



IMPLEMENTATION OF QUINTUPLE HELIX MODEL TOWARD SME PRODUCT IN INDONESIA: RUMAH RANDANG CIK ANI (FOOD INDUSTRY)

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Abstract

SME in Indonesia is 64.247 million with 19% own by woman and 3% using a platform market place. SME contribute 60.34% of total GDP with tax only 0.5% per year 2018. With more than 250.000 million people and 17.504 island, Indonesia become a potential market to SME, especially in culinary and food industry. One of the famous food that love by Indonesian is

Rendang from West Sumatera as a part of Minangkabau Culture. One of the SME that produce Rendang with speciality in Seafood Rendang is 'Rendang Cik Ani'. The analysis for this enterprise was using a Quintuple Helix Model that represent five helix that give an impact to the enterprise. Trough the manager perspective, it found that between performance and potential performance.

Keywords: Food Industry, Gap analysis, PMS (Performance Measurement), SME (Small medium enterprise), Strategic, Quintuple Helix Model

INTRODUCTION

The total SME Indonesia is 64.247 million with 12.7 million own by woman. According to CNN Indonesia (2018) 3.79 million SME are using e-commerce such as Blibli, Tokopedia, Lazada, Bukalapak and Shopee. It is only 3% from the total SME that join a platform market place until October 2018 and Indonesia put a target for 2020 to reach 8% from the total SME. It is in line with the Ministry of Information's target regarding digital energy of Asia 2020 report that SME contribute 60.34% of total GDP and government put a new regulation to decrease the SME tax from 1% to 0.5% based on PP No. 23, 2018. The purpose is to reach the turnover Rp 4.8 billion. This policy was taken so the role in the fiscal sector would increase and reduce the tariff reduction scheme.

The business categorized into the Small and Medium Enterprise (SME) is expected to evolve and create new entrepreneurs. SME contributes substantially to employment opportunities and affects the national and local economies. SME normally is using local raw materials to the local market, for this reason, SME is not directly affected but the global crisis (Ratnanurni, 2015). Indonesia classified SME into three part based on their assets and revenues according to law No. 20/2008, as explain in Table 1.

Table 1. SME in Indonesia

Type	Maximum Assets (Rp)	Maximum Revenue (Rp)
Micro	50.000.000	300.000.000
Small	500.000.000	2.500.000.000
Medium	10.000.000.000	50.000.000.000

Source: Wikipedia (2019)

One of the fast turnover is in cuisine business and Indonesia won the first place by CNN for 'Rendang' in 2011 and 2017. Authentic Rendang Indonesia is from Minangkabau (West Sumatra). The original Indonesian-Minangkabau rendang divided into two categories; *rendang darek* (Rendang from Mainland) and *rendang pesisir* (Rendang from Coastal area). *Rendang Darek* mainly consist of beef and the famous beef that used is from Buffalo, It is also a symbol of Minangkabau culture. However, instead using buffalo because the price is very expensive, the customer use Cow that cheaper rather than buffalo for daily used. Meanwhile, *rendang pesisir* mainly consists of seafood, such as Oyster, Shrimp, Tuna, and others seafood. One of the producer Rendang with specialization in Rendang Seafood is Rendang Cik Ani that owned by Aswati Sjartoni (woman entrepreneur).

Rumah Randang Cik Ani is a household business that produces typical Minang cuisine, with the specific products is seafood rendang like oyster rendang . This form of business ownership is a single share that was established in 2009 as explained in Figure 1. The name Cik Ani is taken from the nickname of daily Aswati Sjartoni who was the initiator of this business and opened the first store in the centre of Padang in 2010. In addition, they also accept lunch boxes / dinner boxes / snack boxes for formal and informal events.

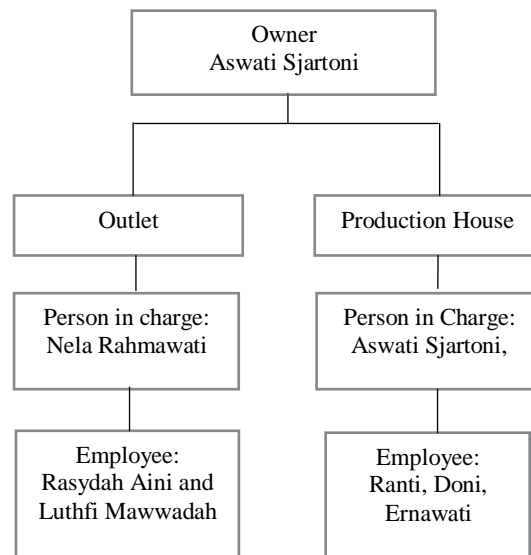


Figure 1. Organization Chart

Business promotion was done directly through visiting consumers, using social media, online stores and through local events such as culinary bazaar whether it was domestic or international event. The enterprise play a great role for local economy with open a job for housewife/peoples around production area, help a student to conduct a final research, hire internship student from

vocational school, buy ingredients from local supplier around West Sumatera, active to promote the local cuisine and join the woman entrepreneur.

