



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

**DEVELOPING QUALITY FUNCTION DEPLOYMENT (QFD)
FOR EMPLOYEES SATISFACTION THROUGH KANO
METHOD AND HERZBERG THEORY: CASE STUDY IN
(JABATAN PERKHIDMATAN AWAM)**

This report submitted in accordance with requirement of the Universiti Teknikal Malaysia Melaka (UTeM) for the Bachelor Degree of Manufacturing Engineering (Manufacturing Management)

by

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TAJUK: Developing Quality Function Deployment (QFD) For Employees Satisfaction Through Kano Method and Herzberg Theory: Case Study in (Jabatan Perkhidmatan Awam)

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ABSTRAK

Laporan ini mengandungi kajian tentang kepuasan pekerja yang mana pekerja juga turut dikenali sebagai pelanggan dalaman. Pekerja selalunya akan berpuas hati dengan kerja mereka jika persekitaran kerja dilengkapi mengikut keperluan mereka. Objektif untuk kajian ini ialah untuk menganalisis kepuasan pekerja melalui kaedah Kano dan teori Herzberg berpandukan aspek luaran dan dalaman malah untuk menggunakan Quality Function Deployment (QFD), kaedah Kano, dan teori Herzberg bagi meningkatkan kualiti layanan di sector awam.

Dengan membuat soal selidik kepada pekerja di jabatan yang telah dipilih sebelum ini, data daripada soalan yang berkonsepkan 'Functional', 'Dysfunctional', dan juga 'Likert' kemudiannya dikumpul dan dianalisis sebelum memberikan sebarang cadangan yang akan dijadikan panduan untuk penambahbaikan. Semua data yang telah dianalisis kemudiannya digunakan pula untuk dihubungkan antara kaedah Kano, teori Herzberg, dan Likert. Data yang telah dihubungkan tadi digunakan dan dimasukkan ke dalam Quality Function Deployment (QFD) yang bertujuan memudahkan proses memilih kriteria mana yang akan ditekankan atau difokuskan. Ianya dapat dilihat melalui persilangan yang boleh diperolehi dengan menggunakan perisian SPSS. Setelah mengetahui kriteria mana yang lebih penting ataupun lebih kritikal, jabatan tersebut perlu mengambil tahu kriteria yang menjadi kepentingan mengikut keperluan pekerja bagi membuatkan mereka lebih berpuas hati dengan kerja. Jika pekerja berpuas hati dengan kerja yang mereka buat, mereka akan memberikan keluaran yang baik terhadap layanan pelanggan sekaligus meningkatkan lagi tahap kualiti layanan jabatan mereka sendiri.

ABSTRACT

This report contains of the study about the employees satisfaction also known as internal customer. The study will conduct through Kano Method, Herzberg Theory, and Quality Function Deployment (QFD). The employees will satisfied with their job if their working environment fullfil by following their requirements. The objective of this study is to analyze the customer satisfaction through Kano method and Herzberg Theory regarding intrinsic and extrinsic aspects and to implement the QFD (Quality Function Deployment), Kano method, and Herzberg Theory for public sector quality improvement. In addition, this study also will quantify the improvement for the service at the company chosen.

By distributing the questionnaire to the employees at the company chosen, the data from functional, dysfunctional, and Likert questions can be collected then can be analyzed before give suggestion as improvement. All data that were analyzed then used to make correlation among Kano Method, Likert, and Herzberg Theory. From the data that were correlate, it also related to the Quality Function Deployment (QFD) to ease choose which criteria will be focused through the intersection that can be found by using the SPSS software. By knowing the critical criteria, the company should know what is the important of employees requirements to make them satisfied while working. Whenever the employees satisfied with their job, they will give good output to the customer whereas it will enhance the quality of their company.

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TABLE OF CONTENT

Abstrak	i
Abstract	ii
Acknowledgement	iii
Table of Content	iv
List of Tables	vi
List of Figures	vii
1.INTRODUCTION	1
1.1 Problem statement	2
1.2 Objectives	3
1.3 Scope of objectives	3
1.4 Summary	4
2. LITERATURE REVIEW	5
2.1 Job satisfaction	6
2.2 Quality Function Deployment (QFD)	8
2.3 Kano Method	10
2.3.1 Threshold Attributes	11
2.3.2 Performance Attributes	11
2.3.3 Delighter or Exciter Attributes	12
2.3.4 Category Strength (CAT)	14
2.4 Herzberg Theory	16
2.5 Summary	19
3.METHODOLOGY	37
3.1 Project Overview	37
3.2 Construct Measurement	39
3.3 The Questionnaire	40
3.4 Survey Administration	41
3.5 Analysis	42

