CHAPTER IV

KANO MODEL ANALYTICAL

4.1 Introduction

To satisfy customers, the company must understand that meeting different kinds of requirements is the key to achieving customer satisfaction. In this chapter, identify distinct types of customers that will have different requirements. Customer requirements are the benefits that customers gain from the product or service. However, in order to design a product or service, the company must map these customer requirements into product or service features. One widely-used method is the Kano model. This model provides a means to make sense of the relationship between customer perceptions about what the customer would receive and the satisfaction actually get from the product or service.

Kano analysis is a quality measurement tool used to prioritise customer requirements based on their impact to customer satisfaction. This is useful because customer requirements are not all of the same kind, not all have the same importance, and are different for different populations. The results can be used to prioritise the effort in satisfying different customers.

The Kano model classifies product attributes based on how the companies are perceived by customers as well as the effect of the attributes on customer satisfaction. Since the impact on customer satisfaction is different for each customer requirement, it is important to determine which attributes of a product or service bring more satisfaction than others. The Kano classifications used to capture this information identify which attributes drive customer satisfaction, and indicate where a company should focus to retain market competitiveness. Meeting the customers' basic quality needs provides the foundation for the elimination of dissatisfaction and complaints. Exceeding expectation creates a competitive advantage and leads to innovation.

A prerequisite is identifying customer needs, their hierarchy and priorities (Griffin/Hauser, 1993). Kano's model is used to establish the importance of individual product features for the customer's satisfaction and thus it creates the optimal prerequisite for process oriented product development activities. Kano model analysis is a useful technique for deciding which features to include in a product or service while creating profitable products or services that genuinely excite customers.

4.2 Kano Model

According to Kano (1984) integrated quality along two dimensions. The two dimensions were the degree to which a product or service performs, and the degree to which the customer is satisfied. The horizontal axis of the Kano diagram indicates how fully functional some aspect of a product is, and the vertical axis indicates how satisfied the customer is.

One Dimensional Quality   Two Dimensional Quality

Performance   Level of
                                                     Satisfaction
Bad ─────────────▶ Good

Customer Satisfaction

Bad ─────────────▶ Good   Level of
                                                     Performance
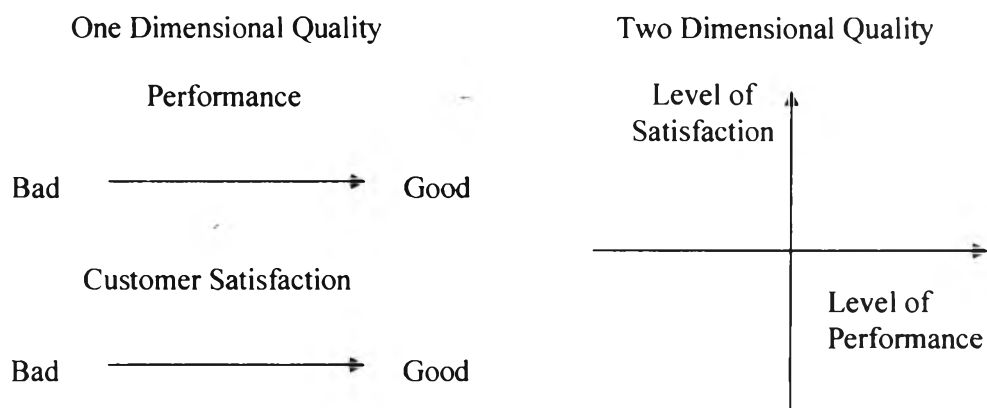
Figure 4.1: Kano Diagram Axes