Aim and Objective

The aim of this report is to analyze the innovation, production and financial problem that they face in the near future. The objectives are;

- Randang Cik Ani received help from government and bank related packaging, goods and capital, but it is not efficient because they can not reach the domestic market yet.
- Randang Cik Ani commit to promote the seafood rendang especially oyster rendang, but in fact Beef rendang is more famous than seafood.
- Randang Cik Ani need another certificate to fulfill the domestic standard related the expired date.

Assumption and Limitations

The sales average is below the target, it was only \pm Rp 20 million/month out of \pm 25 million. The enterprise needs to increase the production and hire more employee to maximize the sales result. However, the package need change and re-design. One option to increase the sales is to get more funding and increase the quantity of product. Based on the explanation above, there is a conceptual framework for this essay that represented in figure 2.

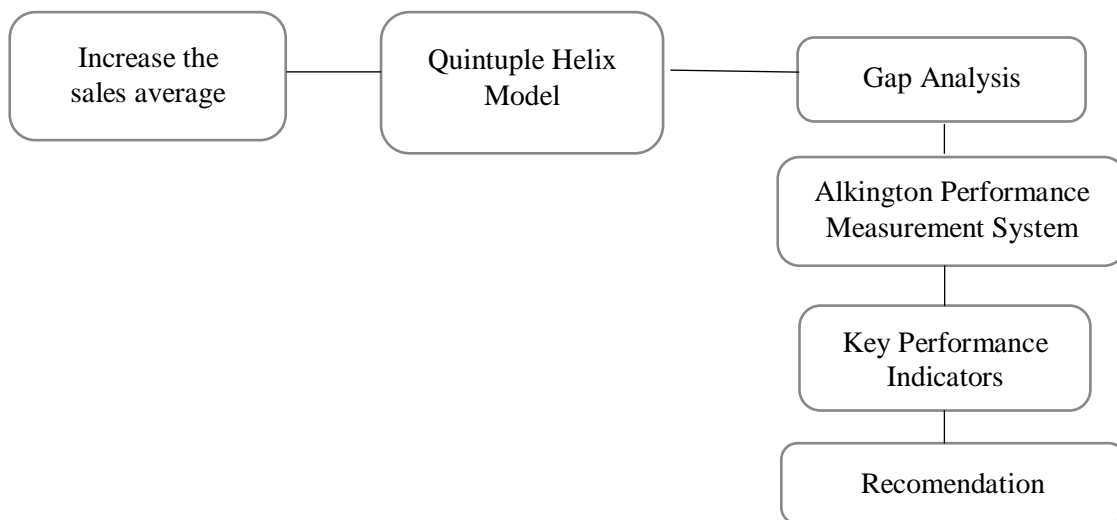


Figure 2. Conceptual Framework

Due to the escalation of climate change, Firm and market need to take an action to determine sustainable solution (Carayannis et al., 2012). Trought research, development and innovation,

and state aid defines a cluster as groups of independent companies such as innovative startup and SME (Popa & Popescupm 2013). Together, every cluster should be build a good relationship to create an innovation (Rufaidah, 2015), Based on conceptual framework above, firm can identify the problem solving trough quintuple helix model.

QUINTUPLE HELIX MODEL

Issues related to Triple Helix are divided into three parts; (1) institutional transformation, (2) mechanical evolution, and (3) academic revolution (Etzkowitz, H. and Leydesdorff, L. 2000). Sampersad (2015) states that strategies need to be carried out by stakeholders such as; government, university and industry so that innovation can be effectively carried out in management. This is due to the frequent occurrence of failures in building relationships between related parties and ineffective monitoring among stakeholders, as in figure 3. Innovation can be done by means of; The university supports industries both technically and managerially for industry, the government can act as a regulator and promoter of knowledge on economic networks, while industry can facilitate the process of scientific circulation by practicing it in the production process (Nakwa, K. Zawdie, G and Intarakumnerd, P 2012).

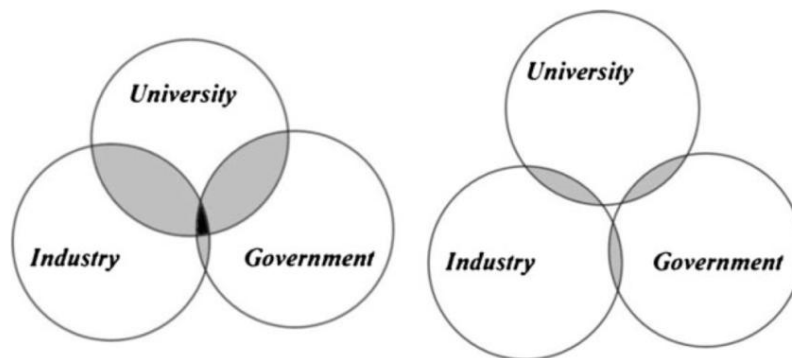


Figure 3. Triple Helix configuration with negative and positive overlap between three subsystems (Leydesdorff, 2012)

However, the development of life requires people to care about society and in this case need to be involved in industrial processes. So that in its development, a theory shift becomes a quadruple helix. Arnkil, R. Jarvensivu, A. Koski, P and Piiranien, T (2010) explained that the fourth group needed was "the community as users of innovation". The community has and can bring the innovation process so that new designs occur with different perspectives. Furthermore, players in the industry and government can develop innovations from the community.

