Analysis of Managerial Innovation in UHT Milk Company

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Abstract

Due to the decline in the company's market share, a UHT milk company in Indonesia needs to innovate its products. The potential to continuously innovate the product can be measured by their managerial innovation level. The study measured managerial innovation and its critical success factors of a Food & Beverages Company in Indonesia. To measure the level of managerial innovation of the company, we used two types of instruments. The first were questionnaires, using the employees as the respondents. The second was observation. The executives of the company performed it. To identify the critical success factors, we used questionnaires to check the perceptions of customers. The result of the innovation level in the X company is 57%. The critical success factors from the creation element are values and organizations, and success factors from the deployment element are licensing, distribution, marketing, and launch timing.

Keywords: managerial innovation, management functions, fuzzy AHP

INTRODUCTION

The X company is a food & beverage company that has become Indonesia's first UHT milk industry. The product has been developed since 1975 and has evolved consistently according to Indonesian needs. Besides UHT milk, the X company is also developing other UHT beverages. The company has produced more than 60 UHT products, which gained market both in Indonesia and foreign countries (Ultrajaya, 2014 - 2018). The company's Management also consistently applied modern technology to support the packaging process, logistics, and IT (Ultrajaya, 2014 - 2018). With many years of experience in the UHT industry, producing a new downstream product with higher values was also supported by new technology in packaging and business process efficiency. As a result, the X company dominated the 49,5% market in the UHT milk segment. It can be concluded that this is an innovative company because it has developed many new products that were absorbed by the market (Silitonga & Sitepu, 2018)

Along with the increasing level of community welfare, the demand for consumer goods also increased. This has led to the emergence of other manufacturers engaged in the beverage industry and becoming competitors for the company (Ultrajaya, 2014 - 2018). This impacts the decline in the company's market share since 2014.
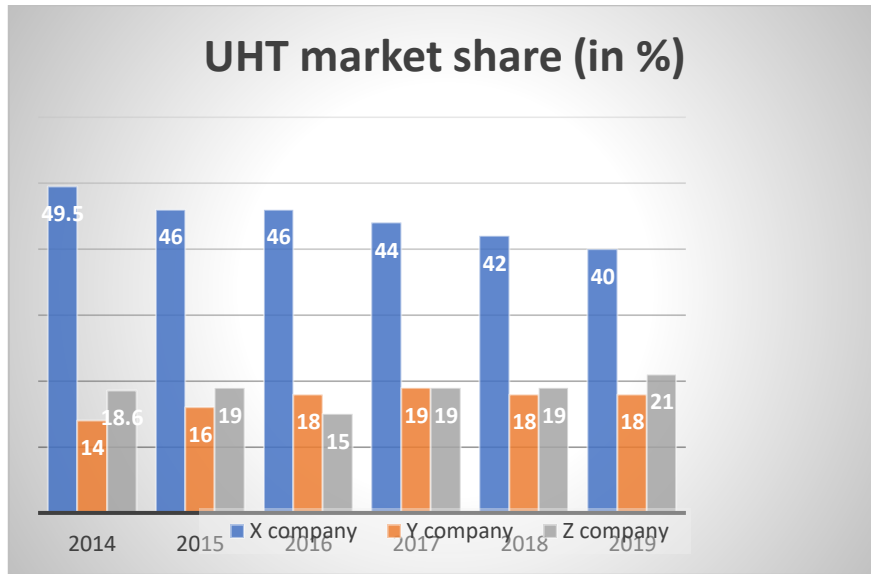
Figure 1. UHT milk's market share (in %) (Ultrajaya, 2014 - 2018)

Compared to the level of consumption of liquid milk, Indonesia has increased the level of consumption of liquid milk. If this decline in market share continues, the company's revenue will be affected because, based on the company's public exposure, 71% of the company's income comes from UHT milk (Ultrajaya, 2017 - 2019).
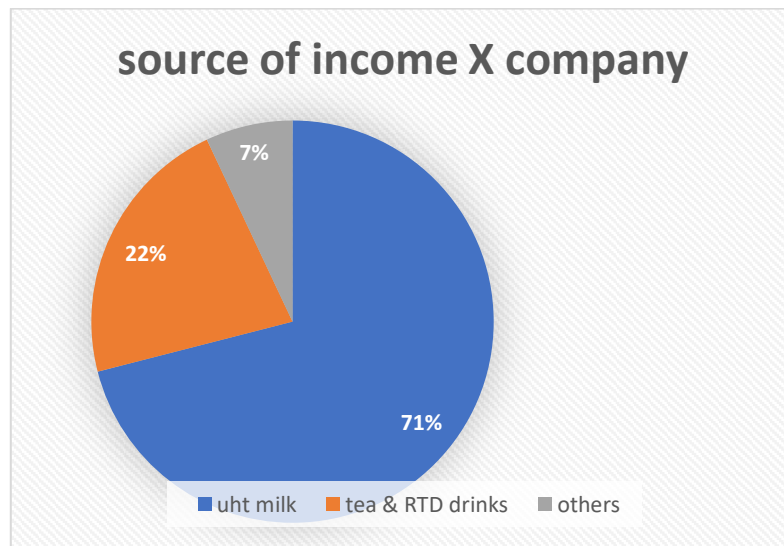

