CHAPTER 2

LITERATURE REVIEW AND THEORITICAL BACKGROUND

This chapter contains the results of the literature review that has been carried out and discusses the theoretical basis that will be used in this research.

2.1. Literature Review

There are many observations that have been made that write about the use of service management methods applied to various industrial fields such as hotels, restaurants, tourist attractions and so on. The methods used include the triz method, the SERVQUAL method, the dineserv method, the six-sigma method, the canoe method, and the QFD method. These various methods have their respective advantages and disadvantages that will differ when applied to improve service quality in each of these industries.

As one of the research results obtained by Paramita et al (2017) regarding the assessment of customer satisfaction using the six sigma and SERVQUAL methods at Dahlia Restaurant, Pasuruan. In this study, the SERVQUAL method was used to determine the total value of the gap between the expectations of Dahlia Restaurant customers on the services provided by Dahlia Restaurant. This SERVQUAL method uses a questionnaire as a data collection tool. The questionnaire data is then processed to calculate the value of the gap between the average perception value and the average expectation value. Based on the results of these calculations, a Cartesian diagram can be made to determine the priority of service improvement at Dahlia Restaurant.

2.1.1. Previous Research

The problem of turnover intention has been studied by many researchers. Turnover intention is influenced by several factors, including job satisfaction, organizational commitment, work involvement, work environment, organizational climate, motivation, work safety, work stress and organizational support.

Basariya & Ahmed (2019) conducted a study to trace the most influencing factor of turnover and the intention of turnover with 100 respondents in Bangalore, India. The effect of job satisfaction and organizational commitment on turnover intention shows positive results between job satisfaction and organizational commitment, organizational commitment has a positive effect on turnover intention, and job satisfaction does not significantly influence turnover intention. The research discovered that turnover aim has effect on steady loss factors, for example, quality of work life, vocation development, working hours, individual/family reasons, working condition, and compensation.

Al-Ababneh et al., (2018) conducted research on exploring the influence of internal service quality (ISQ) on employee's job satisfaction in a five-star hotel in Jordan using SERVQUAL. The study's result shows that the ISQ of five-star hotels in Jordan has a significantly positive influence on employee's job satisfaction.

Research conducted by Slatten et al., (2011) found that there is indication that employee's perceived service quality has a direct negative effect on employee's turnover intention. The effect of empowerment, coaching and role clarity on turnover intention appears to be mediated through employees perceived service quality.

Chen et al., (2006) did a development of employee satisfaction model for higher education in Chin-Min Institute of Technology in Taiwan. Using a questionnaire based on the model, 248 teachers were surveyed to investigate and analyze their importance-satisfaction level. The importance-satisfaction model (I-S model) was then applied to place each quality attribute into the I-S model, and thus determine the improvement strategy. The analytical results showed that higher education employees focus on high salaries and fair promotion systems. Investigations of the job satisfaction of college teachers in Europe and America have produced similar results.

According to Massoudi and Hamdi (2017) who analyze working environment of a foreign private banks operating in Kurdistan Region of Iraq and examines the relationship between the workplace physical conditions and employee's productivity. The research uses qualitative approach, the data was collected from a questionnaire distributed to 50 employees working in four foreign banksin the Kurdistan Region of Iraq. The result shows that There is a relationship

between office environment and productivity of employees. Behavioral components of office environment have a greater effect on productivity, than the physical components alone. And Satisfaction of Employees towards overall Workplace Environment leads to productivity.

Nejati et al., (2007) measure employee satisfaction and determine the existing gap between employees' expectation and perception of their working condition. Nejati et al., (2007) SERVQUAL model to measure employee satisfaction in an Iranian auto parts manufacturing company. The results from the gap model highlighted which aspects of the job condition employees would like to see improved. The gap measurement is effective for use in managerial decisions to improve and diagnose physical environmental features.

Ramseook-Munhurrun et al., (2010) was assessing the quality of call center services as perceived by its employees, especially employees as internal and the important role that employees play in providing quality services. Data were collected by study in a particular call center in Mauritius using the SERVQUAL questionnaire which was examined. This study examines the perceptions and expectations of frontline employees. The regression model used to examine the effect of service quality dimensions on satisfaction and loyalty. The results show that loyalty is best predicted by total satisfaction, physical evidence and responsiveness. This study contributes to understanding service quality, satisfaction, and employee loyalty in business process outsourcing.

