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# Proposed SWOT Strategy with Attention to The Managerial Innovation Level

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***Abstract*—PT Sumber Inti Pangan is a spice and seasoning manufacturing industry that has continued to grow until now. The company's three-year trend of rising sales provides evidence of this growth. Since 2017, there has been an average growth in the consumption of spices and seasonings, according to rising sales trends and data on public consumption. The increase in average consumption and market opportunities trigger competition between companies. Companies must prepare, create, and obtain new sustainable products to compete. Managerial innovation has the potential to innovate products. In this study, SWOT analysis is used to propose long-term strategies that can help companies maximize strengths and opportunities and minimize weaknesses and threats. Managerial innovation analysis with the Fuzzy AHP method is used to analyze internal factors in the form of company strengths and weaknesses. Therefore, SWOT weaknesses that are still too broad, not detailed, and cannot prioritize the identified factors can be covered. On the other hand, PEST and Porter's Five Forces are used to analyze external factors in the form of opportunities and threats to the company. The results showed that the company's innovation rate was 52.262%. The company had innovated in the planning, leading, and controlling functions but could not innovate in the organizing and coordinating processes. Several strategies the company can utilize are conducting regular evaluations to get more innovative substitute products, adding organizational groupings based on customer base, and making annual plans.**

***Index Terms*—capability of innovation functions, fuzzy AHP, managerial innovation, manufacturing company, private company, SWOT**

## I. INTRODUCTION

ALONG with the times in this globalization era, one of the sectors that are the primary support for the country's economy is the food and beverage industry, in which there is a manufacturing industry for processing spices and seasonings [1]. The spice and seasoning manufacturing industry is a business that converts raw materials into semi-finished goods that focuses on spices and seasonings.

The average per capita consumption of cooked spices per package in 2016 was 1.57 ounces, then continued to increase until 2020, which was 2.21 ounces. Meanwhile, the growth of other kitchen spices from 2016 to 2017 decreased by 0.62 ounces. And from 2017 to 2020 continued to rise by 7.25 ounces. The increasing consumption indicates that the Indonesian people are increasingly in need of spices. The increase in the average consumption of these spices can be a market opportunity for companies in the spice processing sector.

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PT Sumber Inti Pangan is one company that produces ready-to-eat cooking and other kitchen spices. The company was founded in 2001 and, until now, has four types of products. The first is spices and seasonings consisting of seasoning powder, oil, seasoning paste, and customized herbs. The second is flavouring and extract, composed of liquid, powder, and customized flavouring. The following products are dehydrated food, herbal products, and Indonesian spices. The company supplies spices and seasonings to various domestic and foreign companies such as Africa, the Middle East, and Asia.

PT Sumber Inti Pangan is a company that is still growing today. The sales trend of PT Sumber Inti Pangan from 2019 to 2021 continues to increase. Sales in 2019 were 10 billion, then increased to 22 billion in 2021. The existence of market opportunities in the spice and seasoning manufacturing industry is one of the triggers for competition in the spice market. Companies must prepare, create, and obtain new sustainable products [2]. To get new products, companies need to innovate because innovative companies have more significant potential to win the competition than non-innovative companies. One of the innovations that companies can make is managerial innovation. Managerial innovation is a potential for product innovation; besides, the company can find out the position of innovation and find out the potential success of the level of managerial innovation that is being carried out [2].

In this study, we will use SWOT analysis to obtain proposed long-term strategies within the company that can help companies maximize strengths and opportunities while minimizing weaknesses and threats [3]. Maximizing and developing strengths will make the company more advanced than its competitors. In addition, weaknesses are needed by the company to be an evaluation so that the company can compete [4]. Companies must take advantage of opportunities as well as possible to gain increased profits, and companies must face threats by developing good long-term strategies [4].

According to Ref. [5], the SWOT analysis has weaknesses in terms of quality and quantity because the SWOT analysis is still too broad, and it is impossible to determine the priority of the identified factors and is not too detailed. SWOT analysis can minimize weaknesses by measuring managerial innovation using the Fuzzy AHP method. This study estimates the level of managerial innovation described by Ref. [6] in manufacturing companies that measure the level of managerial innovation based on the evolution of organizational functions.