The juxtaposing of the quality parameters of performance and customer satisfaction in a two-axis plot created the ability to define quality in a more sophisticated and holistic manner. The correlation of quality on two axes can be classified into four unique definitions of quality, namely: Must be Quality, One-dimensional Quality, Attractive Quality, and Indifference Quality as shown in Figure 4.2.
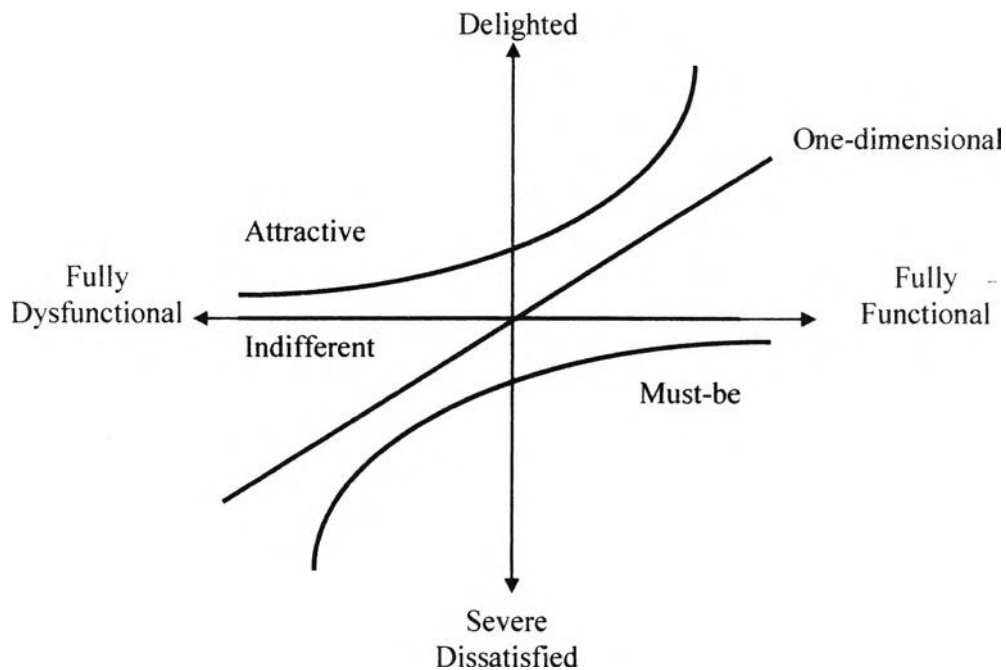
Figure 4.2: Kano Model
Source: Kano 1984

Customers will develop a singular level of satisfaction for a given set of circumstances. It will be influenced by four general requirements, as developed by Kano which has been identified as: "Must-be" requirements represent the quality that customers expect from a product. If these requirements are not present in the product, the consequence is customer dissatisfaction. The dynamics of this requirement indicate that some customer requirements, if not achieved, cause high dissatisfaction, and, if they are achieved, have only a limited effect on causing customer satisfaction. The "One-dimensional" requirements have a linear impact on customer satisfaction. Increased levels of satisfaction are caused by increased levels of achievement. The "Attractive" requirements make a product stand out from the others and provide high customer satisfaction. These requirements address unexpected needs of the customer that when satisfied, create a positive surprise, and lead to high levels of satisfaction. The "Indifferent" requirements are attributes to which the customer pays no attention if the companies are present, it is nice, if not present, it does not matter.

The Kano model is useful for providing a two-dimensional model of quality. In actual application, requirements do not always fall neatly into one of the four categories. Very high levels of performance relative to expectations can act like excitement attributes and provide real reasons to choose a particular product over its competitor. Likewise, an intended excitement feature executed badly will cause dissatisfaction. The Kano model groups product features by how meet customer expectations. In particular, Kano looks at the relationship between how complete a feature is and how satisfied the customer is by it. Product differentiation can either be gained by a high level of execution of the linear attributes or the inclusion of one or more delighter features. But, it should be remembered that customer expectations change over time.
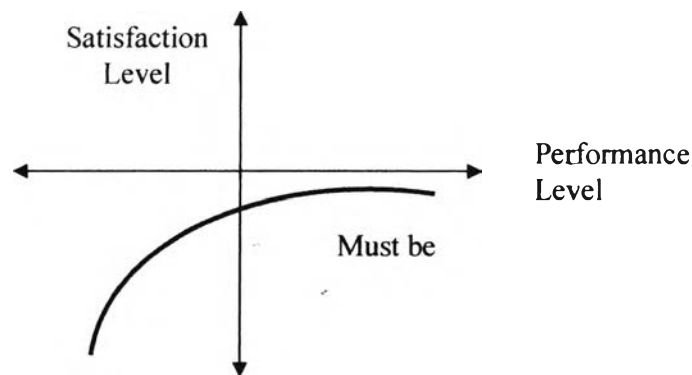
4.2.1 Must be Requirements

Figure 4.3: Must be requirements

The lower curve of the model reflects basic customer needs, basic functions or features that customers normally expect of a product or service. The absence of these requirements will lead to customer dissatisfaction and can result in complaints and/or lost business. If present or fulfilled, these requirements contribute to customer impartiality. Attaining high levels of customer satisfaction is hard to achieve by excelling in these areas alone. Such needs are usually met by current technology and any new product must satisfy these needs. However, it is difficult to differentiate a product by increasing the satisfaction of these needs because the customers are already satisfied well by the competitive set of existing products. In other words, the competitive equilibrium has suggested that all products able to succeed without any