Figure 2. Source of income (Ultrajaya, 2017 - 2019)

The decline condition indicated that the company products reached maturity (Vernon, 1966). If the company does not innovate, the product will reach the decline stage, where the market is no longer interested in the product dying (Vernon, 1966). On the other hand, innovation in the product or process will attract consumer interest (Hartono, 2018), making the company superior to other companies (Joe Tidd, 2009). Therefore, it is crucial to conduct research related to managerial

innovation in the X company. By knowing the level of managerial innovation, the X company will be able to utilize its potential optimally so that its product does not reach the decline stage and remain a market leader for UHT milk in Indonesia. The measurement of managerial innovation level has been presented by (Ayhan & Oztemel, 2014) in manufacturing companies. The study measured managerial innovation based on the evolution of managerial functions: planning, organizing, leading, controlling, and coordinating. Found in these five functions, the level of the managerial functions is determined using the results of the questionnaire and observations applied to the company. The result showed that the innovation score for the manufacturing company was below 50%, but it was not explained how to measure the weight of managerial functions. Silitonga & Setiawati (2018) has demonstrated the measurement of managerial function weights using AHP pairwise comparison. This method is easy to use in multiple criteria decisions. However, the AHP also produced wrong choices, and the results are uncertain due to observations that produce subjective data (Emrouznejad & Ho, 2018). Therefore, in this research, the Fuzzy AHP method was selected. This method is better because it reduces the uncertainty that arose in decision-making with the ordinary AHP (Emrouznejad & Ho, 2018) and covered weaknesses in ordinary AHP regarding subjective criteria (Irawan, 2018).

The purpose of the study is to measure the managerial innovation level of the company based on the evolution of managerial functions, and the measurement of managerial function weights is proceed using Fuzzy AHP.

LITERATURE REVIEW

Managerial innovation is the company's ability to change and handle changes that occur in its managerial structure so that it can be in line with a company's development in the most appropriate way. To deal with these changes, managerial innovation needs to be measured by analyzing the level following the stages of managerial evolution. Managerial evolution occurs in five managerial functions: planning, organizing, leading, controlling, and coordinating (Sutisna, 2019). The measurement is done by giving weight to the five existing managerial functions. As explained (Silitonga & Sitepu 2018), the greatest importance is given to the most modern managerial functions. The measurement's final value will demonstrate the potential size of the company's managerial innovation—the higher the value, the greater the company's potential for innovation.

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Figure 3. Managerial Function Evolution

Figure 3 shows the evolution of managerial functions. Again, the value of managerial innovation will be higher if the organization's position increases to the right—the further the right position, the greater the company's potential to innovate.

Critical Success Factors for Innovation
According to (Sutisna, 2019) and (Drucker, 2015), two main elements underlie innovation in the company. The elements are creation and innovation. Escape from the past can be interpreted as a change that is changing the paradigm of thinking of the past into the paradigm of thinking today. Invent the future is described as an innovation that follows up on these changes. This change and innovation ultimately force the company to shift the way the company conducts its business to survive facing disruption.

It cannot be said as an innovation if a product that uses new technology cannot positively impact human life. However, innovation can be complete if there are:
    a. Value-added in product creations
    b. The value-added impact on human life.

Creations
Four elements need to be considered to create an innovative product. They are value, rarity, imitability, and organization (Sutisna, 2019); (Drucker, 2015).
    1. Value
        Value is the main element in the creation of an innovative product. It is said as a necessary value-added to innovate a product. A product is valuable if it can meet the needs that the market never accommodated before and make the company survive the changing times.
    2. Rarity
        Rare means there is not widely available in the market, and there are no substitute products that have the same quality as those produced by the company. Besides, these products must be able to fulfill human needs in the long term.
    3. Imitability
        Imitability means the ability of a product to be imitated by competitors. Companies must have the creativity and continuous innovation to have improved quality, so others do not

easily replicate it. Companies can also do trade protection legally, such as grating patents, trademarks, and product copyrights.