Carayannis E.G and Rakhmatullin, R. (2014) reveal that the quadruple helix emphasizes the relationship with the creation of eco-system values, as in figure 4.



Figure 4. Innovation System of quintuple helix (Carayannis, E.G dan Campbell, D. FJ, 2014)

The main purpose of the quintuple helix is to combine natural environments into new subsystems on science and innovation models, so "nature" becomes a center and parallel components that are capable of producing knowledge and innovation. Natural environment is a process of producing knowledge, and creating new innovations is very important because of preservation, survival, and vitalization of humanity, and this allows for the creation of new green technologies; and humankind, however, we must learn from nature (especially in an already uncertain climate). With helix to natural environments, "sustainable development" and "social ecology" become constituents of social innovation and knowledge production (Carayannis and Campbell, 2010). As shown in figure 5 below.

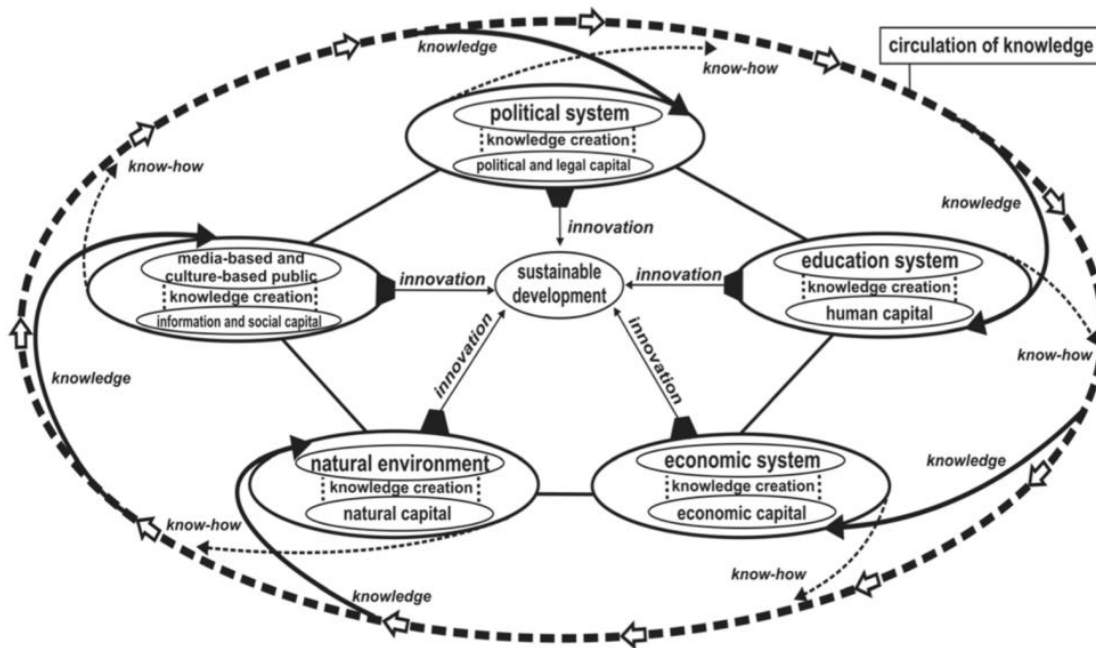


Figure 5. *The Quintuple helix model and the function* (Carayannis, E.G. Barth, T. D. and Campbell, D.FJ 2012)

At the end result of implementing the quintuple helix is the interplay between knowledge to promote sustainability through new innovations. Based on the quintuple helix model theory, it can implement in SME for Rumah Randang Cik Ani.

Economic

In this helix, the firm need to focus to increase the revenue of product. Take some loan can be helpful to increase the production, but at the same time, it will increase the debt ratio. Micro editing and social banking must be supported, to share the risk on funding social companies taking role in supporting society task. Company can search a way with hire an internship student and gave some incentive. Company can reduce the price for some ingredients especially meat, with join with a butcher (to buy cow or buffalo with a special price) or get directly from the breeder in rural area. It can be practice with chili, get some specific chili supplier from a village can reduce the cost and make sure that company will get enough chili event it's not the season or when the price is suddenly increase (because it's related with loyalty and revenue both company and farmer). Nowadays, the enterprise also give a contribution to local community trough open temporary job for housewives or peoples around their production area during peak season (around May until July during Ramadhan and Idul Fitri-Islamic Celebration).

Academic

Firm need to join with researcher or academic to conduct some research related with their business. Together with academic, firm can provide a training accelerating technology or knowledge update the access to local market It can be from the marketing perspective, the product quality or even the management strategy. Trough this agreement, both of firm and researcher or academic will gain a benefit for the future. However, it prove that this enterprise lead to be flexible and follow the latest trend based on education perspective trough join a seminar that is not common in most of SME in Indonesia. Last October 2018, the enterprise invited to joint for 7th Sustainable International Conference on Sustainable Future for Human Security in conjunction with 3rd international Conference on Green Development in Tropical Regions.