problems address these needs. If the company does not meet the needs then the product will draw customer dissatisfaction and lose sales. However, there are opportunities to save cost if new creative technology can address these needs as well or better with lower cost. The customer will remain neutral towards the product even with improved execution of these aspects. These situations are considered as much more significant by the customer than the organisation may realise.
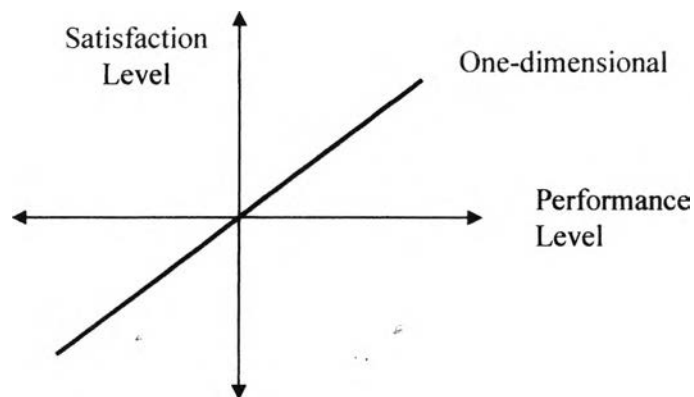
4.2.2 One-dimensional Requirements

Figure 4.4: One-dimensional Requirements

One-dimensional requirements directly correlated to customer satisfaction. Generally, the better these functions or features perform the greater the level of customer satisfaction. Conversely, decreased functionality results in greater dissatisfaction. Such continuous improvements have a linear, positive impact on customer satisfaction. More is generally better and good performance in these areas will improve customer satisfaction, but not dramatically. One-dimensional requirements must be fulfilled when new technology or improved ideas increase the amount by which these needs are satisfied, customer satisfaction increases, but usually with diminishing returns. Such needs are usually relevant when technology is advancing rapidly, such as is the case with the speed of a technology for value added service. In order to stay on top of the market, a mobile phone service provider must always be developing more powerful and easier to use these functions. A simple increase in responsiveness is examples of satisfier factors. The offering of a range of product styles, options, models are satisfier factors. The more satisfier factors present, the higher the customer satisfaction.
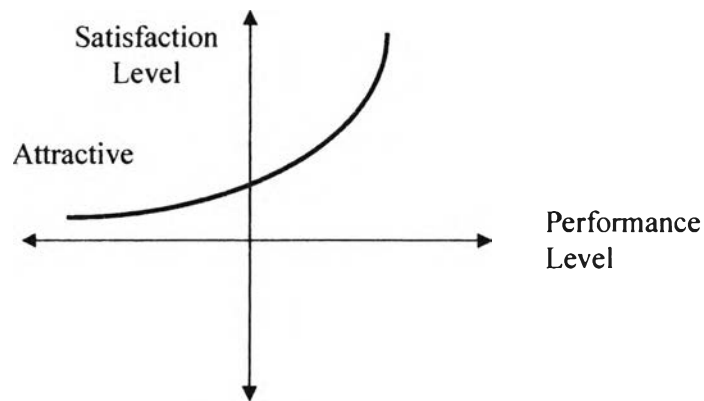
4.2.3 Attractive Requirements

Figure 4.5: Attractive Requirements

The upper curve of the model represents those features or functions that delight and excite customers, the unexpected needs of the customer that when satisfied, lead to high levels of satisfaction. Attractive requirements are difficult to discover to go beyond the customer's expectations that wow the customers. Since customers are not appropriate to voice these requirements, it is the responsibility of the organisation to explore customer problems and opportunities to uncover such unexpected items. These requirements can shift over time, customers would not know what to expect, since by definition these are things that surprise the customers. Customers get great satisfaction from a feature and are willing to pay a price premium. However, satisfaction will not decrease if the product lacks the feature. These features are often unexpected by customers and the customer can be difficult to establish as needs up front. When features are included in a product to satisfy such customer needs, often unexpectedly, customers experience delight. Sources of customer delight can become strong motivators for initial purchase and for customer satisfaction after the sale. These requirements are of the greatest importance in attracting the attention of customers and getting the product sold. In competitive situations when products or services provide similar performance, addressing the requirements that delight and excite customers can provide a competitive advantage.

It also may mean that the product would help customers achieve totally new goals that the company had not been thinking of earlier. Discovering and fulfilling attractive requirements creates a wide range of possibilities for differentiation. A

product which merely satisfies the must-be and one-dimensional requirements is perceived as average and therefore interchangeable (Hinterhuber/Aichner/Lobenwein 1994). In order to generate customer excitement and brand loyalty, companies must leverage their creative resources to identify ideas and innovations that cause customer excitement. Attractive quality becomes the special reason why customers will make a specific company the default choice over the competition and return to buy again.