3.6	Gantt Chart	43
3.7	Summary	44
4.RESULT AND DISCUSSION		45
4.1	Working condition in Jabatan Perkhidmatan Awam (JPA)	45
4.2	Evaluation Data From Respondent	46
4.2.1	Characteristics of Respondent	46
4.3	Kano Method Analysis	49
4.3.1	Kano Evaluation Result	49
5.CONCLUSION		53
5.1	Conclusion	53
5.2	Recommendation	54
REFERENCES		57
APPENDICES		
A	Gantt Chart PSM1	
B	Gantt Chart PSM2	

LIST OF TABLES

2.1	Kano Evaluation Table	13
2.2	The Summarization of The Researched	20
4.1	Frequency of Gender	47
4.2	Frequency of Age	47
4.3	Frequency of Race	47
4.4	Frequency of Working Service	48
4.5	Frequency of Working Position	48
4.6	Frequency of Qualification	49
4.7	Kano Evaluation Result	50

LIST OF FIGURES

2.1	House of Quality (HOQ)	9
2.2	Kano Method Diagram	10
2.3	Kano Quality Categories	16
3.1	Flow Chart of Methodology	38
4.1	Kano Quality Categories	51

CHAPTER 1

INTRODUCTION

Customer satisfaction is the important tool that we can use to measure the quality of product and/or service that was produced and given by the company. Levesque and McDougall (1996:14) stated that satisfaction is an “overall customer attitude towards a service provider”. Customer satisfaction can be experienced in a variety of situations and connected to both goods and services (CSSP,2007:6; Cengiz, 2010:78). McQuitty et al.,(2000) argued that by assuming a customer will learn from experience, then the decreasing levels of expectations-disconfirmation (against goods and services) should affect customer satisfaction. This is discussed by Zineldin (2000:21) regarding to an emotional reaction to the difference between what customers anticipated and what they received.

Hansemark and Albinsson (2004:41) argued that although customer satisfaction is important and also brings many benefits to the organization or company, but it is not equally important to individual company. This is occurred especially in public sectors organization that the customer satisfaction are indirectly related their profit and benefits due to their existence as non-profit organizations or institutions. However, based on the empirical literature, Bulgarella (2005:6) summarized that customer satisfaction give the impact of on organizational profit.

Based on customer existences, actually there are two types of customers, that is external customers and internal customer (Harer,2008:309). First, called as the external customers whose are an organization"s clients, users, and others. Second, the internal customer whose are an organization"s employees and those stakeholders that supporting the production process. In facts, the customer satisfaction is therefore not only regarding to product or service provided by organization and employees, but also pertinent to the satisfaction among the workers who are satisfied to their condition and working environment that have the impacts to the quality of services and products. Through the good condition, the output will meet the customer requirement which then will make the customer satisfaction of the output produced. This is parallel to "internal marketing is the key to superior service and the result is external marketing success." (Greene *et al.*, 1994:5; Varey, 1995:43-45).

Practically, customer satisfaction in the public sectors (public service organization or institutions under the government) do not very different compared to private sectors. This is because the business of private sectors directly related to the profit generating for their organization. In public sector, conversely, their ultimate goal is to give and provide the service to the community based on their roles as public organizations/institution such as facilitator, pace setter and socio-economical developer (Arawati *et al.*, 2007:178).

1.1 Problem statement

The public sector has undergone a number of transformations. As with most "new" management practices, private sector organizations have adopted the principles of service quality at a much faster rate than those in the public sector. This can be attributed to the inherent differences between the sectors in terms of their historical and environmental contexts (Arawati *et al.*, 2007:178). According to Ilhaamie (2010:40), the dimension of service quality pertinent to customers satisfaction as it seems that

responsiveness is the most important dimension. This is due to delays in taking actions and providing services to customers are a responsiveness dimension. It means, that the condition of the employees' job or about their satisfaction (working environment, culture, relationship, top management commitment, etc.) will influence the customer satisfaction (external) through service given.

Therefore, top management should play their role properly to ensure that all the employees can be working in good condition and satisfy with their work. In addition, all of the employees that are related to the customer should be placed in the proper condition with used suitable treatment. This is as stated by Mathews and Shulman,(2005:3), that the purpose of the public sector in the current environment can be viewed as a paradox – the pursuit of public good and a sustainable competitive advantage.

1.2 Objectives

- a) To understand the employees or internal customer satisfaction in the public sector based on the perspective of service given.
- b) To implement the QFD (Quality Function Deployment), Kano method, and Herzberg Theory for public sector quality improvement.