The development of managerial roles has five parts: planning, organizing, leading, controlling, and coordinating. Measurements are made by assigning weights to each element in each dimension of the

managerial function obtained from observations within the company. The higher the final value, the more successful the company is in its innovations. Research conducted by Ref. [6] does not explain how to measure the weight of managerial functions. Research conducted by Ref. [7] regarding managerial innovation in manufacturing companies PT. X and PT. Y has calculated the weight of managerial functions. In Ref. [8], the used the Fuzzy AHP method. It can cover the weaknesses in the AHP Pairwise Comparison method described in the study [7] regarding the problem of subjective criteria [8]. The result of this research is the score of the company's managerial innovation level. In addition, through this research, the company can find out which functions have innovated and those that have not.

This measurement of managerial innovation can help determine the quantitative basis that analytically determines the company's strengths and weaknesses. If it is above 50%, the company can innovate, and the managerial function becomes a strength if it scores 50% and below 50%. The company has not been able to innovate, and this managerial function has become a weakness for the company [6]. Meanwhile, the company's external factors consist of opportunities and threats obtained through interviews and identification of PEST and Porter's Five Forces. The results of the matrix of internal and external factors will be a proposed long-term strategy for the company to maximize strengths, minimize weaknesses, take advantage of opportunities, and avoid threats.

## II. Literature Review

### A. Concept and Type of Innovation

Innovation is a means to change an organization in response to changes in the external environment and as a pre-emptive action to influence the climate [9]. Table I is the types of innovation in a business.

TABLE I
TYPES OF INNOVATION [10]

| Innovation Type | Example |
|---|---|
| Product Innovation | New product development or improvement. |
| Process Innovation | Development of new manufacturing processes. |
| Organizational Innovation | A new division development, a new internal communication system, and a new method of introducing accounting procedures. |
| Management Innovation | TQM (*Total Quality Management*), BPR (*Business Process Re-engineering*). |
| Production Innovation | *Just in Time (JIT)* manufacturing system development, new production planning software planning such as MRP II, new inspection system. |
| Marketing Innovation | Innovation of new financing arrangements and new approaches to running, such as *direct marketing*. |
| Service Innovation | Internet-based financial services. |

The evolution of managerial innovation begins in the era of "Pre-scientific Management". In that era, the number of types and variations of products was small because only small shops and shop owners could work double-duty, namely as managers and store employees, so the owners of production facilities must handle the management [6]. In the next era, the Functional Based management approach was used to manage the organization because departmentalization was needed. The concept of "Process Management" and changes in managerial functions are related to the manufacturing system [6].

In the mid-20th century, Peter Drucker introduced Management by Objectives in his book "The Practice of Management " [6]. The book describes the process of agreeing on goals in an organization so that management and employees understand the organization's goals. In the next era, the "Virtual Management" approach was introduced. It is about managing people remotely using technology, and companies are advised to define a structure according to this new virtual organizational style [7]. Not only can managers direct and control employees, but also employees known as virtual teams plan, manage, and report problems and are responsible for various tasks that need to be implemented. Fig. 1. Depicts the evolution of managerial functions.

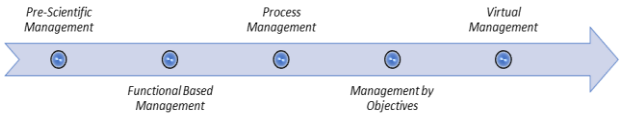


**Fig. 1.** The evolution of managerial functions (Silitonga and Sitepu, 2018).

### B. Managerial Innovation Level Measurement

Each function observed is given a relative weight in calculating the level of managerial innovation. The weights are measured from the lowest, namely the primitive technique, to the post-modern method. Each weight is worth 2k, where k is zero for the *primitive approach* and four for *the post-modern* approach. Table II shows the weights for each function.

The results of observations to obtain innovation capability in each managerial function are entered into the equation:

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

Where:
$i$ = type of managerial function.
$j$ = evolution category.
$C_i$ = $i$ -th managerial function.
$b_j$ = $jth$ managerial function evolution weight.
$n_{ij}$ = number of managerial function categories in column i to row $j$.
$n_i$ = number of categories of managerial function $i$.