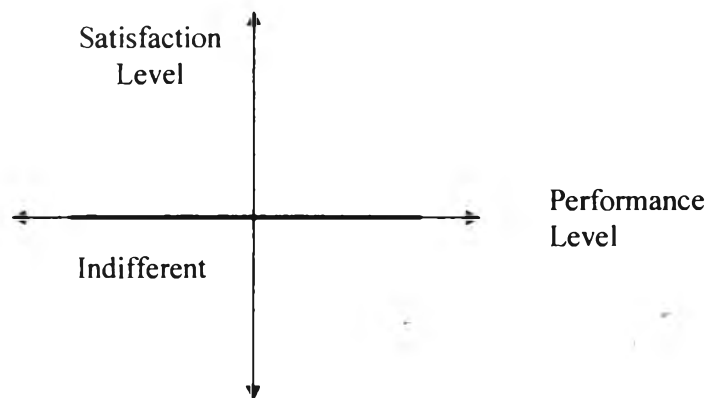### 4.2.4 Indifferent Requirements

Figure 4.6: Indifferent Requirement

Finally, there are the indifference requirements, the things that cause the customers not to like product and service. Indifferent quality refers to aspects that are neither good nor bad, and, consequently, the companies do not result in either customer satisfaction or customer dissatisfaction. Indifference would be plotted on figure 4.5 roughly along the horizontal axis that is, the customer is neither satisfied nor dissatisfied whether the product is dysfunctional or fully functional.

4.3 Kano Methodology

In the Kano method, Kano questionnaire, Kano evaluation table, and Tabulation of response are used. Customer answer in the Kano questionnaire is assigned to a quality element through the Kano evaluation table. However, Kano method handles the customer answer such as precise data. This causes the indistinct relationship between customer answer and quality element in the Kano evaluation table. Once all the Kano questionnaires for a survey have been collected, one tabulates by looking up the classification of each customer requirement on each questionnaire in the Kano Evaluation Table and tallying it in appropriate place in the row for that requirement on a Kano questionnaire tabulation form.

4.3.1 Kano questionnaire

To capture customer requirement for the company, customers were asked to provide qualitative inputs on improving company performance. The survey targeted customers who utilised the One-2-Call! product and service within the last three months and included a sample size of 90 of the user community. The designs of questionnaire want to know the importance and satisfaction degree on the products, services and privileges of mobile phone service provider. All customers perceived the importance and satisfaction degrees of each factor are positive correspondent that can be as reference for the service quality design of mobile phone. Kano questionnaire was designed to understand customer requirements and identify opportunities to improve the service provided by the company.

The Kano questionnaire contained pairs of customer requirement questions (Berger et al. 1993; Kano et al. 1984) requires that each item under examination be stated in a functional way of the question and a dysfunctional way of the question which defines the customer perception and that the answers to both questions be used in an evaluation table. Using an example of a survey to define such as the one of quality elements of a mobile phone set, the statements for the product and service quality could be:

Functional question	How do you feel if that the mobile phone service operator is continuing use new technology to improve system and network?	1. Like 2. Must 3. Do not care 4. Can live with it 5. Dislike
Dysfunctional question	How do you feel if that the mobile phone service operator is not continuing use new technology to improve system and network?	1. Like 2. Must 3. Do not care 4. Can live with it 5. Dislike
Functional question	If mobile phone service operator has tariff customisation and variety of promotions, how do you feel?	1. Like 2. Must 3. Do not care 4. Can live with it 5. Dislike
Dysfunctional question	If mobile phone service operator dose not has tariff customisation and variety of promotions, how do you feel?	1. Like 2. Must 3. Do not care 4. Can live with it 5. Dislike
Functional question	If the mobile phone service operator correctness in airtime refill, how do you feel?	1. Like 2. Must 3. Do not care 4. Can live with it 5. Dislike
Dysfunctional question	If the mobile phone service operator incorrectness in airtime refill, how do you feel?	1. Like 2. Must 3. Do not care 4. Can live with it 5. Dislike

Figure 4.7: Example of three Customer Requirements in Kano Questionnaire

This questionnaire asks pairs of multiple-choice question about potential product capabilities. Half of each pair of question asks how you would feel if the product we hope to provide in the future included a particular capability; the other half of each pair asks how you would feel if the capability were not provided. To each part of the question, the customer could answer choosing one of five alternatives exemplified that shown in Figure 4.7. According to Berger et al. (1993), the wording of the alternatives is the most critical choice made in the Kano methodology. The chosen wording of the alternatives adapted from Berger et al. (1993) that is, "I like it that way," "It must be that way," "I do not care," "I can live with it that way," "I dislike it that way". The pairs of questions will be used to classify each customer requirement so the company can decide how best to handle it. The first answers to each question applies when the question is about that would mean at least a little something special to the respondent. The second answer applies when the question is about something that the respondent take for granted, should be in the product.

The purpose of administering a Kano questionnaire is to understand better the characteristics of customer's requirement. The responses should be seen only as the guide, do not provide exact answers as to which features must be included in the product or which features requirements need not be fully satisfied.