Environment

Even Rendang Cik Ani is SME firm, it's important to practice the sustainability and addresses the social ecology to be aware for environmental issue (Park, 2013). Enterprise can use plastic that safe to put in microwave (disposable and biodegradable), so it will be easy for young people or traveler to heat the food. Enterprise can practice the sustainability product with direct education for chili farmer, breeder cow and buffalo and coconut farmer. Company can do the knowledge transfer to teach them how to increase the production and reduce the pesticide usage. Because the owner and manager of the company is someone that understand and have a background of healthy and medicine knowledge. However, trough help from student who conduct the research to company can make a mutual benefit to help the supplier (farmer of chili, coconut and breeder) to teach them in a better way. Nowadays, the enterprise decided to produce vegan rendang for specific people that try to avoid meat consumption. With the background of the owner in health society education, the enterprise get a fame for this kind of rendang.

Government

Government provide help for the firm trough an event or even provide seminar to teach firm about business process. However, government need to evaluate the result frequently. Because without government concern, the firm will loss the track and at same time, market always changing. It is possible for government to enhance the growth of industrial sector trough cluster approach (Nakwa et al., 2012). Therefore, the enterprise joint the cash less trend trough BNI (one of the largest bank in Indonesia under government) for YAP app (your all payment). The enterprise actively join an event to introduce their product that facilitate by local government

(both West Sumatera or even national level) and several time joint for international event in Malaysia.

Media and culture based public

Technology face the rapid change everyday and firm need to realize that Indonesia is one of the biggest internet and media social user. Media and a diverse set of actors can bring an innovation culture to communicate with the market (Park, 2013). Trough the understanding about the importance of media, firm can analysis and re-arrange the target market. Innovation from the firm should be regarding as dependent on a system of institutional and cultural context (Lindeberg & Lindgren, 2010). It will very helpful to define the strategic map for the firm. Focus in packaging and media social platform marketing. Because the packaging design that the firm use now is not representative. Indonesia have more than 250 million people and 75% is young generation. Based on Setyanti, (2017) creative industry entrepreneur will create a new products and services that are difficult to imitated by competitors. The current design, it was not enough to attract young generation to buy the product. Young customer focus on eye catching product before they decided to buy. Re-design the packaging, include the model will give more impact for customer, especially young people that only need compatible product. The enterprise insist to joint in Go-Food App (one of the unicorn company in and the most common app that use in Indonesia) and success to increase their sale trough young customer that prefer to choose buy online app.

GAP ANALYSIS

Analysis the problem that company faces now and compare with their expectation. Nowadays, company faces some problem related with sale revenue, funding, total employee, marketing strategy, packaging design, value added of the product, partnership, innovation, certificate (ISO, Expire date, etc). Dunn (2003) said that among the implementation of policy always have a gap between expectation and the fact on the field.

Gap analysis is an analytical tool that compares actual conditions with expected conditions. According to Wiedjarnarko, Fauzi, and Rusli (2015) the results of the gap analysis can also be used to compare the conditions of the rendang production. In this study a gap analysis was conducted to measure the perceptions of the company's internal parties on the performance of Randang Cik Ani's SME compared to the expected ideal conditions. The difference between the two variable was expressed as the gap to be measured in size. The highest gap value was used as a formulation material to improve the sustainability of the company's competitiveness to be compiled in this study. Experts assess that the company's

performance is lower than they expected. Out of 22 variables, 91% have a negative gap and a positive 9% gap (Figure 6). Two variables have the same gap are Cooperative and Learn and practice with suppliers have zero gap. It means that, between expectation and Performance are equal or achieve.