This equation to calculate the percentage level of managerial innovation:

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

Where:
δMI = level of managerial innovation.
$C_i$ = $i$ -th managerial function.
$W_i$ = weight of the $i$ -th managerial function .

For *i*:
1. Planning
2. Organizing
3. Leading
4. Controlling
5. Coordinating

TABLE II
THE WEIGHT OF EACH MANAGERIAL FUNCTION IS SEEN FROM ITS EVOLUTION [6]

| Manufacturing Management Types | Planning | Organizing | Leading | Controlling | Coordinating |
|---|---|---|---|---|---|
| **Pre Scientific Management ($2^0$)** | Rules (1) | Product (1) | Dictation (1) | If required (1) | Direct (1) |
| **Departmental Management ($2^1$)** | Procedures (2) | Departmental (2) | Hierarchical (2) | Scheduled (2) | Hierarchical (2) |
| **Process Management ($2^2$)** | Planned Processes (4) | Processes (4) | Supportive (4) | Flexible (4) | MIS (4) |
| **Management by Objective ($2^3$)** | Programs (8) | Customers(8) | Participatory (8) | Continuou (8) | Internet (8) |
| **Virtual Management ($2^4$)** | Rolling plans (16) | Territory (16) | Esteemed (16) | Aggregated(16) | AI (16) |

*C. AHP Pairwise Comparison*

In the research conducted by [11], AHP Pairwise Comparison is used to determine how significant the achievement is by comparing one criterion with another. The proof of the concentration index (CI) with the formula regarding the consistency index of the order matrix is as follows:

$$CI = \frac{\lambda max - n}{n-1} \quad (3)$$

Where:
$CI$ = consistency index.
$\lambda max$ = the largest *eigenvalue* matrix of order *n*.
$n$ = matrix size.

$\lambda max$ obtained by multiplying the number of columns by the eigenvectors. The inconsistency limit can be measured by comparing the consistency index with the consistency ratio of values that depend on the order of the *n matrix*. Inconsistency is still acceptable if the *CR value* is below 10% or 0.1. Here is the consistency ratio formula:

$$CR = \frac{CI}{RI} \quad (4)$$

Where:
$CR$ = consistency ratio.
$RI$ = random index.
A random index obtained from Ref. [12].

*D. Fuzzy AHP Chang Theory 1996*

Fuzzy AHP is a method of the results between the AHP method and the fuzzy concept approach [13]. The advantages of the Fuzzy AHP method are that it can simplify complexity and accommodate human opinions that have uncertainty when weighting values. Uncertainty can be seen with the order of the scale. A functioning rule in the form of a Triangular Fuzzy Number (TFN) is applied to determine the degree of membership of Fuzzy AHP. Table III explains the triangular importance scale and pairwise comparison of Fuzzy Numbers.

TABLE III
TRIANGULAR FUZZY NUMBER SCALE [13]

| AHP Interest Scale/ Intensity | Definition | *Triangular Fuzzy Number* (TFN) |
|---|---|---|
| 1 | Element one and element two are equally important | (1, 1, 1) |
| 2 | The middle value between 1 and 3 | (1/2, 1, 3/2) |
| 3 | One element is less important than the other | (1, 3/2, 2) |
| 4 | The middle value between 3 and 5 | (3/2, 2, 5/2) |
| 5 | One element is more important than the other ( *strongly important* ) | (2, 5/2, 3) |
| 6 | The middle value between 5 and 7 | (5/2, 3, 7/2) |
| 7 | One element is more important than the other ( *very strong* ) | (3, 7/2, 4) |
| 8 | The middle value between 7 and 9 | (7/2, 4, 9/2) |
| 9 | One element is more important than the other ( *extremely strong* ) | (4, 9/2, 9/2) |
| opposite | At the time of activity, *i* got one point compared to activity *j*. then the value of *j* has the opposite value of the value of *i*. | |

Steps to solve the problem with the Fuzzy AHP method as follow.

Develop a hierarchical structure of the problem and determine the comparison of paired matrices between criteria with the Triangular Fuzzy Number scale, as shown in Table 4.