This study assessed by Musaba et al., (2014), employees' service quality in the hotel industry of Namibia using the SERVQUAL approach. The data for this study were collected from 77 employees drawn from two major hotels in Windhoek who were surveyed using a questionnaire covering the five service quality dimensions of empathy, responsiveness, responsiveness, assurance, and tangibles. Data analysis used gap score analysis and factor analysis. The estimated score shows that across all items, employees' perceptions of service quality at the hotel are lower than their expectations. Based on the results, hotel management should address the employee factors raised in the analysis and analysis in the formulation of their strategy to improve and maintain the qualityof service in their hotels.

Midor & Kucera (2018) conducted this study in Gdańsk, where the wholesale-based area handled the fewest pharmacies and no customer satisfaction

analysis had been conducted before. The number of pharmacies in the study area adopted was 413. The SERVQUAL study was conducted within one week. Questionnaires were sent to 100 pharmacies by email, and one received responses from 45 pharmacies. Before each email is sent, the pharmacy manager is informed why the SERVQUAL method is used and the rules for filling out the SERVQUAL questionnaire have been explained so that there are no errors in the explanation. For research purposes, general pharmacies and point pharmacies have been selected. Answers to questions collected via Google forms. The results of the SERVQUAL study are presented by calculating the so-called weighted and unweighted SERVQUAL (SQ) scores. The results of the analysis show that the biggest problem in the wholesale market is the human factor. Among the opportunities to improve human work, it may be possible to try to create a suitable organizational climate, in which employees will have a sense of duty to perform well, voluntarily, with optimism and with a sense of control in the workplace.

Heidari & Lai (2019) was exploring the potential the effect of employee commitment and service quality, which are the core factors that affect competitiveness in the hospitality industry. This article analyzes the impact of employee commitment on the quality of service through the intermediate function of OCB in empirical research based on integrated models and theories. Heidari & Lai gathered information using surveys and calculated the reliability of the Cronbach-Alpha and SERVQUAL reliability. The samples used in this study were 223 employees in Guangdong hospitality industry. According to the effects of research on the attitudes and role clarity can be positive as it will extend employee engagement and effective politics, but conflict is not and cannot communicate with a commitment to politics through political commitment to extend or decrease. Component examined five unique dimensions of organizational citizenship behavior by Oregon, including altruism, deontology, magnanimity, civility, Virtue of citizens" as a positive influence on the quality of their services and this can be improved. It is significant to develop and raise the competitiveness of the Chinese hospitality industry.

Table 2.1. Summary of Previous Research

Researcher	Research Objective	Method	Tools	Result
Basariya & Ahmed (2019)	The most influencing factor of turnover and the intention of turnover	Linear regression	Questionnaire	Most impacting variable is working condition
Al-Ababneh et al., (2018)	Explore the influence of ISQ on employee's job satisfaction in five-star hotels	SERVQUAL & Job Satisfaction Survey (JSS)	Questionnaire	Findings indicated that the ISQ of five-star hotels has significantly positive influence on an employee's job satisfaction.
Slatten et al., (2011)	Test a selection of hypothesized relationships between employees' perceived service quality, employees' turnover intentions; role clarity; and empowerment and coaching.	Regression analysis	Questionnaire	There are indications that employees' perceived service quality has a direct negative effect on employees' turnover intentions. The effect of empowerment, coaching, and role clarity on turnover intention appears to be mediated through employees' perceived service quality
Chen et al., (2006)	Evaluates how employee dissatisfaction with various investment items determine the improvement priority	Importance-satisfaction model (I-S model)	Questionnaire	The analytical results showed that higher education employees focus on high salaries and fair promotion systems.
Massoudi and Hamdi (2017)	Analyze working and examines the relationship between the workplace physical conditions and employee's productivity	Qualitative Approach	Questionnaire	There is a relationship between office environment and productivity of employees. Behavioral components of office environment have a greater effect on productivity, than the physical components alone. And Satisfaction of Employees towards overall Workplace Environment leads to productivity.