4. Organization

The organization is needed to achieve a competitive advantage. A good organization consists of three elements: company structure, management control that can evaluate all the frameworks taken according to the company's vision, and compensation following the workload of employees.

Deployment

Deployment activities play an essential role, so the products that have been created can be distributed well. If this activity is not done correctly and effectively, then the product that has been created fails to be accepted by the market and makes innovation fail. Five key elements make this activity successful (Drucker, 2015):

1. Launch Timing

Companies must know the right time to release their products to the market. Three elements that must be considered are seasonal effect, meaning that the product must be launched when the market is looking for and need it; market positioning, meaning to know the condition of existing technology in the market compared to product technology; and also the company must know its production capacity to meet market demand if the product is sought after in the market.

2. Licensing

Licensing means the company must be able to determine the openness of a product strategically. The company must protect its product well. The company also needs to understand the compatibility between product technology and community technology to access well.

3. Pricing

Pricing will simultaneously influence the positioning of a product on the market, the level of product adoption, and cash flow. Two models can be used: maximum market skimming if the company wants its product to get a strong signal in the market or maximum market share if the product can be directly bought and used by the public.

4. Distribution

A good distribution system can guarantee the product circulates effectively in the market. Companies can build alliances with distributors, carry out bundling strategies, carry out contracts and sponsorships, or provide guarantees and consignment.

5. Marketing

Marketing aims to make innovative products easier to adopt and create a good perception of innovative products. It can be done by advertising the products to increase public awareness and promotions by providing free samples and publications in various media.

Measurement of Innovation Managerial Level

An organization's measurement of managerial innovation level can be measured with the method developed by Ayhan and Oztemel (Ayhan & Oztemel, 2014), where companies with great potential in innovation are companies with managerial innovation scores above 50%. This innovation score is based on the level of evolution of managerial function that has been given a weighting for each of these functions. The weight for each function will be shown in Table 1. Thus, the managerial

function is seen from its evolution in the company, and the value of innovation is obtained by making direct observations.

Table 1. Weight for each managerial function

Manufacturing Management Types	Planning	Organizing	Leading	Controlling	Coordinating
Pre Scientific Management (20)	Rules (1)	Product (1)	Dictation (1)	If required (1)	Direct (1)
Departmental Management (21)	Procedures (2)	Departmental (2)	Hierarchical (2)	Scheduled (2)	Hierarchical (2)
Process Management (22)	Planned Processes (4)	Processes (4)	Supportive (4)	Flexible (4)	MIS (4)
Management by Objective (23)	Programs (8)	Customer (8)	Participatory (8)	Continuous (8)	Internet (8)
Virtual Management (24)	Rolling plans (16)	Territory (16)	Esteemed (16)	Aggregated (16)	AI (16)

Analytic Hierarchy Process (AHP) is a broadly applied multi-criteria decision-making method to determine the weights of criteria and priorities of alternatives in a structured manner based on the pairwise comparison. As subjective judgments during comparison might be imprecise, fuzzy sets have been combined with AHP. This is referred to as fuzzy AHP or FAHP (Liu, Eckert, and Earl, 2020). Fuzzy AHP is a method with a fuzzy concept approach. FAHP covers the deficiencies arising from the usual AHP method, that is many subjective traits problem that occurs in assessment criteria (Chan, Kai, Wang, & Xiaojun, 2013). Uncertainty is presented in order of scale. To determine the FAHP degree of membership, function rules are used in a Triangular Fuzzy Number (TFN), which is arranged based on the linguistic set.

RESEARCH METHOD

Number of participants	30
Research Sampling strategy	Purposive Sampling
Duration of research	19 February 2020 to 1 March 2020.
Validation	Triangulation: observation, document review, questionnaire

The study uses questionnaires and observations to assess the managerial innovation level. The questionnaire will find the weight of each management function, while the observation will decide

the level of each management function. To obtain the capability of innovation in each managerial function, the results of each observation must be included in the following equation:

$$C_i = \frac{\sum_{j=1}^{5}(b_j . n_{ij})}{n_i . 16} \qquad (1)$$

Where:

i : type of managerial function

j : evolution category

C_i : managerial function innovation capability at - i

b_j : evolution weight of managerial function at - j

N_{ij} : the sum of managerial function categories at column i row j.