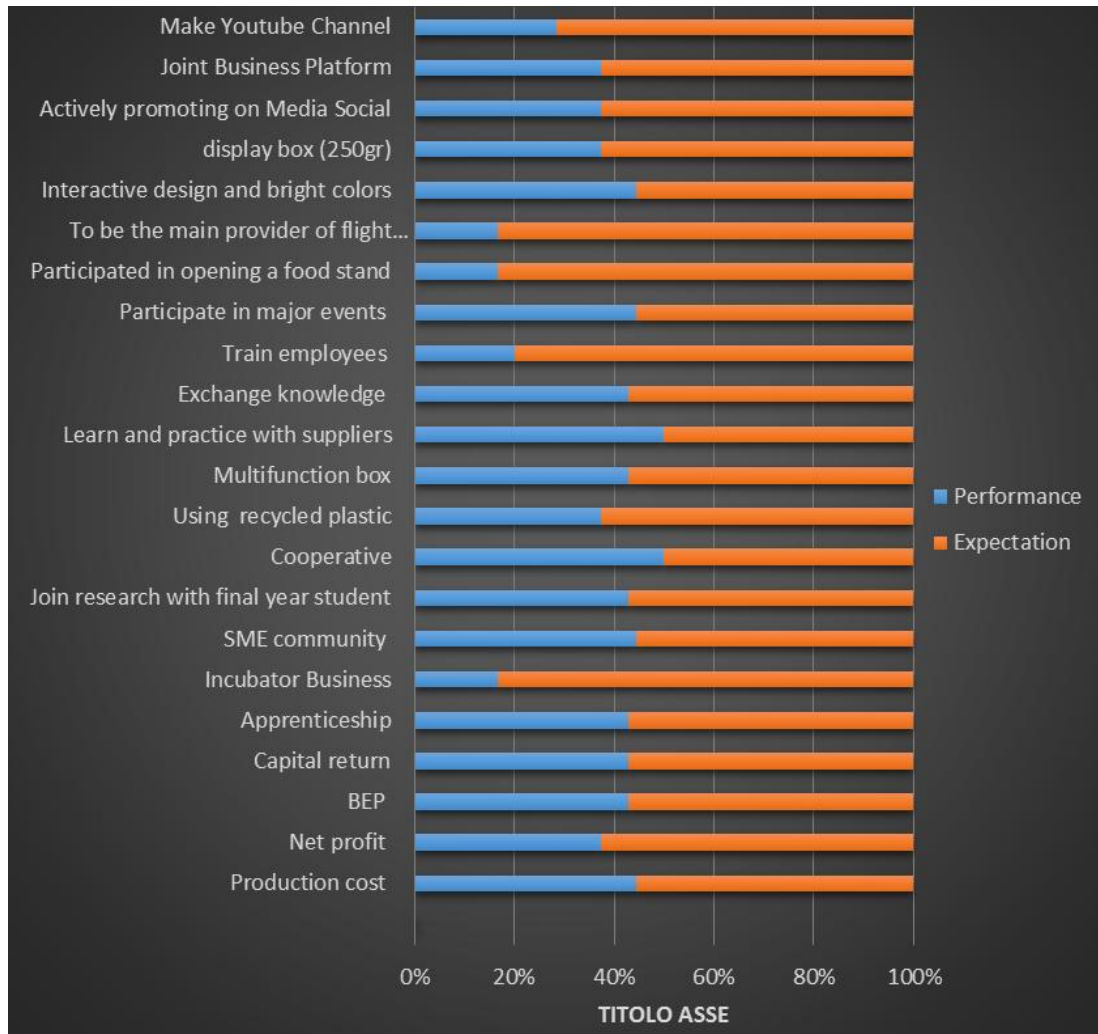


Figure 6. Gap Analysis

Company need to join with Incubator business that mostly conduct by university. Help from research are needed in this case to increase the revenue of Randang Cik Ani. Promotion during some event by government bazar (open a food stand) is very important to increase the marketing strategy of the company. However, being a must dishes in flight food is consider as powerful marketing for business. However, the rest of gap analysis were not show a huge gap. Through some improvement, The gap will minimize.

PERFORMANCE MEASUREMENT SYSTEM (PMS)

PMS used to classified the five helix, the purpose of strategy, critical success factor (CSF), and Key performance indicator (KPI):

Table 2: PMS

Helix	Strategy Purpose	Critical success Factor	Key Performance Indicator
Economy (Firm)	Expand income opportunities (primary goals)	Increase the revenue	Production cost
		Profitabilitas	Net profit margin
		Operational cost	BEP
			Time of return on capital
Academic (Economic/ Business Faculty and final year students)	Build relationship with university and vocational school (secondary goals)	Conduct the internship	Hire a vocational school student to do the internship for 6 month
		Incubator business	Join the incubator business in university
		Conduct the company visit	Join in the list of SME in government province, ministry of industry and some business platform
		Allow or ask some final year student to conduct a research in a firm	Provide the document for student to do the research
			Be cooperative and allow student to give some suggestion
Environment (NGO or activist)	Practice the green product (secondary goals)	Adjust some packaging	Use a green plastic (reusable and reusagse), from singkong
			Design a creative box that can use for another purpose or art

Helix	Strategy Purpose	Critical success Factor	Key Performance Indicator
		Tranfer knowledge to supplier	Teach and practice together with supplier how to fertilize a good chili, coconut and learn some new information tech from a university student
			Transfer knowledge how to produce/get a high quality of beef or seafood from a researcher, or university student during an internship program.
		Teach the employee about the knowledge of green product	Training the employee and provide some certificate of attendance for green product
Government (Local, Regional and National Public Authorities)	Joint with more event (secondary goals)	Joint the national level event	Participate in a big event such as : 'Aku Cinta Indonesia', Culinary festival, And some event in the capital city (Jakarta)/some big city in Indonesia
		Join the International level event	Open a stand periodically in Malaysia under the ITPC (International Trade Promotion Centre) by Ministry of Trade and others country
		Joint with ministry and BUMN (government company)	Become a main food in flight (Garuda Indonesia) and others flight company and create a special gift for high rank person (government guest)
Media and culture public customer)	Innovation of product (secondary goals) based (Young customer)	Re-design the package	Design with attractive picture and bright colour
			Change the packaging (250 gram)

Helix	Strategy Purpose	Critical success Factor	Key Performance Indicator
		Active in some media social	Active in Instagram (business purpose) and make some endorsement
		Joint some platform business	Join in Bukalapak, Tokopedia, Lazada, Shopee, GoFood and others platform with direct selling by Rendang Cik Ani
		Make an advertising online	Make a Youtube story or endorse the food lovers to promote and give a review

Based on the PMS Atkinson, the primary goal is expand income opportunity and others are secondary goal. After company know the goal, company have to know what CSF and KPI that appropriate to implement.