4.3.2 Evaluation Table

By combining the two answers in the Kano Evaluation Table, the product features can be classified. The classification of requirements described previously is made based on the pair questions. Each quality attribute can be classified into one of the six categories shown in Figure 4.8. It should also be noted that there are six responses in the evaluation table. Each quality attribute was classified according to the evaluation table into Attractive (A), One-dimensional (O), Must-be (M), Indifferent (I), Reverse (R), or Questionable (Q).

Must be responses are taken for granted when fulfilled but result in dissatisfaction when not fulfilled. Meaning if the product doses not have this anyone will be interested in it.

One-dimensional response in satisfaction when fulfilled and dissatisfaction when not fulfilled. Meaning the more the company provides this function the more satisfied the customer will be.

Attractive response described as surprise and delight requirements; the company provide satisfaction when achieved fully, but do not cause dissatisfaction when not fulfilled. Meaning the customer is happy when it is there but will not complain if it is not there.

Indifferent responses represent requirements the customer generally ignores. If the requirements are present, the customer is generally satisfied. If not present, there is no impact on customer satisfaction. Meaning that the customer dose not care about this feature.

Reverse quality refers to a high degree of achievement resulting in dissatisfaction (and vice versa, a low degree of achievement resulting in satisfaction) and to the fact that not all customers are alike. For example, some customers prefer high-tech products, while others prefer the basic model of a product and will be dissatisfied if a product has too many extra features (Gustafsson 1998).

Questionable responses contain skeptical answers, and it is debatable whether the respondent has understood the questions are customer perceptions that contradict each other.

CUSTOMER REQUIREMENT		DYSFUNCTIONAL				
		Like	Must be	Do not care	Can live with it	Dislike
FUNCTIONAL	Like	Q	A	A	A	O
	Must be	R	I	I	I	M
	Do not care	R	I	I	I	M
	Can live with it	R	I	I	I	M
	Dislike	R	R	R	R	Q

Figure 4.8: Evaluation Table

If the respondent answers in an unreasonable way, either for careless or poor cognition, the Kano Evaluation Table will show. For example, if the customer answers the question for the same feature that "likes in that way" for both conditions that is, functional and dysfunctional, being present or not being present in the product, the evaluation table will take the answer as questionable. Another example, if the customer had answered the functional mobile phone statement as must be and the dysfunctional statement as dislike, then the picture quality would be a necessary quality element.

Representing intersections in which the answers are not logical and indicate that the survey question may not have been properly worded or that the respondent was somehow confused. For example, if the respondent answered that a good quality network was a must be condition, and then answered that they can live it if the network was of poor quality, the answer combination would obviously make no sense and would be thrown out of the analysis. In case, the customer thinks that the valve added service is very important, but if it is not covered by product it dose not cause big problems, because the customer can use the competitor's product. In this case the Kano Evaluation Table yields an Indifferent classification.

It is possible to derive the curves in the Kano diagram from the Kano Evaluation Table as follows (Dave Walden, May 1991). Plot the axes of the Kano Diagram and label vertical levels of the graph with the wordings of the answers to question on a Kano questionnaire, as in the figure 4.9.