n_i : the sum of managerial category functions at-i

The equation can determine the percentage of managerial innovation level:

$$\delta MI = \frac{\sum_{i=1}^{5}(W_i . C_i)}{\sum_{i=1}^{5} W_i} \qquad (2)$$

Where:

δMI : level of managerial innovation

C_i : managerial function innovation capabilities at - i

W_i : managerial functions weight at-i

for $i =$ 1: Planning   4: Controlling

               2: Organizing   5: Coordinating

               3: Leading

The questionnaire analysis to determine the weight of each management function is done by Fuzzy AHP. The scale of the triangular fuzzy number is shown in the table below:

Table 2. Triangular Fuzzy Number Scale (Chan, Kai, Wang, & Xiaojun, 2013), (Irawan, 2018)

The intensity of interest AHP	Linguistic Set	Triangular Fuzzy Number (TFN)	Reciprocal (reverse)
1	just equal	(1, 1, 1)	(1, 1, 1)
2	intermediate	(1/2, 1, 3/2)	(2/3, 1, 2)
3	One element moderately important than others	(1, 3/2, 2)	(1/2, 2/3, 1)
4	one element more important enough than others (intermediate)	(3/2, 2, 5/2)	(2/5, 1/2, 2/3)
5	One element strongly important than others	(2, 5/2, 3)	(1/3, 2/5, 1/2)
6	intermediate	(5/2, 3, 7/2)	(2/7, 1/3, 2/5)
7	One element very strong than others	(3, 7/2, 4)	(1/4, 2/7, 1/3)

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The intensity of interest AHP	Linguistic Set	Triangular Fuzzy Number (TFN)	Reciprocal (reverse)
8	intermediate	(7/2, 4, 9/2)	(2/9, 1/4, 2/7)
9	One element extremely strong than others	(4, 9/2, 9/2)	(2/9, 2/9, 1/4)

Steps to solve the problem with the F – AHP method:

Arrange the hierarchy structure of the problem and determine the pairwise matrix comparison between criteria with a triangular fuzzy number (Table 3).

Determine the priority fuzzy synthesis value (Si) using the following equation:

$$S_i = \sum_{j=1}^{m} M_{gi}^j \times \left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j \right]^{-1} \qquad (3)$$

where:

S_i = fuzzy synthesis value

$\sum_{j=1}^{m} M_{gi}^j$ = Sum of the values of each TFN number in the cell column in the matrix

$\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j \right]^{-1}$ = Invers value from sum of all TFN

i = row

j = column

Value of $\sum_{j=1}^{m} M_{gi}^j$ obtained from fuzzy m addition on a matrix with the following equation:

$$\sum_{j=1}^{m} M_{gi}^j = \left(\sum_{j=1}^{m} l_j , \sum_{j=1}^{m} m_j , \sum_{j=1}^{m} u_j \right) \qquad (4)$$

where:

$\sum_{j=1}^{m} l_j$ = number of cells in the 1st matrix column (lower value)

$\sum_{j=1}^{m} m_j$ = number of cells in the 2nd matrix column (median value)

$\sum_{j=1}^{m} u_j$ = number of cells in the 3rd matrix column (upper value)

To obtain the value of $\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j \right]^{-1}$, all numbers of TFN from M_{gi}^j

(j = 1, 2, ..., m) must be added first like the following equation:

$$\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j \right] = \left[\sum_{i=1}^{n} \sum_{j=1}^{m} l_{ij} , \sum_{i=1}^{n} \sum_{j=1}^{m} m_{ij} , \sum_{i=1}^{n} \sum_{j=1}^{m} u_{ij} \right] \qquad (5)$$

Invers from equation (5) is:

$$\left[\sum_{i=1}^{n} \sum_{j=1}^{m} M_{gi}^j \right]^{-1} = \left(\frac{1}{\sum_{i=1}^{n} u_i, \sum_{i=1}^{n} m_i, \sum_{i=1}^{n} l_i} \right) \qquad (6)$$

Comparison of possible degrees between fuzzy numbers

A comparison is made to find the value of membership degree for each weight in each managerial function. For example, there are two triangular fuzzy numbers $M_1 = (l_1, m_1, u_1)$ and $M_2 = (l_2, m_2, u_2)$. Comparison of possibility degree $M_2 = (l_2, m_2, u_2) \geq M_1 = (l_1, m_1, u_1)$ can be defined as vector value, so the value can be obtained by comparing $V (M_2 \geq M_1)$ with the equation below:

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$$V(M_2 \geq M_1) = \begin{cases} 1 & , & if\ m2 \geq m1 \\ 0 & , & if\ l1 \geq u2 \\ \dfrac{l_1 - u_2}{(m_2 - u_2) - (m_1 - l_1)} & , & other\ than\ above \end{cases} \quad (7)$$

If the result of the function value is greater than k fuzzy, M_i $(i = 1, 2, \ldots, k)$ which can be defined as:

$$V\ (M \geq M_1, M_2, \ldots, M_k) = V\ [(M \geq M_1)\ and\ (M \geq M_2)\ and \ldots (M \geq M_i) = min\ V\ (M \geq M_i) \quad (8)$$

where:

 V = vector value
 M = fuzzy synthesis value matrix
 l = lower
 m = median
 u = upper

So that the ordinate value (d') is obtained as follows:

$$d'\ (A_i) = min\ V\ (S_i \geq S_k) \quad (9)$$

where: S_i = fuzzy synthesis value one
 S_k = fuzzy synthesis other value

for $k = 1, 2, \ldots, n;\ k \neq i$, the priority weight vector value (W'):

$$W' = (d'(A_1), d'(A_2), \ldots, d'(A_n))T \quad (10)$$

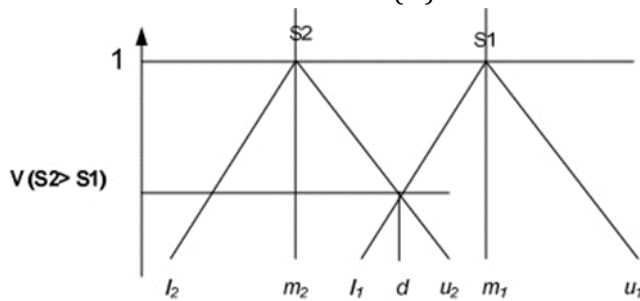The results of the ordinate value (d') are shown in the figure below.

Figure 1. Intersection graph between S_1 and S_2

Normalization of vector weights or managerial function priority values that the formula has obtained:

$$W = (d\ (A_1), d\ (A_2), \ldots, d\ (A_n))T \quad (11)$$

Where W is unfuzzy numbers.

Data was collected from 19th February 2020 until 1st March 2020. Data were collected using a questionnaire distributed to employees in several departments and by doing observation of the leaders in the company using an observation protocol (Yin, 2017). The questionnaire consists of questions that will determine critical success factors. The sampling technique used in this questionnaire is purposive sampling, and the question will use 4 – point Likert scales. The scale will reduce the bias from the respondent's psychology (Johnson, 2016). Meanwhile, the observation protocol was arranged before the research started. The protocol explained the measurement dimension, scoring index, and theoretical background explanation.

FINDINGS AND DISCUSSION

Results of Managerial Innovation

The weights of each management function, after processing the questionnaire with Fuzzy AHP, are presented below:

Table 3. Final weights of the main criteria

Criteria	Weight	Percentage (%)
Planning	0,2	20%
Organizing	0,2	20%
Leading	0,2	20%
Controlling	0,2	20%
Coordinating	0,2	20%
Total	1	100%

Based on observation, the level of innovation capability obtained for the 5 elements of the planning function is as follows:

Rules are not shown during observations.

Procedures (2,08%) show through leaders who gave the task and carried it out according to hierarchy.

Planned process (4,17%) shows through divided job per division within the department.

Programs (8,33%) show through employee work targets that must be in accordance with KPI (Key Performance Index), especially in the production and warehouse division.

Rolling Plans (50%) shows through monthly evaluations at each department and regular meetings of each division.

According to observation results, there are six scoring categories of assessment for the planning function, so the total weight is 6 x 16 = 96.

Planning		R	PD	PC	PG	RP
Total category	6	0	1	1	1	3
Weight total	96	1	2	4	8	16
Capabilities		0,00%	2,08%	4,17%	8,33%	50,00%
Innovation of planning		64,58%				

Based on observation, the level of innovation capability obtained for the 5 elements of the organizing function is as follows:

a.   Product-based, process-based, customer-based, and territory-based were not shown during observations.

b.   department Based (12,5%), shows through organization structure arranged based on the functional department.

According to observation results, there is one scoring category of assessment for organizing function, so the total weight is 1 x 16 = 16.