Calculating Fuzzy Synthetic Extent ( Si ) Value. Determine the value of Fuzzy Synthetic Extent ( Si ) for each criterion in the primary criteria matrix using the following formula:

$$Si = \sum_{j=1}^{m} M_{gi}^{j} \times \left[\sum_{i=1}^{n}\sum_{j=1}^{m} M_{gi}^{j}\right]^{-1} \quad (5)$$

Where:
$Si$ = *Fuzzy* synthesis value.
$gi$ = goal set ( $i$ = 1,2,3, ..., $n$ ).
$\sum_{j=1}^{m} M_{gi}^{j}$ = the sum of the values of each Triangular Fuzzy Number in the cell column in the matrix ( $j$ = 1,2,3, ..., $n$ ).
$\sum_{i=1}^{n}\sum_{j=1}^{m} M_{gi}^{j}$ = the inverse value of the sum of all TFN numbers.
$i$ = line.
$j$ = column.

The Fuzzy m addition operation is carried out on a particular matrix to get the value of j=1mMgij, through the sum of the Triangular Fuzzy Number values in each criterion matrix against the main criteria matrix with the following equation:

$$\sum_{j=1}^{m} M_{gi}^{j} = \left(\sum_{j=1}^{m} l_j, \sum_{j=1}^{m} m_j, \sum_{j=1}^{m} u_j\right) \quad (6)$$

Where:

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

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

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

To get the value of, the $\left[\sum_{i=1}^{n}\sum_{j=1}^{m} M_{gi}^{j}\right]^{-1}$ *fuzzy* incremental operation value of $M_{gi}^{j}$( $j$ = 1, 2, ..., m) is displayed as follows:

$$\left[\sum_{i=1}^{n}\sum_{j=1}^{m} M_{gi}^{j}\right] = \left[\sum_{i=1}^{n}\sum_{j=1}^{m} l_{ij}, \sum_{i=1}^{n}\sum_{j=1}^{m} m_{ij}, \sum_{i=1}^{n}\sum_{j=1}^{m} u_{ij}\right] \quad (7)$$

To get the inverse value of equation 2.7 is as follows:

$$\left[\sum_{i=1}^{n}\sum_{j=1}^{m} M_{gi}^{j}\right]^{-1} = \left(\sum_{i=1}^{n}\sum_{j=1}^{m} l_{ij}, \sum_{i=1}^{n}\sum_{j=1}^{m} m_{ij}, \sum_{i=1}^{n}\sum_{j=1}^{m} u_{ij}\right)^{-1} \quad (8)$$

Notice the sequence *l* is on the left, *m* is in the middle, *and u* is on the right so that the inverse of the sum of the *fuzzy triangular numbers* on the main criteria matrix is as follows:

$$\left[\sum_{i=1}^{n}\sum_{j=1}^{m} M_{gi}^{j}\right]^{-1} = \left(\frac{1}{\sum_{i=1}^{n} u_i, \sum_{i=1}^{n} m_i, \sum_{i=1}^{n} l_i}\right) \quad (9)$$

So equation (9) becomes:

$$Si = \left(\sum_{i=1}^{n}\sum_{j=1}^{m} M_{gi}^{j}\right)^{-1} \times \left(\frac{1}{\sum_{i=1}^{n} u_i, \sum_{i=1}^{n} m_i, \sum_{i=1}^{n} l_i}\right) \quad (10)$$

Calculating Degree of Possibility. A comparison of $M_1$ and $M_2$ is made to find the value of the level or degree of membership for each weight on each managerial function. It takes the values of V ($M_1 M_2$) and V ($M_2 M_1$). The probability level of $M_2 = (l_2, m_2, u_2)$ $M_1 = (l_1, m_1, u_1)$ is defined as follows:

$$V(M_2 \geq M_1) = \sup_{y \geq x}\left[min\left(\mu_{M_1}(x), \mu_{M_1}(y)\right)\right] \quad (11)$$

equal to

$$V(M_2 \geq M_1) = hgt(M_1 \cap M_2) = \begin{cases} 1 & , \quad if\ m2 \geq m1 \\ 0 & , \quad if\ l1 \geq u2 \\ \frac{l1-u2}{(m2-u2)-(m1-l1)} & , \ selain\ diatas \end{cases} \quad (12)$$

*Confex Fuzzy Number.* If the result of *the Fuzzy value* is greater than k *Fuzzy*, Mi (i = 1, 2, …, k) can be defined as follows:

V(M M1, M2, …., Mk) = V [(M M1) and (M M2) and ... (M Mi)]= minV (M Mi) (13)

Where:

V = vector value.