Satisfied

- - - - - - - - - - - - - - - - - Like

- - - - - - - - - - - - - Must-be

Dysfunctional ←——————————— Neutral   Functional

- - - - - - - - - - - - - Can live with

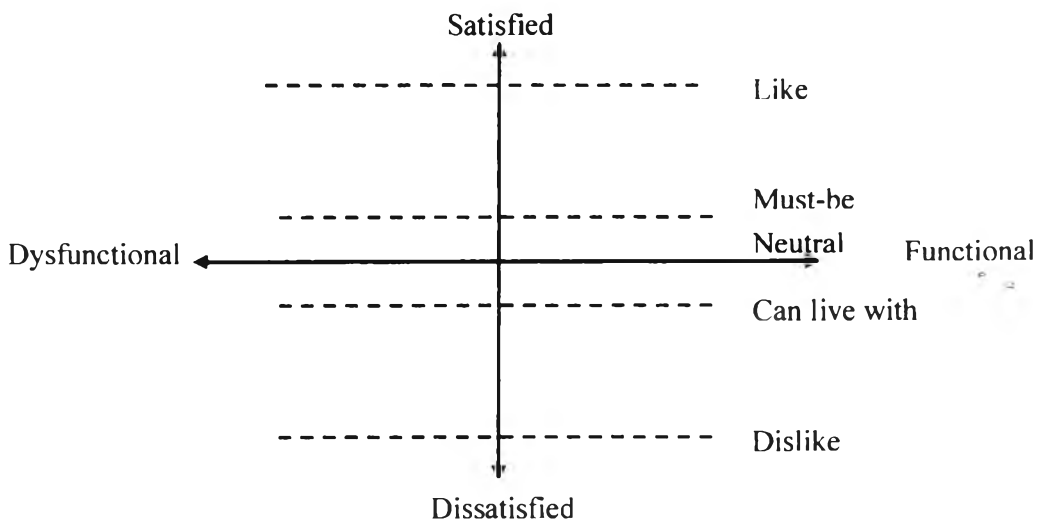- - - - - - - - - - - - - Dislike

Dissatisfied

Figure 4.9: Plotting the Kano Answers on the Kano Diagram Axes

In Figure 4.9 can be seen that "must-be" level is only a little above neutral because Must-be is only a weak statement of satisfaction it more a statement of lack of dissatisfaction, though certainly more positive than neutral. Symmetrically, "can live with" is not a strong statement of dissatisfaction, but its grudging acceptance is more negative than neutral. It is now positive to plot lines representing all 27 combinations of answers represented in the Kano Evaluation Table. For instance, the lines represented by the following three pairs of end points.

Functional, like and dysfunctional is must be

Functional, like and dysfunctional is neutral
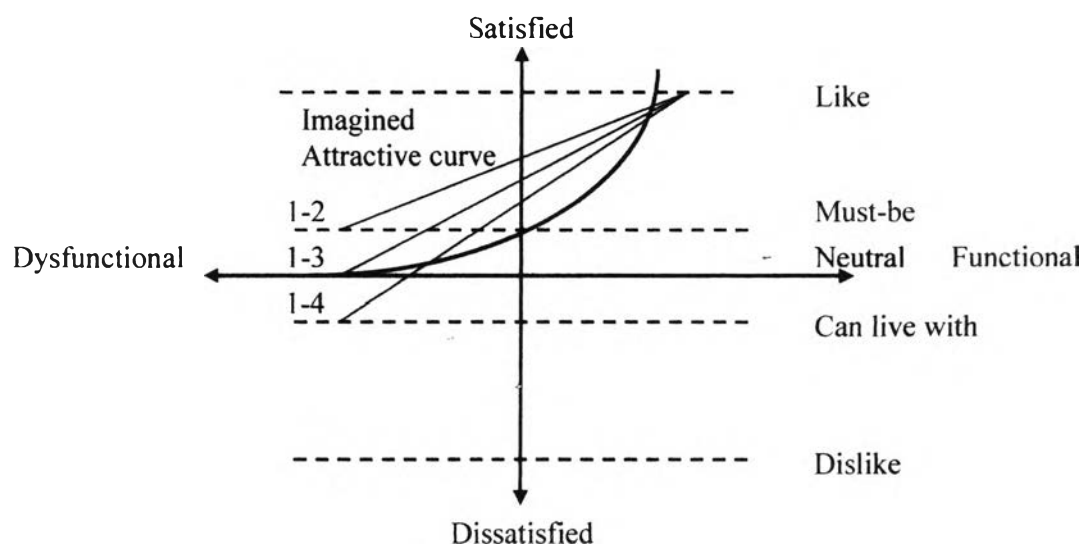
Functional, like and dysfunctional is can live with

Figure 4.10: Plot of the three Attractive cells from Kano Evaluation Table

Form these three lines one can roughly envision Kano's Attractive curve which is shown in bold in figure 4.10. This is clear where the company had to stretch to image the Must be curve as being representative of the there lines derived from the Kano Evaluation Table

The other 24 lines implicit in the Kano Evaluation Table can be plotted similarly and the general shapes of the rest of the Kano curves can be imagined from these lines. The shape of the Kano curves as usually presented is somewhat inconsistent with the Kano Evaluation Table use to translate pairs of answers to the question.

Consider the Attractive curve in Figure 4.10. It starts above the X axis on the dysfunctional side, and then proceeds asymptotically to delight on the function side. The curve consists of all positive values. This is inconsistent with the dysfunctional / live with aspect of cell 1-4 in the Kano Evaluation Table. There is a similar inconsistency with the Must-be curve comprises all negative values, however, one cell, 2-5, implies a positive values.