Table 4. Calculation of capabilities and weight of organizing function

Organizing		PB	DB	PC	CB	TB
Total categories	1	0	1	0	0	0
Weight total	16	1	2	4	8	16
capabilities		0,00%	12,5%	0,00%	0,00%	0,00%
Innovation of organizing		12,5%				

Based on observation, the level of innovation capability obtained for the 5 elements of the leading function is as follows:

a. Dictative, Hierarchical, dan Supportive, not shown during observation.

b. Participatory (16,67%), shows through weekly work targets discussion, once every two weeks.

c. Esteemed (66,67%), shows through outbound activities, once every month. Leaders also invited employees to play badminton. Training usually uses video to explain the topic.

According to observation results, there are six scoring categories of assessment for leading function, so the total weight is 6 x 16 = 96

Table 5. Calculation of capabilities and weight of Leading function

Leading		D	H	S	P	E
Total categories	6	0	0	0	2	4
Weight total	96	1	2	4	8	16
capabilities		0,00%	0,00%	0,00%	16,67%	66,67%
Innovation of leading		83,33%				

Based on observation, the level of innovation capability obtained for the 5 elements of the controlling function is as follows:

a. If Required, Scheduled, dan Flexible, not shown during observations

b. Continous & Self Control (20%), shows through standard operational training that has been done to operators about tool maintenance.

c. Aggregated (60%), shown through routine planning every year, yearly employee gathering, and integrated system with ERP.

According to observation results, there are five scoring categories of assessment for controlling function, so the total weight is 5 x 16 = 80

Table 6. Calculation of capabilities and weight of controlling

Controlling		IR	SC	FL	CN	AG
Total categories	5	0	0	0	2	3
Weight total	80	1	2	4	8	16
Capabilities		0,00%	0,00%	0,00%	20%	60%

Innovation of controlling	80%

Based on observation, the level of innovation capability obtained for the 5 elements of the coordinating function is as follows:

a. Direct dan Hierarchical not shown during observations

b. Management Information System (12,5%), shown through an integrated company business process through ERP Oracle, every staff and employee connected into Oracle, also fingerprint system for attendance.

c. Internet (33,33%), shown through activities supported by the internet, like Oracle.

According to observation results, there are six scoring categories of assessment for coordinating function, so the total weight is 6 x 16 = 96.

Table 7. Calculation of capabilities and weight of Coordinating function

Coordinating		D	H	M	I	AI
Total categories	6	0	0	3	4	1
Weight total	96	1	2	4	8	16
Capabilities		0,00%	0,00%	12,50%	83,33%	16,67%
Innovation of coordinating	62,5%					

Finally, after knowing the capabilities of managerial innovation and the result from the questionnaire, the level of innovation can be calculated by multiplying capabilities by the weight of each innovation function.

Table 8. Calculation of Innovation Level

Management Function	Capabilities of Innovation Function	Weight of Innovation Function
Planning	64,58%	20%
Organizing	12,5%	20%
Leading	83,33%	20%
Controlling	80%	20%
Coordinating	62,5%	20%
Managerial Innovation Level	57%	

Based on the capabilities and function weights obtained, the result of the managerial innovation level of the company is 57%. It means that, in general, the company will be able to keep abreast of the existing managerial innovations and can innovate more to become superior compared to other similar companies.

The importance of the weight score for all managerial functions is 20%. This means that all functions are equally important so that there are no greater functions than other functions. Based on the above tables, 4 out of 5 managerial functions have innovative potential because the score is above 50%. The biggest score, 83,33%, came from a leading function, which means this function is

the most crucial thing in the company. The lowest score is the organizing function because it is below 50%.

Leading is the most innovative out of all the other functions. The leading style in the company leans toward participatory and esteemed elements. The participatory element can be observed through the company's routine weekly meetings on their work targets and biweekly meetings attended by the managers. The esteemed element can be observed through monthly outbound activities. Company leadership also often invite employees to sport sessions. Other esteemed elements can be seen through trainings and meetings with employees via video calls.

The organizing function has the lowest score, it means that this function is not supporting innovation. Currently, the company structure is still at the department-based level because it is divided into several department functions. However, it must cover global wide monitoring because of its export. The company should move to the next level of the evolution into territory-based and or customer-based organizational structure.

Result of Succession Innovation Factors
Based on the questionnaire results that were distributed to the public and observations held at the company, there are several factors that influence the success of the company's innovation:
Creation Element
Value
According to Andhikara (Sutisna, 2019), a product is valuable if it can fulfill market needs and also can withstand undisrupted by age. The company's product has been known for a long time because it entered the commercial market in 1975, and until now controls 40% UHT milk market share. This means the product has been proven to be able to last a long time, even in times of crisis in 1998.