M = *Fuzzy* synthesis value matrix.

*l* = lower limit value (lowest possible).

*m* = the most promising value (middle probability).

*u* = upper limit value (highest possible.

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

d' (Ai) = min V (Si Sk) (14)

Where:

Si = *Fuzzy* synthesis value of one.

Sk = other *Fuzzy* synthesis value.

For k = 1, 2, …, n; k i, then the value of the priority weight vector (W'):

$$W' = (d'(A1), d'(A2), \ldots, d'(An))^T \quad (15)$$

Normalization of vector weights. The formula can obtain normalization of vector weights or priority values of managerial functions:

$$W = [d(A1), d(A2), \ldots, d(An)]^T \quad (16)$$

where W is a *non-fuzzy number.*

*E. SWOT analysis*

According to Ref. [3], SWOT analysis is a systematic identification of various factors to formulate a company strategy. This analysis can maximize the *strengths* and opportunities of the company's internal environment. It can minimize the *weaknesses* and *threats* of the company's external environment. The following is the meaning of this analysis:

a. Strengths are the company's internal situation in the form of competencies/capabilities/resources owned. In addition, strength can be used as an alternative to deal with opportunities and threats from competitors.
b. Weakness is a situation from the company's internal in the form of competencies/capabilities/resources that are difficult to use to deal with opportunities and threats.
c. Opportunity is a situation from the company's external that has the potential to be profitable.
d. Threats are situations external to the company that have the potential to cause difficulties.

According to Ref. [5], the SWOT analysis has weaknesses in terms of quality and quantity. SWOT analysis can minimize weaknesses by measuring managerial innovation using the Fuzzy AHP method. This measurement of managerial innovation can help determine the quantitative basis that analytically determines the company's strengths and weaknesses. Meanwhile, the company's external factors consisting of opportunities and threats were obtained through interviews. It includes the identification of PEST and Porter's Five Forces. The following are four possible strategic alternatives to the SWOT matrix. See Table IV.

TABLE IV
SWOT MATRIX

| **INTERNAL**<br>**EXTERNAL** | **Strength**<br>Determine the internal strength factors | **Weakness**<br>Determine the factors of internal weakness |
|---|---|---|
| **Opportunity**<br>Determine the external opportunity factors | **SO Strategy Proposed:**<br>Create strategies that use strengths to take advantage of opportunities | **WO Strategy Proposal:**<br>Create strategies that minimize weaknesses to take advantage of opportunities |
| **Threats**<br>Determine external threat factors | **ST Strategy Proposal:**<br>Create strategies that use strength to overcome threats | **WT Strategy Proposed:**<br>Create strategies that minimize weaknesses and avoid threats |

## III. RESULTS AND DISCUSSION

### *A. Managerial Function Weight Calculation*

The following Table V is the result of processing the managerial function weight questionnaire at PT Sumber Inti Pangan using the Fuzzy AHP method.

TABLE V
CAPABILITY AND WEIGHT OF PLANNING FUNCTION

| **Management Function** | **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% |

The calculation of the managerial function weights is used to calculate the managerial functions in the company.

### *B. Calculation of Managerial Functional Innovation Capability*

Based on observations at PT Sumber Inti Pangan, the level of innovation capability obtained from the planning function in the company is as follows:

a. Rules (0%), no elements found in the company.
b. Procedures (2.083%) indicated that work orders were carried out based on a hierarchy starting from directors, general managers, managers, employees, to operators.
c. Planned Processes (4.167%), indicated by manager purchasing divided into two groups of tasks in one purchasing department, namely the material and non-material teams.
d. Programs (8.333%) indicated by manager purchasing give employees a target time that KCl raw material vendors must be obtained before Monday.
e. Rolling Plans (50%), shown through an internal evaluation meeting attended by the director, general manager, and manager every Monday at 10, manager purchasing evaluates personally purchasing employees every week, and a thorough evaluation is held between departments every Friday.