Nejati et al., (2007)	Measuring employee's satisfaction and determine the existing gap between employees' expectation and perception of their working condition	SERVQUAL Model	Questionnaire	This study investigates the relationship between level of expectation and level of perception of different job satisfaction features to determine employees' expectations of their workplace. the importance of each dimension for each work unit is indicated by the gap scores in this journal.
Ramseook-Munhurrun et al., (2010)	Assess the service quality of a call center as perceived by its employees	SERVQUAL Model	Questionnaire	The results indicated that loyalty was best predicted by overall satisfaction, tangibles, and responsiveness
Musaba et al., (2014)	Assesses employee perceptions of service quality in the Namibian hotel industry	SERVQUAL Model	Questionnaire	The result advice hotel management to address the employee concerns raised in the gap analysis and factor analysis in the formulation of their strategy to improve and maintain service quality in their hotels.
Midor & Kucera (2018)	Analyze how to improve the services provided by pharmaceutical wholesalers, identify areas that need improvement to increase the level of service provided	SERVQUAL Model	Questionnaire	The results of the analysis show that the biggest problem in the wholesale market is the human factor. Among the opportunities to improve human work, it may be possible to try to create a suitable organizational climate, in which employees will have a sense of duty to perform well, voluntarily, with optimism and with a sense of control in the workplace.
Heidari & Lai (2019)	Exploring the potential, the effect of employee commitment and service quality and analyzes the impact of employee commitment on the quality of service through the intermediate function of OCB	SERVQUAL Model	Questionnaire	In conclusion, researcher suggests that there are several factors which have significant effects on employee commitment and service performance, such as managerial support, employee relationship, Function ambiguity, customer orientation, and customer feedback.

2.1.2. Current Research

The current research is conducted at Asoka Coffee which is a coffeeshop and roastery located on Jl. Kubus, Condong Chess, Sleman. Referring to previous research that has been done, in this current study the method that will be used is the SERVQUAL Method and is also supported by Importance-Performance Analysis. The current study aims to identify and identify and provide suggestions for improvements to the quality of service at Asoka Coffee for its employees. Employees have not been able to notify directly to the company about the inputs related to the services provided by the company. This is also supported because the company has never measured the quality felt by employees so that they do not know directly how the response from employees to the services that have been provided by looking at the dimension of Tangible, Reliability, Responsiveness, Assurance and Empath. Therefore, the SERVQUAL Method and Importance Performance Analysis can be used to analyze solutions for unsatisfactory attributes based on the quality of service received by employees and suggestions for improvement can be given to the company.

2.2. Service Quality

In the service industry, the attitude of employees in serving customers plays a major role in creating service excellence. Such excellence is formed through the integration of four closely related pillars, namely: speed, accuracy, friendliness, and service convenience.

Parasuraman, et. al. (1985) stated that many academics and researchers agree that customer satisfaction is a specific measure for each transaction, situation, or interaction (encounter) that is short term, while service quality is an attitude formed from the overall evaluation of the company's performance in the long term. In his research on retail customers, Dabholkar (1995) found that service quality and customer satisfaction are two different things for new customers, but their meanings overlap for old (long-term) customers.

After understanding the concept of what is meant by quality and service, then Service Quality can be defined as a reality and perception of what is expected by consumers for what has been provided by the company. According to

Parasuraman, et. al. (1985), the definition of service quality is as follows:

“The extent of discrepancy between customers, expectations or desires and their perceptions”.

Hence service quality is the ability of an organization to meet or exceed customer expectations. Where the quality of this service focuses on efforts to fulfill customer wants and needs and how the service is delivered to meet customer expectations.

From the definition of service quality above, there are two main factors in service quality, namely customer expectations and customer perceptions of the services they receive. These two things have an important role in the assessment of service quality. Where customers will assess service quality by comparing their experience in using the services offered by an organization with their expectations before using the service. If the servicereceived is in accordance with what is expected, the quality of the service will be considered good and satisfactory. If the service received exceeds customer expectations, the customer will judge the quality of the service as an ideal service quality. Conversely, if the service received is lower than expected, the service quality is considered poor. The factors that influence consumer expectations are as follows:

1. Word-of-mouth communications. Word-of-mouth communications are recommendations that consumers get from other consumers about a service provider. Word-of-mouth communications is the most potential thing in determining the success of the company.
2. Personal Needs. Consumer expectations vary greatly depending on the individual characteristics of each and the circumstances.
3. Past Experience. Past experience is also a factor that affects consumer expectations.
4. External Commutations. External communications from service providers also play a role in influencing consumer expectations.

One possible relationship between customer satisfaction and service quality and the relationship between the two with purchases is: satisfaction helps customers in revising their perceptions of service quality (Cronin and Taylor, 1992)8. The rationale includes:

1. If the consumer has no previous experience with a company, his perception of the service quality of the company will be based on his expectations.
2. Subsequent service encounters with the company will cause consumers to enter the disconfirmation process and revise their perceptions of service quality.
3. Each additional interaction with the company will strengthen or otherwise change the customer's perception of service quality.
4. The revised perception of service quality modifies consumers' buying interest in the company in the future.