CONCLUSION AND RECOMMENDATIONS

Based on the results of the design performance measurement system at Rendang Cik Ani with the Quintuple Helix Model method, on economic helix there were 3 CSF and 4 KPI, academic helix 4CSF and 5 KPI, Helix environment obtained 3 CSF and 5 KPI, helix government got 3 CSF and 3 KPI and Helix Media and culture based public 4 CSF and 5 KPI. Based on the findings, following recommendations are made:

- Firm need to change the package to enter the national market, specifically for young customers.
 - Firm need to adjust the packaging to attract the International buyer based on the country preference.
 - Create a strong branding for seafood rendang, especially for oyster rendang and endorse the social media influencer to promote the product.
 - Fulfill the requirement to get a specific certificate, such as: expire date, Halal by MUI, etc
- For the next research, the fellow researcher can add comparison between Randang Cik Ani (Randang Seafood) and others produsen (Randang Beef) which more knowledgeable in the market.

REFERENCES

- Arnkil, Robert. Jarvensivu, anu. Koski, Pasi. dan Piirainen, Tatu. 2010. Exploring Quadruple Helix: Outlining user-oriented innovation models. Institute for Social research. University of Tampere.
- Dunn W. 2003. Pengantar Analisis Kebijakan Publik. Wibawa S, Asitadani D, Hadna AG, Purwanto EA, translator. Jakarta (ID): Gadjahmada University Press. Translated from: Public Policy Analysis.
- Carayannis, E G. dan Campbell, David F.J. 2014. Developed democracies versus emerging autocracies: arts, democracy, and innovation in quadruple helix innovation systems. *Journal of innovation and entrepreneurship* 3:12
- Carayannis, E G. dan Campbell, David F.J. 2012. Mode 3 Knowledge Production in Quadruple Helix Innovation Systems. *SpringerBriefs in Business* 7
- Carayannis, E G. dan Campbell, David F.J. 2012. Open innovation Diplomacy, Quadruple Helix Innovation, "Mode 3" Knowledge Production system, and Fractal research, Education and Innovation ecosystems (FREIE). *Journal Knowledge of Economy*. Vol.2 (327-372)
- Carayannis, E. G. Barth, T. D. dan Campbell, D. F. J. 2012. The quintuple Helix innovation model: global warming as a challenge and driver for innovation. *Journal of innovation and entrepreneurship* 1(2), 1-12. doi:10.1186/2192-5372-1-2
- Carayannis, Elias G. dan Rakhmatullin, Ruslan. 2014. Quadruple/Quintuple Innovation Helixes and Smart specialization Strategies for Sustainable and Inclusive Growth in Europe and Beyond. *Journal Knowledge of Economy*. Vol. 5 (212-239).
- Carayannis E G & Campbell D FJ (2010). Triple Helix, Quadruple Helix and Quintuple Helix and how do knowledge, innovation and the environment relate to each other? A proposed framework for a trans-disciplinary analysis of sustainable development and social ecology. *International Journal of Social Ecology and Sustainable Development*. Vol 1. No 1. P 41-69
- Etzkowitz Hendry, 2000. The dynamics of innovation: from national Systems and "Mode 2" to a triple Helix of University-industry-government relations. *Research Policy* 29 (109-123)
- Lindberg, M., Lindgren, M., & Packendorff, J. (2011, July). The role of NGO's in supporting women's entrepreneurship: A study of Quadruple Helix innovation systems in the Baltic Sea region. Paper presented to the stream "Shaping the spaces between state and Retrieved from <http://www.diva-portal.org/smash/get/diva2:455762/FULLTEXT01.pdf>
- Nakwa, K., Zawdie, G., & Intrakumnerd, P. (2012). Role of Intermediaries in Accelerating The Transformation of Inter Firm Network Into Triple Helix Networks: A Case Study of SME-Based Industries in Thailand. *Social and Behavioral Science*, 52, 52-61. doi : 10.10116/j.sbspro.2012.09.441
- Park, H. W. (2013). Transition from The Triple Helix to N-Tuple Helices? An Interview with Elias G Carayannis and David F. J? Camphell. *Sciento Metrics*, 99 (1), 203-207. doi:/10.1007/s11192-013-1124-3
- Popa, I., & Popescup, D. i. (2013, November). The Importance of Innovative Clusters' Proliferation for Sustainable Economic Growth of Romania. *Proceeding of the 7th International Management Conference "New Managements for The New Economy"*, Bucharest RO. Retrieved from <http://conferinta.management.ase.ro/archives/2013/pdf/67.pdf>
- Rampersad, G. C., 2015. Managing Innovation Cluster: A Network Approach. *Journal of management and Strategy* Vol. 6:3
- Rufaidah, P. (2015). Branding Strategi Berbasis Ekonomi Kreatif: Triple Helix VS. Quadruple Helix. *Researchgate.net*. doi: 10.13140/RG.2.1.4132.7208
- Saurabh, Punit. Bholra, Prabha. Guin, Kalyan Kumar. 2014. Reviewing the Knowledge Systems of Innovation and the Associated Roles of major Stakeholders in the Indian context. *Technology Innovation Management review*. 4(8): 36-45
- Setyanti, S W L H. (2017). The Quadruple Helix Model: Enhancing Innovative Performance Of Indonesian Creative Industry. *International Journal of Scientific & Technology Research*, 6 (11), 90-94. Retrieved from <http://www.ijstr.org/final-print/nov2017/The-Quadruple-Helix-Model-Enhancing-Innovative-Performance-Of-Indonesian-Creative-Industry.pdf>
- Sindakis, S., & Walter, C. (2015). *The Entrepreneurial Rise in Southeast Asia: The Quadruple Helix Influence on Technological Innovation*. New York: Palgrave Macmillan. doi:10.1355/ae32-3j
- Undang-Undang No. 20 Tahun 2008 tentang Usaha Mikro, Kecil, dan Menengah. Jakarta : Sekretariat Negara.