Based on observations made in the company, there are six categories of assessment for the planning function, so a total weight of 6 × 16 = 96 is obtained. See Table VI.

TABLE VI
CAPABILITY AND WEIGHT OF PLANNING FUNCTION

| **Planning** | | **R** | **PD** | **PC** | **PG** | **RP** |
|---|---|---|---|---|---|---|
| Number of Categories | 6 | 0 | 1 | 1 | 1 | 3 |
| Total Weight | 96 | 1 | 2 | 4 | 8 | 16 |
| Capability | | 0% | 2.083% | 4.167% | 8.333% | 50% |
| Planning Function Innovation | | | | 64.583% | | |

Based on observations at PT Sumber Inti Pangan, the level of innovation capability obtained from the organizing function in the company is as follows:

a. Product-Based, Process-Based, Customer-Based and Territory-Based (0%) there are no elements in the company.
b. Department Based (12.5%) It is shown that the company divides organizational groups based on its functional departments, namely the R&D, production, purchasing, and finance departments.

Based on observations made in the company, there is one category of assessment for the organizing function, so the total weight is 1 × 16 = 16. See Table VII.

TABLE VII
CAPABILITY AND WEIGHT OF ORGANIZING FUNCTION

| **Organizing** | | **PB** | **DB** | **PC** | **CB** | **TB** |
|---|---|---|---|---|---|---|
| Number of Categories | 1 | 0 | 1 | 0 | 0 | 0 |
| Total Weight | 16 | 1 | 2 | 4 | 8 | 16 |
| Capability | | 0% | 12.5% | 0% | 0% | 0% |
| Organizing Function Innovation | | | | 12.5% | | |

Based on observations at PT Sumber Inti Pangan, the level of innovation capability obtained from the leading function in the company is as follows.

a. Dictation (0%), there is no element in the company
b. Structural (1.786%) shows that the manager's R&D provides direction on tasks to employees.
c. Supportive (3.571%), it is shown that R&D managers and employees discuss solving problems within the department.
d. Participatory (7.143%) indicated the company's internal meetings involving directors, general managers, and managers of each department.
e. Esteemed (57.143%)
    i. The company's internal evaluation meeting uses power points shown on television.
    ii. Managers and employees eat together to celebrate significant anniversaries such as before fasting and company birthdays.
    iii. Futsal between employees in the company is held regularly once a week.
    iv. Gymnastics is done every Wednesday morning.

Based on observations made in the company, there are seven categories of assessment for the leading function, so a total weight of 7 × 16 = 112 is obtained. See Table VIII.

TABLE VIII
CAPABILITY AND WEIGHT OF THE LEADING FUNCTION

| Leading | | D | H | S | P | E |
|---|---|---|---|---|---|---|
| Number of Categories | 7 | 0 | 1 | 1 | 1 | 4 |
| Total Weight | 112 | 1 | 2 | 4 | 8 | 16 |
| Capability | | 0 % | 1.786 % | 3.571 % | 7.143 % | 57.143 % |
| Leading Function Innovation | | | | 69.643% | | |

Based on observations at PT Sumber Inti Pangan, the level of innovation capability obtained from the controlling function in the company is as follows:

a. If Required, Scheduled, and Flexible (0%): there is no element in the company.
b. Continuous & Self-Control (16.667%): R&D employees solve internal problems independently by looking at the company's SOPs.
c. Aggregated (66.667%): management review is conducted annually to review management performance for one year; Annual meetings are held to discuss the company's strategic planning for the following year.

Based on observations made in the company, there are three categories of assessment for the controlling function, so a total weight of 3 × 16 = 48 is obtained. See Table IX.