1.3 Scope of the project

The scope of this project is directly focused on the employees satisfaction through service quality given in the public sector at XXX Department. The project and study will be conducted in the department scholarship and training. Here, the project also to

observe the employees satisfaction perspectives that pertinent to the service given by XXX Department. Questionnaire and survey will be carried out to collect the data from the employees or internal customer which it will be then processed using Kano method, Herzberg theory and Quality Function Deployment (QFD). In addition, Quality Function Deployment also is used to improve the internal customer satisfaction for the service given.

1.4 Summary

Whole in this chapter actually discussed about based of the research which include the objective to understand and analyze the employees satisfaction through Kano method and Herzberg theory. Besides that, Kano method and Herzberg will be used to regard the quality improvement by following the scope and problem statement for this study. All the quality improvement is useful and also can influence the employees satisfaction.

CHAPTER 2

LITERATURE REVIEW

This chapter will discuss about the literature that related to a Quality Function Deployment (QFD) for Employees Satisfaction through Kano method and Herzberg theory. It also described about the critical point whole of the project. This chapter also was conducted comprehensive by using the journals that developed and published from other researchers to know properly about the employees satisfaction, job satisfaction, Quality Function Deployment(QFD), Kano method, and Herzberg theory.

Basically, customer satisfaction is a measure of how product or service supplied by a company meet or surpass customer expectation. Two types of customers are external customers and internal customers (Harer,2008:309).The author were categorized external customers is an organizations clients, patrons, users, etc., and internal customers is an organizations employees and stakeholders supporting the production process. But, much of the recent literature on measuring service quality has focused on the external customer. According to the Nitecki argues to improve the service quality, the service providers must be engaged. The people involved with providing the service, at every level, will behave differently if they have the opportunity to make the assessment their own (Nitecki, 2001:133-162). Kano *et al.*,(1984:39-48) proposed a structured questionnaire to help identifying and classifying customer requirements.

This project proposed to know the characteristics of employees requirements by using Kano Method. It is because, is a way to measure the affect of level performance for their product and service. Most of the company should consider about the employees or internal satisfaction first because it can influence the value for their job. Then, if the employees were satisfied and interested with their job, they can produce good product and service for the customer.

2.1 Job satisfaction

Job satisfaction is how employees feel about different aspect of their job. Graham (1982:68) defined Job satisfaction as „the measurement of one’s total feelings and attitudes towards one’s job. Global job satisfaction can be measured by simply proposing a holistic question about whether an individual is satisfied or not (Morgan *et al.*, 1995:10).Occupational researcher commonly distinguish between two types of job satisfaction which individuals attach to their job.

Turnover as the intention of employees to quit their organization as defined by Nazim (2008:242).Many studies conducted in different settings found that a significant negative correlation between the facets of job satisfaction and turnover intention. Rahman *et al* .,(2008:52) found that job satisfaction had negative effect on turnover intention of IT professional. The effect of mood on the job is the important components of job attitudes and potentially important predictors of some job behaviors. Job attitudes often correlate more strongly with specific job behaviors than social attitudes correlate with specific behaviors (Ajzen & Fishbein, 2005:178-183). When identify an individuals attitude toward an object, have only identified that persons general orientation toward the object, do not identified if or how they may choose to enact a specific behavior regarding the object.

The working environment also may contribute to the satisfaction of the employee's because there are several people that are not comfortable when working with other gender. Hence, this situation will make the services given by that employee's are going bad. According to Peter Hoonakker *et al.*, (2003) job factors can influence attitudes, which in turn, can influence turnover intention. The study by De Frias and Schae (2001:67-81) was found that significant differences in perceived work environment based on age, gender, and occupation type. Sometimes, people are more comfortable if others workers at their department are at their age and same gender with them. Hence, the company should consider and give some comfort working environment for those employee's like this.

Yet Battu *et al.* (1999:21-38) found that over-educated graduates had significantly lower job satisfaction than those who were in graduate-level jobs. Green and Tsitsianis (2005:401-429) likewise found for a cross-section of workers that job satisfaction was lower for both over-educated and under-educated workers in their British sample. Buchel (2002:263-275) found no significant difference in job satisfaction between overeducated and adequately educated employees in his study of German firms.

Employee attitudes can be influence to their satisfaction in their job. Saari and Judge (2004:395) argued that the employees have attitudes or viewpoints about many aspects of their jobs, their careers, and their organization. In particular, service providers at public sector classified as "excellent" were rated most favorably in terms of responsiveness, access and credibility. It is because, if the employees satisfied with their job, they become happier and the product that produce or service that given to the customer can fulfill customer requirements.