In Figure 4.11 illustrates a detailed derivation of the Attractive, Must-be and One-dimensional curves. The data points are plotted from the Kano Evaluation Table and are labeled with functional-dysfunctional number pairs from that table, but there are some assumptions that the derivation in figure 4.11 work well.
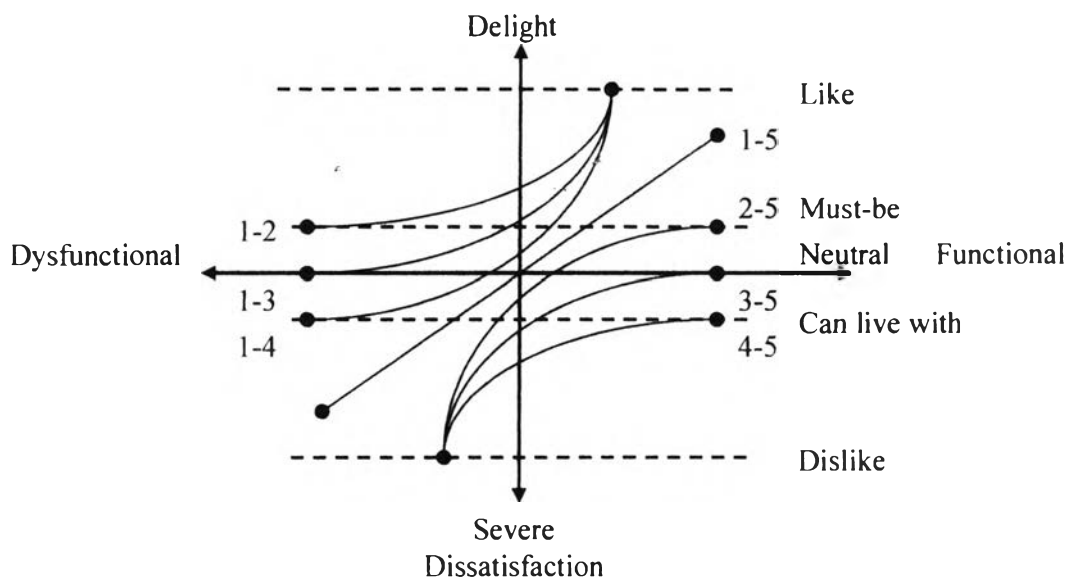

Figure 4.11: Attractive, Must-be, and One-dimensional curve

- Assumption 1: the word "like" is meant to by a very strong like, which in the limit becomes complete customer "delight". It can therefore be considered to be a point that exists at +infinity. A point close to the top of the Y axis is shown to get across the concept of rapid improvement in satisfaction as functionality increases; that is, the concept that an exponential relationship exists.

- Assumption 2: the word "dislike" is as strong in the negative direction as "like" is in the positive direction, i.e., severe dissatisfaction. As with "like", the curves for "dislike" coincide at a point close to, and near a bottom of, the Y axis.

- Assumption 3: A relatively small difference is represented between the terms "must-be" and "neutral". Similarly there is a small difference between "can live with" and "Neutral"

To simplify the Indifference curve back to assumption 1, and consider the difference between Like and Must-be to be so great as to give the distance between in the difference lines to be near zero. In the limit the curve for different become the abscissa; that is, the curve for different is a straight line existing along the X axis. The Modified Kano Diagram shown in figure 4.12.
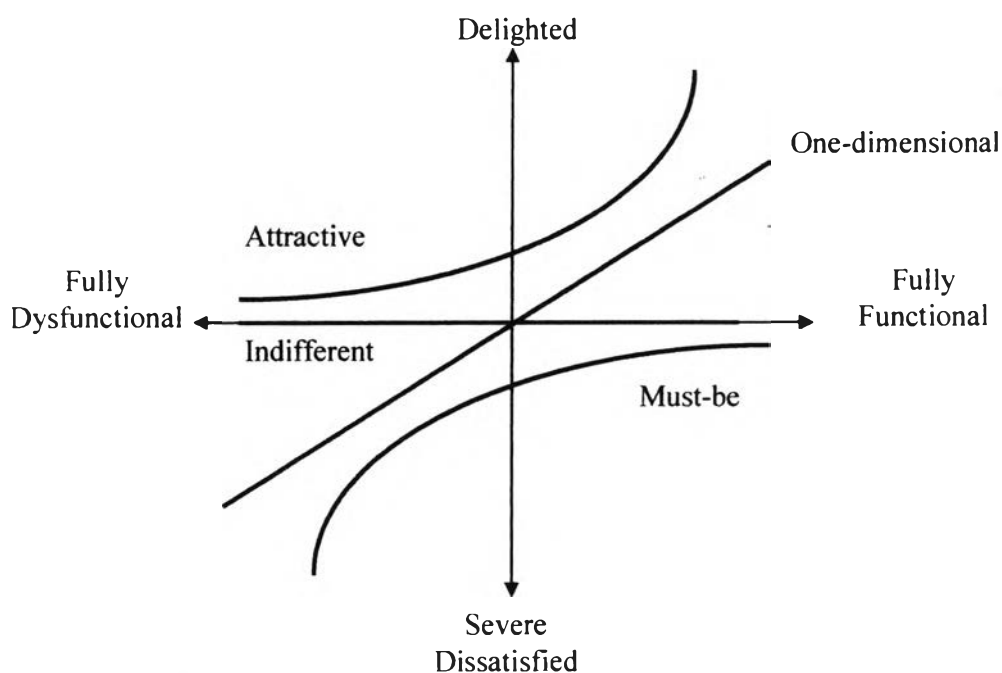

Figure 4.12: Modified Kano Model

4.3.3 Tabulation of Response

After having combined the answers to the functional and dysfunctional question in the evaluation table, the results of the individual product criteria are listed in the table of results which shows the overall distribution of the requirement categories. The next step is to analyse and interpret the results. For each row of the tabulation, that is, for each customer requirement, the highest tally indicates the dominant customer view. If two or more categories are tied or close to tied, it may be an indication that more information is needed.