TABLE IX
CAPABILITY AND WEIGHT OF THE CONTROLLING FUNCTION

| Controlling | | IR | SC | FL | CN | AG |
|---|---|---|---|---|---|---|
| Number of Categories | 3 | 0 | 0 | 0 | 1 | 2 |
| Total Weight | 48 | 1 | 2 | 4 | 8 | 16 |
| Capability | | 0% | 0% | 0% | 16.667% | 66.667% |
| Controlling Function Innovation | | | | 83.333% | | |

Based on observations at PT Sumber Inti Pangan, the level of innovation capability obtained from the coordinating function in the company is as follows:

a. Direct and Artificial Intelligence (0%), the company has no element.
b. Hierarchical (2.083%), it is shown that generally, the manager communicates with the manager.
c. Management Information System (12.5%) shows that Google Forms are used in companies to record attendance hours, body temperature and pulse rate. And fingerprints are used in the company for employee attendance, and the Accurate system is used in the company.
d. Internet (16,667%), communication between employees in the company is carried out by creating company groups and groups for each department on the Whatsapp application, and email and WhatsApp applications are used to communicate with external parties, especially consumers.

Based on the observations, there are six scoring categories for the coordinating function, so a total weight of 6 × 16 = 96 is obtained. See Table X.

TABLE X
CAPABILITIES AND WEIGHTS OF COORDINATING FUNCTIONS

| Coordinating | | D | H | M | I | AI |
|---|---|---|---|---|---|---|
| Number of Categories | 6 | 0 | 1 | 2 | 3 | 0 |
| Total Weight | 96 | 1 | 2 | 4 | 8 | 16 |
| Capability | | 0% | 2.083% | 12.5% | 16.667% | 0% |
| Coordinating Function Innovation | | | | 31.25% | | |

*C. Managerial Innovation Rate Calculation*

Table XI shows the level of managerial innovation.

TABLE XI
MANAGERIAL INNOVATION LEVEL

| Management Function | Managerial Innovation Function Capability | Percentage (%) |
|---|---|---|
| Planning | 64.583% | 20% |
| Organizing | 12.5% | 20% |
| Leading | 69.643% | 20% |
| Controlling | 83.333% | 20% |
| coordinating | 31.25% | 20% |
| Managerial Innovation Level | 52.262% | |

The level of managerial innovation obtained based on research at PT Sumber Inti Pangan is 52.262%, which consists of planning functions of 64.583%, organizing of 12.5%, leading of 69.643%, controlling of 83.333%, and coordinating by 31.25%. The planning, leading and controlling functions have been able to innovate because they have a managerial innovation level score above 50%, while organizing and coordinating have not been able to innovate because the managerial innovation level score is below 50%.

In the planning function, the company can convey organizational goals and describe the strategy clearly and comprehensively to achieve company goals. In the leading function, the company involves activities to motivate employees and influence them to achieve organizational goals through their respective tasks. In the controlling function, every action carried out within the company can be controlled so that the job can be carried out correctly. Currently, the company is still in a department-based position in the organizing function because the organizational structure is still divided into several departmental parts. In the coordinating process, coordination at PT Sumber Inti Pangan is still at the internet stage because the company is not yet able to use artificial intelligence. The planning, leading and controlling functions will become a company's strength factor because, according to Ayhan (Ayhan and Oztemel, 2014), these functions are already able to innovate, while the organizing and coordinating operations will be the

company's weaknesses because these functions are not yet able to innovate.

### *D. SWOT Matrix Analysis*

The company's internal factors consist of the company's strengths and weaknesses. The company's strengths and weaknesses are obtained from managerial innovation; according to Ref. [6], if the managerial function score is 50% and above, then the function becomes the company's strength. If the function score is 50% and below 50%, the function is the company's weakness.

The company's external factors were obtained from interviews in the form of PEST and Porter's Five Forces analysis conducted with the company's president director. The company's external factors consist of opportunities and threats. Opportunities are obtained from situations outside the company that can be profitable, while hazards are obtained from conditions outside the company that can be detrimental.

### *E. SO Strategy Proposal*

One of the strengths of PT Sumber Inti Pangan is that the company holds regular internal evaluation meetings. The internal evaluation meeting can discuss more innovative substitute products because substitute products in the field of spices and herbs are needed by the company so that the products are more diverse and have value. Regular meetings regarding substitute products can also be held so that the company is more updated on the current wishes of the community. Arrangements can be held monthly or weekly according to company needs.