Based on the questionnaire response, 100% of respondents know the company's products and have consumed them. Most of them consume the product 1 – 2 times a week. 62,3% of respondents answered this product was useful enough for the public, and 19,7% of respondents answered this product was very useful for the public. 65,6% of respondents answered this product relevant enough to nowadays conditions, and 23% answered this product was very relevant to nowadays conditions. Respondents said this product is useful because UHT milk is good for health, practical, and able to meet the nutrients needed by all ages. Based on this research, this factor becomes one of the success factors for the company.

Rarity
Another factor that made successful innovation is rare. Rare means are hard to find a substitute. People will buy the same product with the same brand if it is needed. A good innovation is a useful product in the long term, and there's no substitute for the product, or it can say a rare product.
Based on questionnaire results, most respondents know another brand from other companies that produced UHT milk. Even 93,5% of respondents said UHT milk is necessary for the long term. The company may collapse because it has many competitors. So it can be concluded this factor has not become one of the success factors for the company.

4.5.1.3 Imitability

Imitability is the ability of products that others can imitate. To avoid this, the company must have creativity and continuous innovation, so the products can develop and be hard to imitate. The company also creates copyright, trademark, and patent for its product.

The company's milk product was registered in Direktorat Jenderal Kekayaan Intelektual (a government institution that created a patent and copyright for every brand in Indonesia), which means the company has a patent and trademark, so there is no one can imitate its products. However, other UHT milk brands such as Frisian flag, Indomilk, and Greenfields are also well-known by the respondent as the preferred product to replace the company's product. Therefore, these factors do not become one of the success factors for the company.

Organization

A good organization will support innovation. A good organization can be measured using three elements: organization structure, control management, and compensation for employees (Sutisna, 2019). Interviews and observations at the company gave the facts. The company has a clear organizational structure and created financial reports quarterly that can access public and competitive compensation. In addition, they always held annual employee meetings to respect their hard work for the company. Therefore, this factor becomes one of the success factors for the company.

Deployment Element
Launch Timing

Launch timing means the company must be able to deploy its product when people need it (Sutisna, 2019). Market positioning also important so the company knows and understands which are the market share. If the company wants to be the leader in technology, it cannot deploy its product too quickly. A company must understand its production capacity and must always be able to fulfill market demand.

The company's product was established a long time ago, and it was known as the pioneer of UHT milk. The company does not need to think about launch timing because its product is a market leader in Indonesia, and the public will always be looking for its products anytime. A significant market share proved that company able to fulfill the demand without adding new assets or high costs. These factors do not become one of the success factors for the company.

Licensing

This factor determines the openness of products strategically. The openness will make the products easy to find by the public and also hard to imitate by competitors. Therefore, the company needs to register its products in the related institution, so competitors cannot imitate them.

The company's brand was registered at Direktorat Jenderal Kekayaan Intelektual Negara Indonesia, so it was protected by law. This factor becomes one of the success factors for the company.

Pricing

Price determination is a very important factor for companies to create sustainability of the products in the market. There are two models to determine the price of a product (Sutisna, 2019), it is maximum market skimming, which used by the company to get a strong signal in the market when

the products deploy, and maximum market share if the company wants their product can be used directly by the public.

Because the company's product was a pioneer in UHT milk, the company did not use both models because there were no competitors in Indonesia at that time. Also, with innovative products nowadays, they do not look for a big market and do not push advertisements to get a strong signal. This means the company has not decided its price from these models. Hence, this factor does not become one of the success factors for the company.

Distribution

Distribution plays an important role in distributing the products effectively. The company can build an alliance with a distributor or give a free sample of its products.

The company has a subsidiary to distribute its products. The company also has 22 representative offices in Java, 65.000 spot sales in Java, 55 distributors outside Java, and 13 distributors abroad. The company also creates its vending machine only for their product placed at mal and school, so people easily buy it. In addition, the company actively sponsored some public activities, which they can give the product free. Respondents said the products are easy to find at minimarket, supermarkets, or grocery stores near home. Based on this research, this factor becomes one of the success factors for the company.

Marketing

Marketing aims to make products easily adopted by the public and create expectations and good perceptions of a product. For example, a company can make advertisements to construct people's awareness about the product, place the product's advertising on another media, or a free sample.