2.2 Quality Function Deployment (QFD)

Quality function Deployment or with the short name is QFD was developed in Japan in the late 1960s by Professors Shigeru Mizuno and Yoji Akao. The purpose both of them was developing a quality assurance method that would design customer satisfaction into a product before it was manufactured. Prior quality control methods were primarily aimed at fixing a problem during or after manufacturing. QFD was developed to bring this personal interface to modern manufacturing and business. QFD also is a powerful tool to identify what needs to be done to the product to respond optimally to customer needs (Ashok *et al.*, 2006:291) In industrial society now, the growing distance among producers and users is a concern, when the QFD is links the needs of the customer or end user with design, development, engineering, manufacturing, and service functions.

Quality Function Deployment is also can understand what the employees needed. In addition, QFD provides a system of comprehensive development process for understand and know properly about the true customer needed from their perspective. Hence, QFD can maximize positive quality that adds value. It is because, QFD methodology can helps to design or modify a service that maximizes customer satisfaction while benchmarking helps develop processes that will produce such a product with the least resources(Ashok *et al.*, 2006:291). So, from that we can analyze how we know the needs of the employees.

Other that, from the system that provides is intelligently linking the needs of the employees with design, development, engineering, manufacturing, and service functions also is good strategy to stay ahead of the game. It is because QFD is a comprehensive quality system that systematically links the needs of the employees with organizational processes such as marketing, design, quality, production, manufacturing, sales, etc. And, it can align the entire company toward achieving their common goal.

The Quality Function Deployment methodology can be used for tangible products or non-tangible services. The examples for either tangible products or non-tangible services are designing service offerings in healthcare sector (Dijkstra & Van Der Bij, 2002:67-89), Software industry (Barnett & Raja, 1995:24-42), Construction industry (Abdul Rahman *et al.*, 1999:591-599), Education or pedagogical applications (Houston & Lawrence, 1998:555-560; Hwang & Teo, 2000:257-260; Lam & Zhao, 1998:389-413; Motwani *et al.*, 1996:149-159; Pitman *et al.*, 1996:99-105), Airline industry (Gobadian & Terry, 1995:25-30), IT information modeling (Omat *et al.*, 1999:199). In addition, Franceschini and Rossetto (2002:69-75) develop an interactive algorithm using QFD to prioritize the technical characteristics of any product design. QFD also known as House of Quality (HOQ) as below:

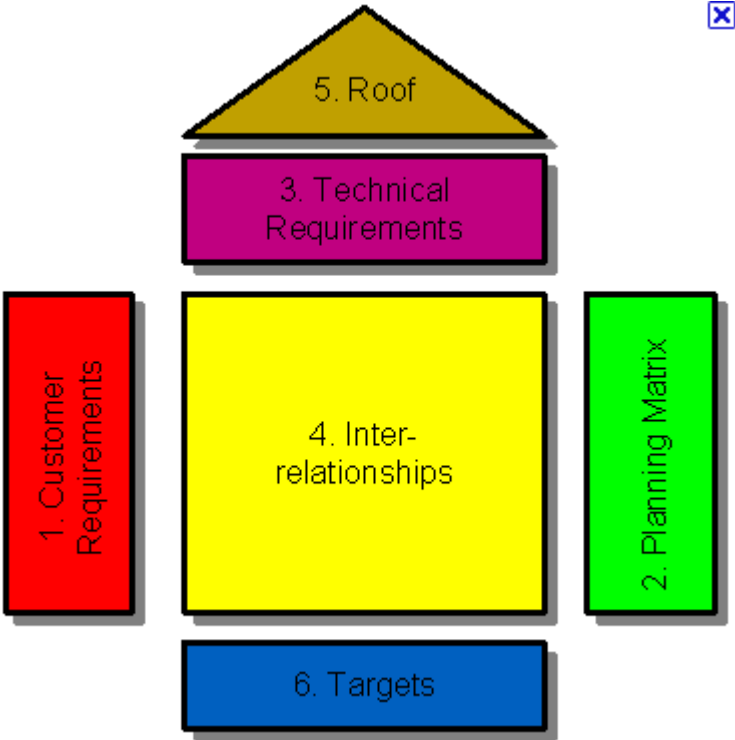


Figure 2.1: House of Quality (HOQ)

2.3 Kano Method

Kano method is a theory a product development and customer satisfaction. The background of this method was developed by Dr. Noriaki Kano is a member of the Japanese Union of Scientists and Engineers, the sponsors of the Deming Prize. Kano method is divides product attributes into three categories are threshold, performance, and excitement based on Figure 1. Kano method is used for investigating the characteristics of customer requirements Kano *et al.*, (1984). According to the Furlan and Corradetti (2010:2), if the customers confused ideas about the quality, with some effort their ideas can be made clear and thus the customer requirements can emerge.