Wiedjanarko A, Adiwibowo S, Widodo. 2011. Analisis keberlanjutan praktik pertanian organik di kalangan petani. Jurnal Transdisiplin Sosiologi, Komunikasi, dan ekologi Manusia. 71-79

Wikipedia. 2019. Retrived: https://en.m.wikipedia.org/wiki/Small_and_medium-sized_enterprises

APPENDICES

SME Store and Product



Prediction Of Annual Production Results

(Projection For 1 Year)

A. The initial cost of the first 3 months rendang production

Cost Group	The amount of costs	Unit amount of costs	Total costs
I.Fixed Capital Estimates			
1. Pre Investment			
a. Permit	Rp. 100.000		
b. Survey	Rp. 200.000	Rp. 300.000	Rp. 300.000

2. Store				
a. Rent	3 year @	Rp. Rp.	15.000.000	Rp. 45.000.000
	15.000.000/year	Rp.	25.000.000	Rp. 25.000.000
b. Renovation		Rp.	15.000.000	Rp. 15.000.000
c. Store Equipment				Rp.85.000.000
3. Equipment and Tools				
a. Box / Outer Packaging		Rp.	6.900.000	
b. Inner Packaging		Rp.	500.000	
c. Shopping Bags		Rp.	500.000	
d. Stationery		Rp.	500.000	Rp. 8.900.000
				Rp. 8.900.000
4. Pre Investment Loan (Bank, 1 month)				
		Rp.	5.410.000	Rp. 5.410.000
				Rp. 5.410.000
5. Kitchen Remodeling and Addition of Facilities				
		Rp.	15.000.000	Rp. 15.000.000
				Rp.15.000.000
Fixed Capital Total				Rp.114.610.000
II. Estimated Working Capital (3 months)				
1 month				
3 month				
Total				
1. Employee				
a. Leadership salary of 2 people,		Rp.	2.400.000	Rp. 7.200.000
1,200,000 / month		Rp.	1.800.000	Rp. 5.400.000
b. Shop Employee Salary 2 org				
@ 900,000 / month		Rp.	4.500.000	Rp. 13.500.000
c. Production Employee Salart 3				
people @ 50,000 / person /				
day				Rp. 26.100.000
2. Fixed Cost				
a. Electricity /Water		Rp.	800.000	Rp. 2.400.000
b. Credit balance/Data		Rp.	800.000	Rp. 2.400.000
Package/Wifi		Rp.	50.000	Rp. 150.000
c. Stationery		Rp.	500.000	Rp. 1.500.000
d. Fuel		Rp.	50.000	Rp. 150.000
e. Social Contribution				Rp. 6.600.000

3. Production Preparation			
a.Raw Material	100 kg/month	Rp. 11.000.000	Rp. 26.400.000
@.110.000		Rp. 2.600.000	Rp. 7.800.000
b.Coconut Milk	20 package/month	Rp. 1.500.000	Rp. 4.500.000
@Rp. 130.000			Rp. 38.700.000
c.Gas, etc			
Amount of Working Capital		Rp. 69.840.000	Rp. 71.400.000
Total Cost			Rp. 186.010.000

