.13	2	0.26	6
9	Conducting recruitment process to get employees who have competence in their field	0.05	2	0.1	10
10	Active in seeking information on various technological advances to compete	0.1	3.4	0.34	3

Selection of alternative strategies with QSPM method using the attractiveness score (AS) and total of attractiveness score (TAS). The calculation of QSPM analysis is based on the selection of the most preferred strategic alternatives by the respondents. Based on the results of the QSPM, to develop Indonesia from the periphery by strengthening regions and villages within the framework of a unitary state, in Baraya Digital SMEs Village, it is necessary to implement a strategy to develop

villages in the framework of optimization through:

- 1) Improving HR performance by providing regular training and seminar opportunities; as Wulandari and Alamanda (2012); and Engetou (2017) state that training and development is a necessity in every companies particularly for the unskilled or the less experience employees.

- 2) Maximizing the use of information technology in production and marketing processes to increase business revenue; as stated by Court (2015) that new technology tools are making adoption by the front line much easier, and that's accelerating the organizational adaptation needed to produce results.
- 3) Active in seeking information on various technological advances to compete; the increasing number of infrastructure of search, expansion and dissemination of information will be able to increase the number of information seekers. (Cooke, 2001)
- 4) Always innovate to stay competitive; it means innovation emerges, and under which circumstances innovation can serve as a source for competitive advantage (Brem, Maier, & Wimschneider, 2016).
- 5) Better company name for business actors incorporated in SMEs Digital Village with better management; brand names can influence consumer choice (Hillenbrand, Alcauter, Cervantes, & Barrios, 2013).
- 6) Maintaining product quality to remain consumer choice; the positive the perception of the quality, the greater the volume of sales (Putra, Hartoyo, & Simanjuntak, 2017).
- 7) Expand order distribution network; network adjustments creates significant savings for institutions (Greenland, 1995).
- 8) Providing the best service;
- 9) Open sewing lessons;
- 10) Conducting recruitment process to get employees who have competence in their field.

From literature studies on the Smart Village approach that exist in the world and also by looking at the indicators used to calculate sustainable societies, it appears that each approach has its own strengths. As seen in the use of Smart Village terminology, India and Kenya have different definitions. India built the concept of Smart Village through ecosystems while Kenya (Atieno & Moturi,

2014), especially the village of Ikisaya, built the Smart Village concept with a focus on the main problems in their area, namely electricity. Both have slices in activities where public education or value reform is part of the Smart Village ecosystem while in Kenya (Atieno & Moturi, 2014), this education is needed to support the sustainability of renewable energy in the area. The slices between the two countries that adopted this different approach imply that the ecosystem approach can work in harmony with the sectoral approach.

5. Conclusion

Based on the research, the results of the analysis with the IFE, EFE, IE, and QSPM matrix were made to decide and determine the best strategy recommended to Baraya Digital SMEs Village. The main strategy generated is the intensive strategy (market penetration) by developing a business with priority online marketing because it can reduce costs. Baraya Digital SMEs Village expected to be an example and also help the economic growth of villages in Indonesia. The result of the QSPM matrix is to improve HR performance by providing regular training and seminar opportunities. Another alternative strategy is to increase revenue by producing and marketing products and services by utilizing technological developments. The addition of the number of employees who are competent in the handling of work is an alternative strategy that get the last rating, because it is considered will add the cost structure on the Baraya Digital SMEs Village.

Strengthening the business model in the Baraya Digital SMEs Village is expected to expand the business by maximizing opportunities and anticipate existing threats. In the customer segment, Baraya Digital SMEs Village can expand the market by exploiting the growth of e-commerce. In addition, key activities by opening sewing lessons as a form of expanding the proportion of value to specific customer segments can also be conducted to add new revenue streams. Other key activities can be done by improving HR performance by

providing regular training and seminar opportunities.

Further research is expected to be able to deepen for other strategic alternatives. Further research can use resource based view (RBV) to focus on the development of existing resources so as to enhance the competitive advantage of other organizations or communities, especially Digital SME Village.

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