2.3. Job Satisfaction

Job satisfaction is a general attitude of an individual towards aspects of his work (Robbin, 2006). Job satisfaction includes reactions or attitudes of cognitive, affective, and evaluative happy emotions or positive emotions that come from assessing one's job or work experience. Job satisfaction is an individual's general attitude toward his or her job, the difference between the amount of remuneration an employee receives and the amount they believe they should receive. Job satisfaction relates to individuals not families and concerns past conditions.

According to Robbins and Judge (2011) job satisfaction is a positive feeling about the job, resulting from an evaluation of its characteristics. Someone with ahigh level of job satisfaction has positive feelings about his job, while someone with low job satisfaction has negative feelings about his job.

2.3.1. Indicators of Job Satisfaction

According to Celluci and De Vries in Mariam (2009), job satisfaction indicators are as follows:

1. Satisfaction with salary. Salary is remuneration in the form of money received by employees as a consequence for having contributed to achieving company goals.
2. Satisfaction with promotion. The process of transferring employees from one position or place to another higher position or place followed by duties, responsibilities, and authorities that are higher than previously occupied positions.

3. Satisfaction with coworkers. A person or group of people who work in the same company.
4. Satisfaction with superiors. Someone who supervises or has the authority to give direction to subordinates
5. Satisfaction with the work itself. Characteristics contained in a job, which consists of various core dimensions of a job that can result in job satisfaction, internal motivation, high work performance, low absenteeism, and low turnover.

The indicators used in this study are indicators from Celluci and De Vries in Mariam (2009). The selected indicators are indicators that have been adapted to the company's conditions.

2.3.2. Factors Affecting Job Satisfaction

According to Robbins and Judge (2018), there are four factors that can affect job satisfaction for employees:

1. Supportive Coworkers. Individuals get something more than just money or tangible achievements from work. For some employees, work fulfills the need for social interaction. Therefore, having friendly and supportive coworkers can increase job satisfaction. Having supportive coworkers will make employees feel comfortable at work. This comfortable environment makes employees not easily stressed and depressed, so it is easy to get satisfaction at work
2. Appropriate Rewards. Employees want a pay system that they feel is fair and in line with their expectations. When pay is perceived as fair, according to the demands of the job, individual skill level, and societal pay standards, satisfaction is likely to be created. Employees who feel that the pay they receive is in accordance with what is expected and done, it will create job satisfaction.
3. Supportive Work Environment. Employees relate to their work environment for personal comfort and the ease of doing a good job. Various studies have shown that employees prefer a comfortable or harmless physical environment. In addition, most employees prefer to work relatively close to home, easily accessible by vehicle with relatively modern and clean facilities, and with adequate equipment. These adequate facilities will help employees complete work more easily so that they will get job satisfaction

4. Challenging Work. In general, individuals prefer jobs that give them the opportunity to use their skills and abilities and provide a variety of tasks, freedom, and feedback on how well they are doing. These characteristics make work more mentally challenging and make him interested in getting the job done. If employees are interested in their work, they will be motivated to produce quality work. The results of quality work will make him proud and satisfied with his work.

2.4. SERVQUAL MODEL

Service quality can be defined as the general evaluation regarding how well a service organization delivers their services to meet or even exceed customer's expectations which include specifications and requirements (Parasuraman et al., 1988).

SERVQUAL is one of the most popular service quality measurement tools and is widely used as a reference in management and marketing research. SERVQUAL is based on the gab analysis model. This tool was developed by Parasuraman, et. al. (1985). SERVQUAL consists of 22 instruments used to measure customer perceptions of service quality in service organizations and retailers.

In his research on various service industries, Parasuraman, et. al. (1985) found that the criteria used to evaluate service quality can be grouped into 10 categories called "service quality determinants", namely:

1. Tangibles, physical evidence of services that include physical facilities, equipment, labor, and visually attractive communication tools.
2. Reliability, the ability to display the promised services reliably and accurately.
3. Responsiveness, willingness, or willingness of service providers to help customers and provide services quickly.
4. Competence, service providers have the skills / expertise and knowledge needed to provide services.
5. Courtesy, including politeness, appreciation, attention, and weakness of service providers who deal directly with customers.
6. Credibility, sincerity, trust, and honesty from service providers.

7. Security, free from danger, risk and doubt which includes physical security, financial security, and confidentiality.
8. Access, easy to reach and contact.
9. Communication, the ease of providing information to customers in a language they understand and listen to customers.
10. Understanding the customer, making efforts to find out the characteristics of customers and their needs.