### *F. WO Strategy Proposal*

One of the opportunities that PT Sumber Inti Pangan has is its loyal consumers. Loyal consumers make the company have more value in itself because loyal consumers will increase the company's profits. However, PT Sumber Inti Pangan does not yet have an organizational grouping based on these consumers. For consumers to be more affordable and service faster, consistent, and on-demand, customer-based can be applied in the company. The proposed strategy that can be applied in the company is to divide the marketing division into two: domestic consumers and foreign consumers. This proposal is suggested because the company has customers at home and abroad.

### *G. ST Strategy Proposal*

One of the strengths of PT Sumber Inti Pangan is to build a plan every year. On the other hand, the company has a threat in the form of dirty competition from new entrants. In developing the program, each year can discuss dirty competition from new entrants because dirty competition from new entrants can be detrimental and damage purchasing power and company profits.

### *H. WT Strategy Proposal*

Public interest and purchasing power that can decrease due to VAT and UMR can threaten the company because the company's income can fall. In addition, the company has a drawback, namely the absence of a customer-based department. The company can overcome these shortcomings and threats by adding a customer-based department. The R&D division can be divided into several groups that aim to research the market or get the public's desire for spices and seasonings at every level of society, such as the lower, middle, and upper classes. With the division in the R&D division, each group can get products with prices and quality that are under the community at the current situation.

## IV. CONCLUSION

The innovation rate of PT Sumber Inti Pangan is 53.095%. The company has innovated in the planning, leading, and controlling functions because these functions are already above 50%. However, the company has not been able to innovate on the organizing and coordinating processes, because these functions are under 50%. Some of the proposed strategies that can help companies to maximize strengths and opportunities, as well as minimize weaknesses and threats include: the company's internal evaluation is carried out regularly, adding organizational groupings based on customer-based, annual planning discusses competition, and companies need to add customer-based departments.

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## APPENDIX I

### SWOT MATRIX ANALYSIS

| | **Strength (S)** | **Weaknesses (W)** |
|---|---|---|
| | Planning<br>1. The company holds regular internal evaluation meetings.<br>2. The manager evaluates personally to employees.<br>3. Each department conducts a thorough evaluation.<br>Leading<br>4. There are some routine informal activities.<br>5. Delivering a meeting with a power point shown on television.<br>Controlling<br>6. Develop a plan every year.<br>7. Management review as a management performance review is carried out annually. | Organizing<br>1. The company has not grouped organizations based on product, process, customer, or territory-based.<br>coordinating<br>2. PT Sumber Inti Pangan does not yet have artificial intelligence elements in the company, one of which is that it has not used robots in its activities. |
| **Opportunities (O)** | **SO Strategy Proposal** | **WO Strategy Proposal** |
| 1. Loyal consumers.<br>2. Stable demand for seasoning.<br>3. Purchasing power increased due to vaccinations held by the government.<br>4. No need to use social media, print media, or electronic media.<br>5. Has a variety of products.<br>6. The company has a completion certificate.<br>7. Has an Accurate system, updates on new technologies, future trends and supporting facilities.<br>8. Service to consumers is related to the speed of service, consistency, and results under customer requests.<br>9. New competitors are healthy competition for the company.<br>10. Make research more innovative substitute products.<br>The number of suppliers makes many choices of raw materials. | (S1-O10)<br>The company's internal evaluation is carried out regularly to obtain more innovative substitute products. | (W1-O1-O8)<br>Adding organizational grouping based on customer-based so that consumers are more affordable in addition to faster, consistent, and on-demand services. |
| **Treats (T)** | **ST Strategy Proposal** | **WT Strategy Proposal** |
| 1. The increase in VAT from 10% to 11% and the UMR will cause the price of goods to rise and cause inflation. It will result in the purchasing power of the people; especially the lower class will decrease.<br>2. Armed conflict of natural commodities and oil will increase, which affects logistics costs.<br>3. The pandemic has led to an allocation of government funds focused on health.<br>4. 5-10 local to multinational competitors can threaten the company.<br>5. Dirty competition from newcomers.<br>6. Substitute products that the company cannot develop. | (S6-T3)<br>The company's internal evaluation is carried out regularly to obtain more innovative substitute products. | (W1-T1)<br>Adding organizational grouping based on customer-based so that consumers are more affordable in addition to faster, consistent, and on-demand services. |