B. Production Cost of Rendang for 1 Year

Cost Operational	Cost	Total (1 year)
a. Fixed Cost		
1. Leadership Salary	Rp. 1.200.000	Rp. 14.400.000
2. Employee Salary	Rp. 1.800.000	Rp. 21.600.000
3. Store maintenance costs (5%)	Rp. 15.000.000	Rp. 750.000
4. item depreciation (20 %)	Rp. 15.000.000	Rp. 3.000.000
5. Capital Interest (20%)		
• Fixed Capital	Rp. 114.610.000	Rp. 22.922.000
• Working Capital	Rp. 60.840.000	Rp. 12.168.000
6. Regular / General Fees	Rp. 2.200.000	Rp. 26.400.000
Total		Rp. 101.240.000
b. Variable Cost		
1. Ingridients		
• Raw Material	100 kg/month	Rp. 132.000.000
@.110.000	Rp. 11.000.000	
• Coconut Milk	20 package/month	Rp. 31.200.000
@Rp. 130.000		
• Gas, etc	Rp. 2.600.000	Rp. 18.000.000
2. Packaging		Rp. 12.000.000
	Rp. 1.500.000	

Total	Rp.	193.200.000
Total production cost of 1 year	Rp.	294.440.000

c. Prediction of Production Revenue Per Year

(Estimation of Rendang Daging Production)

A. Production Estimation

1. Price of Beef Rendang Rp. 260.000 per kg
2. Final yield of Rendang (add 25% x raw material) :

Per month: 125 kg

Per year: 125 kg x 12 month = 1.500 kg

3. Sales results per year:

Price of rendang x production per year

Rp. 260.000 x 1.500 kg Rp. 390.000.000

B. Calculation for Profit and loss

Sales Results	Rp. 390.000.000
Production Cost	<u>Rp. 294.440.000</u> –
Gross Profit	Rp. 95.560.000
Tax, etc (10 %)	<u>Rp 9.556.000</u> –
Net Profit per year	Rp. 86.004.000
Average net profit per month	Rp. 7.167.000

C. Feasibility Study

BEP (*Break Event Point*)

- Fixed Cost Rp. 101.240.000
- Variable Cost Rp. 193.200.000
- Sales Results Rp. 390.000.000

Formula BEP :

$$\frac{\text{Fixed Cost.}}{[1 - (\text{variable cost})]} = \frac{76.000.000}{[1 - \frac{193.200.000}{390.000.000}]} = \frac{76.000.000}{[1 - 0,50]} = 152.000.000$$

Percentage BEP

Formula :

$$\frac{\text{Fixed Cost x 100 \%}}{\text{Sales Results - Variable Cost}} = \frac{76.000.000 \times 100 \%}{390.000.000 - 193.200.000}$$

$$\frac{76.000.000}{196.800.000} \times 100 \% = 38,62$$

Capacity BEP

Formula : Percentage BEP x Sales Results= 38,62 x 1.500 kg = 57,930 kg per year

Calculation of Time of Return on Capital

- Return on Capital.

$$\frac{\text{Net profit per year + Depreciation}}{\text{Initial Investment}} \times \% = 47,85$$

$$\frac{86.004.000 + 3.000.000}{186.010.000} \times 100 \% = 47,85$$

- Turn over period : $\frac{1}{47,85} \times 100 \% = 2,09$ year

Gap Analysis

No	Variable	Performance	Expectation	Gap
1	Production cost	4	5	-1
2	Net profit as a whole	3	5	-2
3	BEP as targeted	3	4	-1
4	Capital return target	3	4	-1
5	Receive apprenticeship employees from SMK	3	4	-1
6	Join a business incubator from the university / offer assistance from the university for business assistance	1	5	-4
7	Join the SME community in the province, the ministry of industry and several business platforms	4	5	-1
8	Willing to work with final level students to find the best strategy for the company	3	4	-1
9	Cooperative and receive input from the results of student research	4	4	0
10	Using plastic that can be recycled	3	5	-2

No	Variable	Performance	Expectation	Gap
11	Use a multifunction box for the product, so that the buyer will save the Cik Rendang Ani box as a display	3	4	-1
12	Learn and practice together with suppliers about how to plant good for chillies, coconuts and hear some of the latest information from students	4	4	0
13	Exchange knowledge about how to produce or obtain quality buffalo / beef / seafood meat from researchers or students during the internship program	3	4	-1
14	Train employees and provide certificates of attendance / appreciation about environmentally friendly products	1	4	-3
15	Participate in major events such as: 'I Love Indonesia' food festival, and some of the big events held in Jakarta or other big ones.	4	5	-1
16	Participated in opening a food stand under the ITPC held in Malaysia or several other countries	1	5	-4
17	To be the main provider of flight services (such as Garuda Indonesia, Lion air, etc.) and to be special souvenirs for foreign or state officials	1	5	-4
18	Interactive design and bright colors. And follow the current design	4	5	-1
19	Change model / display box (250gr)	3	5	-2
20	Actively promoting on Instagram (as a business destination) and making several endorsements	3	5	-2
21	Join Bukalapak, Tokopedia, Lazada, Shopee, GoFood and other business platforms by direct selling by Rendang Cik Ani	3	5	-2
22	Make Youtube Channel or endorse food lovers / food critics in the current style of young people to promote and give honest reviews about Rendang Cik Ani	2	5	-3