In further research, Parasuraman, et. al. (1988) found that there is overlap among several dimensions of the initial ten dimensions found. so that from ten dimensions are simplified into five main dimensions. the simplification is as follows:

Table 2.2. SERVQUAL dimension simplification

Initial Dimension	**New Dimension**
Tangibles	Tangibles
Reliability	Reliability
Responsiveness	Responsiveness
Competence	Assurance
Courtesy	
Credibility	
Security	
Access	Empathy
Communications	
Understanding the Customer	

The explanation of the five dimensions is as follows:

1. Tangibles: Physical facilities, equipment, and appearance of personnel.
2. Reliability: The ability to provide the promised service accurately and reliably.
3. Responsiveness: Willingness to help customers and provide fast service.
4. Assurance: Knowledge and courtesy of employees and their ability to create trust and comfort.
5. Empathy: Caring, individual attention that the company provides for customers.

From these five dimensions, a service quality measurement tool (which was later called SERVQUAL) was made which consists of two parts, namely: 22 statements used to measure customer expectations and 22 statements to

measure customer perceptions of perceived service quality. The essence of the 22 statements is the same, only the form of the sentence is different. Of the 22 statements, 16 are positive sentences and 6 are negative sentences. The measurement scale used is a 5-point Likert. Number 5 indicates strongly agree and number 1 indicates disagree.

Parasuraman, et. al. (1988) defined service quality as “a global assessment or attitude regarding service superiority”. Perceived quality (Q) is defined as "the degree and direction of discrepancy between customers' perceptions and expectations". It is formulated by: Q = P - E. Perception (P) is defined as "customer beliefs regarding the services received or experienced". While expectations or expectations (E) are "the desires or desires of consumers, namely what they think the service provider should (and will not) offer".

In a subsequent study (1991) Parasuraman, et. al. found that statements with negative sentences had problems. This is indicated, among others, by the standard deviation of negative sentences (2.07) which is much larger than the standard deviation of positive sentences (0.77). Then it was decided to remove all negative sentences and replace them with positive sentences. The statements used are as follows:

a. Tangibles

1) XYZ has modern looking fixtures.
2) The physical facilities of XYZ are visually appealing.
3) XYZ employees are well-groomed.
4) Company communication materials (such as pamphlets or statements) at XYZ are visually appealing.

b. Reliability

5) When XYZ promises to do something at a certain time, the promise is kept.
6) When you have a problem, XYZ shows a genuine interest in solving it.
7) XYZ provides services right the first time.
8) XYZ provides its services at the time it has promised.
9) XYZ puts a lot of effort into storing data quickly.

c. Responsiveness

10) XYZ employees tell you accurately when services will be provided.

11) XYZ employees provide you with fast service.
12) XYZ employees are always ready to help you.
13) XYZ employees are never too busy to respond to your requests.

d. Assurance

14) The attitude of XYZ employees creates comfort for customers.
15) You feel comfortable when transacting with XYZ.
16) XYZ employees are consistently polite to you.
17) XYZ employees have the knowledge to answer your questions.

e. Empathy

18) XYZ gives you individual attention.
19) XYZ has suitable operating times for all of its customers.
20) XYZ has employees who give you personal attention.
21) XYZ has the best value in you (best interest at heart).
22) XYZ employees understand your special needs.

2.4.1. Service Quality Measurement Using SERVQUAL

a. Calculation of the Expectation Value

This section will show how to calculate respondents' expectations of the quality of company performance on all dimensions and. The calculation of this expectation value is obtained by calculating the average weight of the respondents' assessments. The formula for calculating the respondent's expectation value for each attribute is as follows:

$$TEi = \frac{(E1 * 1) + (E2 * 2) + (E3 * 3) + (E4 * 4) + (E5 * 5)}{N}$$

Where:

TEi = Respondent's total expectation value on service attribute i

E1 = Number of respondents with the answer "not important"

E2 = Number of respondents with the answer "less important"

E3 = Number of respondents with the answer "quite important"

E4 = Number of respondents with the answer "important"

E5 = Number of respondents with the answer "very important"

N = Total respondents

Furthermore, the calculation of each dimension of service quality will be carried out using the following formula:

$$E_{ij} = \frac{\sum_{i=1}^{nj} TE_{ij}}{n_j}$$

Where:

E_{ij} = Respondent's Expectation Value on the j dimension

TE_{ij} = Respondent's expectation value on service attribute i

n_j = number of attributes in dimension j

2. Calculation of the Perception Value

This section will show how to calculate respondents' perceptions of the quality of company performance on all dimensions and attributes. The calculation of this perception value is obtained by calculating the average weight of the respondents' assessments. The formula for calculating the respondent's expectation value for each attribute is as follows:

$$TPi = \frac{(P1 * 1) + (P2 * 2) + (P3 * 3) + (P4 * 4) + (P5 * 5)}{N}$$

Where:

TPi = Respondent's total perception value on service attribute i

E1 = Number of respondents with the answer "strongly disagree"

E2 = Number of respondents with the answer "disagree"

E3 = Number of respondents with the answer "neutral"

E4 = Number of respondents with the answer "agree"

E5 = Number of respondents with the answer "strongly agree"

N = Total respondents

Furthermore, the calculation of each dimension of service quality will be carried out using the following formula:

$$P_{ij} = \frac{\sum_{i=1}^{nj} TP_{ij}}{n_j}$$

Where:

P_ij = Respondent's Perception value on the j dimension

TP〗_ij = Respondent's perception value on service attribute i

n_j = number of attributes in dimension j

2.5. Importance Performance Analysis

Importance-Performance Analysis is used to determine the extent to which the level of satisfaction felt by consumers. Martilla (2016) reveals Importance-Performance Analysis is a diagram that represents how important (importance) the attributes are in a product/service and how big is the perception (performance) of those attributes. Analysis with this method uses a Cartesian diagram. Where there are X and Y axis. The X axis in the diagram shows the average score of satisfaction level and the Y axis shows the average score of importance level. The value of X and Y for each factor can be formulated as follows:

$$\bar{x} = \frac{\sum xi}{n}$$

$$\bar{y} = \frac{\sum yi}{n}$$

Where:

n = total number of respondents

$\bar{x}$ = satisfaction level score

$\bar{y}$ = importance level score

Based on the Importance-Performance Analysis diagram, there are 4 quadrant areas that are used to determine improvement priorities, namely quadrant A, quadrant B, quadrant C, and quadrant D. Basically, Importance-Performance Analysis combines the measurement of the dimensions of expectation and importance into two grids, then the two dimensions are plotted. To produce the four quadrant areas, the average of all attributes of performance becomes the dividing line of the x-axis and the average of all attributes of importance becomes the dividing line of the y-axis. The two axes are perpendicular and intersect to produce four quadrants.

a. Quadrant A

Factors that are service attributes are considered to influence customer satisfaction and are considered very important. This factor is a priority that needs to be improved because in this quadrant the level of interest of the respondents is very high while the company's performance is low (problem and concentrate here) meaning that management has not implemented it according to the wishes of consumers.

b. Quadrant B

This quadrant shows areas that must be maintained or have been successfully implemented and are considered very important and very satisfying. In this area, the attributes have a high level of importance from respondents with a high level of company performance (keep the good work).

c. Quadrant C

This quadrant shows that the factors as service attributes are less important, where the implementation by the company is mediocre. This quadrant has a low level of importance with a low level of company performance. Thus, in this quadrant shows a low priority because there are factors that are less influential for consumers and are considered less important and unsatisfactory. Nevertheless, the company must still display something more than other company competitors (ignorant/low priority).

c. Quadrant D

This quadrant shows that the factors that influence consumers are less important, where the quadrant has a high level of company performance while the level of importance of the respondents is low (cost and possible overkill). What is meant by overkill is that the attributes in this quadrant are not a priorityto be improved or even, if possible, the performance of the company can be reduced if the factors in it use high material and non-material costs. In this quadrant the service factors are considered less important but satisfactory.