The company markets its products through advertisements which, according to respondents, are most often seen on television, in shopping brochures, and on social media. The company's advertisement is more interesting than the competitors with 3 of 4 scales. 96,7% of respondents saw the advertisement, which means that the company has created awareness for its brand by advertisement. It can be concluded that this factor has become one of the success factors for the company.

CONCLUSION

The score of managerial innovation for company X is 57%. The company has innovated in planning, leadership, control, and coordination because these four managerial functions have scores above 50% and can be innovative. Meanwhile organizing function has the lowest score. Organizing function can be improved by converting the organization structure from a function-based organization to a territory-based and or customer-based organization. There are two creation elements that determine the success of innovation, values and organizations. Also, there are four deployment elements that support innovation; they are launch timing, licensing, distribution, and marketing. Further research should explore the correlation between managerial innovations dan product innovations.

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APPENDIX 1

QUESTIONNAIRE OF INNOVATION SUCCESSFACTORS

GENERAL INFORMATION OF RESPONDENTS

1. Respondent's name

_____

2. Age of respondent
o < 15 years old
o 15-18 years old
o 19-22 years old
o >22 years old

3. Gender
o Men
o women

4. Current/last study level
o SD
o middle school
o SMA/SMK
o D3
o S1
o S2
o S3

RELATED RESPONDENTS WITH PRODUCTS

The following is a picture of the product that will be analyzed for the level of innovation
Do you know the product above?
o yes
o No

Have you ever consumed any of these products?
o yes
o No
How often do you consume this product?
o 0
o 1
o 2
o 3
o More than 3

CREATION ELEMENT
This section contains question points related to the factors that cause innovation to be created.

How important and useful do you think the products in the picture above are for society?
o 1 (not important)
o 2 (slightly important)
o 3 (quite important)
o 4 (very important)

Are the above products in accordance with current conditions? (following existing trends, adjusting to market demands, etc.)
o 1 (not suitable)
o 2 (slightly appropriate)
o 3 (fairly appropriate)
o 4 (very suitable)

Do you think that there are UHT milk producers in Indonesia other than the brands above? (write "none" if you think there is no more, write the name of the brand if you know)
_____

In your opinion, are the above products needed in the years to come?
o 1 (not required)
o 2 (little needed)
o 3 (sufficiently needed)
o 4 (very much needed)

Your reason for the answer above
_____

DEPLOYMENT ELEMENT
This section contains question points related to how the company markets its products
Have you ever seen ads related to this brand?
o yes
o No

How often do you see ads for this brand? (any medium of the week)
o 0
o 1-3
o 4-5
o >5

Where do you usually see advertisements for this product?
Television

Newspaper
Shopping Brochure
Social media
more

How attractive is this ad compared to other dairy ads?
o 1 (not interesting)
o 2 (slightly interesting)
o 3 (quite interesting)
o 4 (very interesting)

Do you think milk with this brand is easy to find?
oh yes
o No

Where do you usually find this product?
Mini market (co: Alfamart, Griyamart, Indomart, etc.)
Supermarkets (co: Superindo, Yogya, Carrefour, etc.)
Others

APPENDIX 2
General information of respondent

No	Job	Age	Last Study	Length of Work
1	Marketing	23	S1	2,5
2	Export Staff	32	S1	3
3	SM - OI	39	S1	12
4	Trade Officer	39	D3	14
5	Sales	38	S1	11
6	Oracle Staff	33	S1	6
7	SPV	36	S1	10
8	IT Officer	52	S1	27
9	SC Officer	40	S2	17
10	Warehouse Officer	45	S1	24
11	Warehouse SPV	49	SMA	30
12	Warehouse Manager	57	S1	3
13	Ass. Warehouse Mgr.	43	S1	5
14	Sekretaris Manager	44	S1	14
15	Recruitment Manager	46	S1	5
16	Export Officer	39	S1	13
17	Accounting Staff	37	S1	5
18	Tax SPV	46	S1	6

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No	Job	Age	Last Study	Length of Work
19	Accounting Staff	28	S1	2
20	Logistic Staff	37	S1	11
21	HR Manager	-	-	10
22	SPV Finance		S2	13
23	Oracle Staff	29	S1	8
24	IT Manager	44	S2	8
25	Oracle Staff	27	S1	6
26	Oracle Staff	27	S1	5
27	IT Staff	41	S1	18
28	Purchasing Staff	36	S1	10
29	Purchasing Staff	37	S1	7
30	Purchasing Staff	35	S1	7