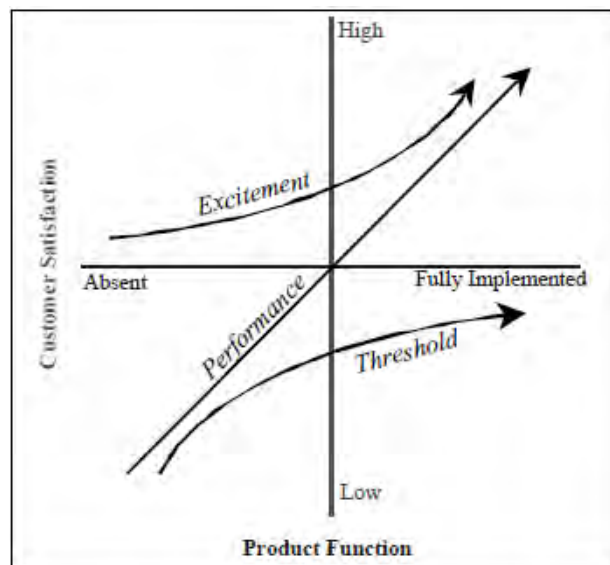


Figure 2.2: Kano Method Diagram

2.3.1 Threshold Attributes

According to Kano *et al.*,(1984) product or service characteristics can be classified as dissatisfier, delighter, or performance attributes. Dissatisfier attributes (threshold, basic, must have) represent the minimum requirements which will cause dissatisfaction if not fulfilled. However, they will not produce satisfaction if they are fulfilled or exceeded. (Furlan and Corradetti, 2010:2). The threshold attributes are according to as „must be“ attributes suggesting in other words means they must always be present and do not provide an opportunity for product differentiation. The product or service attributes are necessary in order to help product or service find the acceptance in a market. Increasing the performance of these attributes provides diminishing returns in terms of customer satisfaction. However the absence or poor performance of these attributes results in extreme customer dissatisfaction.

2.3.2 Performance attributes

Performance attributes (linear, one-dimensional) will produce satisfaction when functionality is high, dissatisfaction when functionality is low. Therefore, the relationship between performance and satisfaction tend to be linear (Furlan and Corradetti, 2010:2). Performance attributes are those which increase the customer satisfaction as a new service or features are added. But, if this performance attributes are weak, so the customer satisfaction will be reduced also. It is means, once the performance attributes has been include in the product or service, it must be continued. In addition, performance attributes tend to reflect the voice of the customer either satisfied or not. Hence, if the product or service is better and followed the customer requirements, the customer will be satisfied with the product or service.

2.3.3 Delighter or exciter attributes

Delighter attributes (satisfiers, attractive) will produce delight and inspire loyalty when delivered. However, they will not produce dissatisfaction if the product/service lacks the feature (Furlan & Corradetti, 2010:2). Exciter or also known as delighter attributes represent characteristics that the customer cannot expect but customer can receive it as a bonus. This attribute is unlike the performance attributes because they do not affect the customer satisfaction if they are discontinued from a product or service. Then, if the challenge is that some exciter or delighter attributes, it becomes threshold attributes. It means, the company will give or add other product or service ancillary after they give the main product or service to customer.

Kano *et al.*, (1984) that proposed a structured questionnaire to help identifying and classifying customers' requirements based on as follow:

- a) Identify a set of main product or service characteristics which are assumed to affect the overall satisfaction/loyalty and need to be properly classified into the Kano's categories
- b) Ask two questions for each characteristic: a functional question, investigating the satisfaction when the characteristic is present („How would you feel if the product had feature X?“), and a dysfunctional question, investigating the satisfaction when the characteristic is absent („How would you feel if the product didn't have feature X?“). Each pair of questions aims at understanding how actual or potential customers/employees would feel whether the characteristic is present or absent. For each question five possible answers are defined: I like it; I expect it/It is a must; I am neutral/I do not care; I can tolerate it/I can live with it; I dislike it.
- c) Analyze each respondent's data to determine into which Kano's category a given product or service characteristic falls for that respondent. This is accomplished by the Kano Evaluation table presented in Table 3.2.1. We can see, there are some additional feature classifications: indifferent attribute, to which the customer does not pay