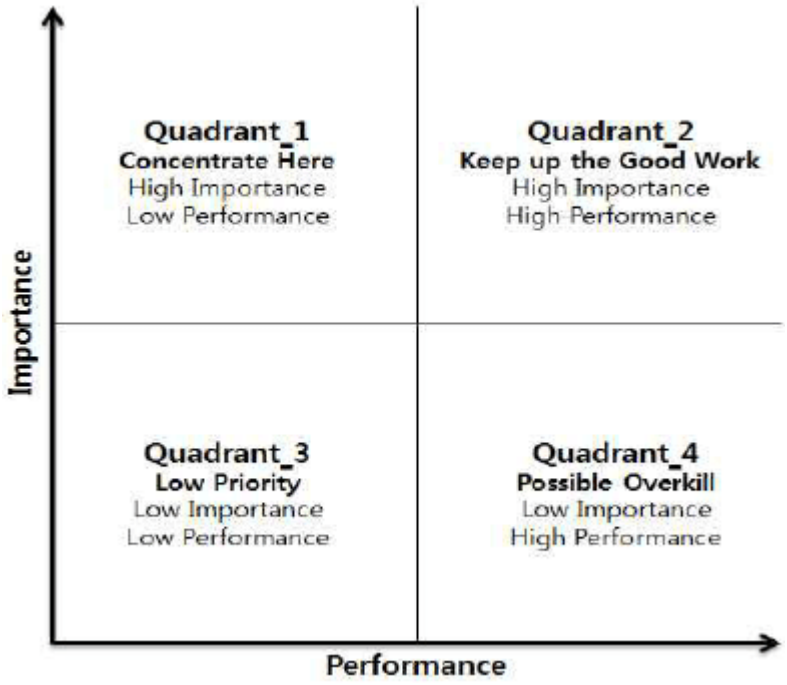

Figure 2.1. Importance Performance Analysis Quadrant

2.6. Fishbone Diagram

Fishbone Diagrams (Fishbone Diagram) is a causal analysis concept developed by Dr. Kaoru Ishikawa to describe a problem and its causes in a fishbone skeleton. Fishbone diagrams are also known as Ishikawa diagrams, after the Japanese statistician who invented and developed these diagrams in the 1960s. This diagram was first used by Dr. Kaoru Ishikawa for quality management at the Kawasaki company, which is further recognized as one of the pioneers in the development of modern process management.

This diagram is used to analyze and find factors that significantly influence in determining the quality characteristics of work output, looking for the real causes of a problem. An action and improvement steps will be easier to do if theproblem and the root cause of the problem have been found. The benefits of this fishbone diagram can help to find the root cause of the problem in a user- friendly manner, user friendly tools are preferred by people in the manufacturing industry, where the process there is known to have a wide variety of variables that have the potential to cause problems.

2.6.1. Benefits of Fishbone Diagrams

Fishbone diagrams can be used to analyze problems at the individual, team, and organizational levels. There are many uses or benefits of using this fishbone diagram in problem analysis. The benefits of using the fishbone diagram include:

a. Focuses an individual, team, or organization on a key issue. The use of fishbone diagrams in teams/organizations to analyze problems will assist team members in focusing problems on priority issues.
b. Makes it easy to illustrate a brief description of team/organizational problems. Fishbone diagrams can briefly illustrate the main problem so that the team will easily catch the main problem.
c. Determine agreement on the cause of a problem. By using brainstorming techniques, team members will provide suggestions regarding the causes of problems. These various suggestions will be discussed to determine which of these causes relate to the main problem including determining the dominant cause.
d. Build team member support to come up with solutions. Once the cause of the problem has been determined, the steps to come up with a solution will be easier to get support from team members.
e. Focus the team on the cause of the problem. Fishbone diagrams will make it easier for team members to pinpoint the cause of the problem. Also, can be developed further from each cause that has been determined.
f. Facilitate visualization of the relationship between the cause and the problem. This relationship will be seen easily on the fishbone diagram that has been created.
g. Make it easier for the team and team members to carry out discussions and make the discussion more focused on the problem and its causes

2.6.2. Steps in Compiling a Fishbone Diagram

The steps in preparing a fishbone diagram can be explained as follows:

1. Create a fishbone diagram framework. The fishbone diagram outline includes the fish head which is placed on the right side of the diagram. This fish head will later be used to state the main problem. The second part is the fin, which will be used to write down the group that causes the

problem. The third part is the thorn that will be used to state the cause of the problem. The form of the fishbone diagram framework can be described as follows:

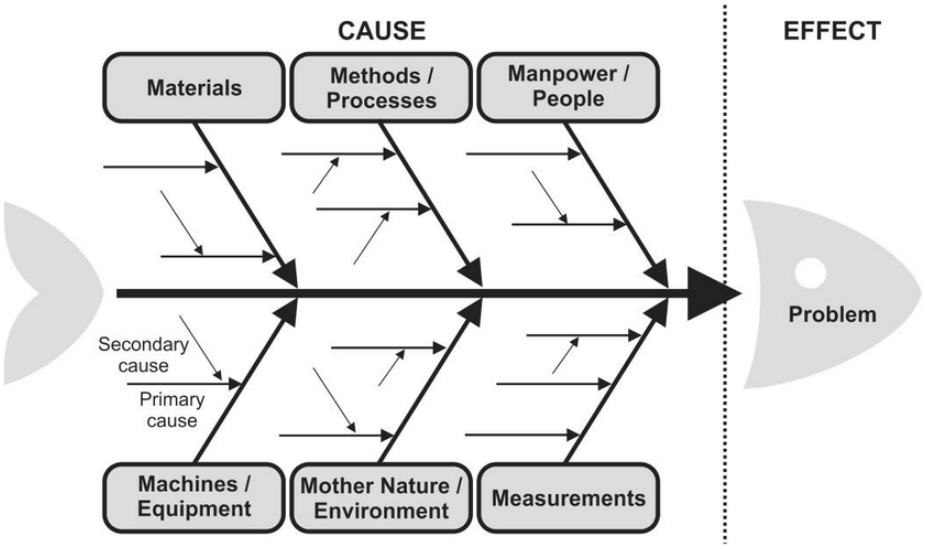

Figure 2.2. Fishbone Diagram Framework

2. Formulate the main problem. The main problem will be placed on the right side of the fishbone diagram or placed on the fish head.
3. The next step is to find the main factors that influence or result in the problem. This step can be done with a brainstorming technique. The causes of problems can be grouped into six groups, namely materials, machines and equipment, manpower, methods, environment, and measurement. The group that causes this problem we place in the Fishbone Diagram on the fish fin.
4. Find the cause for each group of causes of the problem. The cause of this problem can be detailed further by looking for the cause of the cause of the problem. Further deepening of the cause of this problem can be done up to five levels. The Five Whys method can be used to explore the causes of this problem
5. The next step after the problem and the cause of the problem is known, can be depicted in a fishbone diagram.

2.6.3. Root Cause Analysis

Root Cause Analysis is a structured approach to identify factors that influence one or more past events so that they can be used to improve performance. In addition, the use of Root Cause Analysis can also facilitate the tracking of

factors that affect performance. A root cause(s) is part of several factors (events, conditions, organizational factors) that contribute to, or give rise to, possible causes and are followed by unintended consequences.

There are various structured evaluation methods to identify the root cause of an unwanted outcome. Jing (2008) describes five popular methods to identify the root cause of an unexpected event (undesired outcome) from simple to complex, namely:

a. Is/Is not comparative analysis
b. 5 Why methods
c. Fishbone diagram
d. Cause and effect matrix
e. Root Cause Tree.

Is/Is not comparative analysis being a comparative method used for simple problems, can provide a detailed picture of what is happening and has often been used to investigate the root of the problem. The 5 Why method is a simple analytical tool that allows to investigate a problem in depth. The fishbone diagram is a popular analytical tool, which is excellent for investigating large numbers of causes. The main drawback is that the relationship between causes is not immediately apparent, and the interactions between components cannot be identified. Cause and effect matrix is a causal matrix that is written in tabular form and gives weight to each factor causing the problem. Root Cause Tree is a causal analysis tool that is most suitable for complex problems. The main benefit of the analysis tool is that it allows to identify the relationship between the causes of the problem.

2.7. Validity and Reliability

The questionnaire instrument in a study requires validity and reliability testing. Validity testing is needed to state the extent to which the data contained in a questionnaire will measure what it wants to measure (Umar, 2003). Validity relates to the reality and purpose of measurement. The measurement is said to be valid if the goal is real and correct, invalid means that it gives the results of the measure deviating from the goal. An instrument is declared valid if the value of r count > r table. Testing is done using SPSS software which is generally

based on Bivariate Pearson correlation and Correlated Item-Total Correlation. The way the Bivariate Pearson method works is by correlating the value of each question with the total value or the sum of all items, while Correlated Item-Total Correlation is done by correlating the value of each question with the total value (Jogiyanto, 2008). The Pearson Bivariate formula is:

$$r_{xy} = \frac{N \sum XY - \sum X \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2}\ \sqrt{N \sum Y - (\sum Y)^2}}$$

Where:

r_{xy} = correlation coefficient

X = question score

Y = total score

N = number of subjects

Reliability testing is needed to show the extent to which a measurement result is consistent if the measuring instrument is used repeatedly (Umar, 2003). Reliability indicates the accuracy and consistency of the gauge. Consistent means that measurements made repeatedly on the same subject get results that are not different. Reliability can be measured by Cronbach's Alpha. If the Cronbach's Alpha value is close to 1, the reliability is higher. Generally, the reliability value is > 0.6. Cronbach's Alpha formula is:

$$\alpha = \frac{k}{k-1} = 1 - \frac{\sum \sigma^2 xi}{\sigma x^2}$$

where:

α = Reliability

k = number of question items