All customer requirements are not equal. Improving performance on a Must-be customer requirement that is already at the satisfactory level is not productive when compared to improving performance on a One-dimensional or Attractive customer requirement. Having insight into which customer requirement fall into which quality dimensions can improve focusing on the essential few. The easiest way to evaluate and interpret the results is through the Mode Rule; the highest frequency of one of the attributes found for each question on the Kano Evaluation Table: For cases when percentages are quite close (this is common with Attractive) Kano set an Evaluation Rule where:

$(O + A + M) > (I + R + Q)$, then the highest M or A or O is chosen

$(O + A + M) < (I + R + Q)$, then the highest I or Q or R is chosen

The attribute can be localised on the Kano diagram by finding its highest frequency through the Mode Rule or through the Evaluation Rule. The evaluation rule "M > O > A > I" is very useful and basically says to be modest in the classification. If two or more categories are tied or close to tied, it may be an indication that more information is needed. One may be dealing with two market segments, the customer may need to ask questions about more detailed customer information (Berger et al. 1993). Lee and Newcomb (1997) use a classification called "combination" to deal with such situations. In a case where a quality attribute is classified as a combination, a definite classification was not possible. The only difference is that the classification of additional functions will be considered an attractive quality attribute instead of a combination of attractive and indifferent. Overall, the classification of quality attributes is independent of which evaluation table is used in the classification process.

Customer Requirements	A	O	M	I	R	Q	Total	Category
Continue using new technology	12	32	38	14			90	M
Nationwide Coverage/ Building Coverage	26	14	44	6			90	M
Ease of making call / Connecting to the network	18	24	48				90	M
Clarity of signal /Low interruption	6	18	64	2			90	M
Convenience/ variety of refilling methods	44	10	14	22			90	A
Availability of airtime card in the market	38	26	10	16			90	A
Design and appearance of airtime card	36	30		24			90	A
Correctness in airtime refill	12	24	54				90	M
Ease of airtime check/ convenience	46	24	14	6			90	A
Tariff customisation / Variety of promotions	54	32	4				90	A
Ease of service procedures	14	46	6	24			90	O
Variety of services	32	42	16				90	O
Availability of desired services	34	48	8				90	O
Speediness of Value-added services	20	34	14	22			90	O
Correctness and completeness of services	20	28	42				90	M
Ease of contacting Call Center	10	34	28	18			90	O
Staff ability to give advices and provide option	26	40	8	16			90	O
Staff product knowledge	10	38	24	18			90	O
Speediness of staff service	32	46		12			90	O
Attractive and interesting activities	30	44	10	6			90	O
Variety of activities	28	12	12	38			90	I
Consistency of activity	12	32	6	40			90	I
Participating in activities	16	22	16	36			90	I
Implement Airtime Discount	52	30	8				90	A
Implement Non voice service Discount	44	26	2	18			90	A
Discount Shopping, Dining, Travel	18	42		30			90	A
Discount for new handset	22	24	6	38			90	I

Table 4.1: Tabulation of response

Form the tabulation of response for each customer requirement in Kano Questionnaire responses to the Kano survey for the mobile phone, a Kano diagram can be annotated-for example, a diagram showing the Must-be, One-dimensional, Attractive, and Indifferent in the figure 4.12.

The simplest way to choose a category is to use whatever code appears most often in the responses for that requirement in each row of the tabulation matrix.

If any requirement receives a substantial number or questionable (Q) scores, it should probably be temporarily deleted from the analysis until the confusion with the question can be resolved or the thought processes of the respondents can be explored.

If a majority of the people who responded to the questionnaire gives a reverses(R) score to one of the customer requirement, it indicates that the marketplace's thoughts about the question are the opposite of those of the survey's creators.

When making decisions about product developments, primarily those features have to be taken into considerations which have the greatest influence on the perceived product quality. First those requirements have to be fulfilled which cause dissatisfaction if not met. When deciding which attractive requirements should be satisfied, the decisive factor is how important for the customer.

4.4 Customer satisfaction coefficient

The customer satisfaction coefficient states whether satisfaction can be increased by meeting a product requirement, or whether fulfilling this product requirement merely prevents the customer from being dissatisfied (Berger et al., 1993). The CS-coefficient is indicative of how strongly a product feature may influence satisfaction or, in case of its non-fulfillment customer dissatisfaction. Different market segments usually have different needs and expectations so sometimes it is not clear whether a certain product feature can be assigned to the various categories, it is especially important to know the average impact of a product requirement on the satisfaction of all the customers.

To calculate the average impact on satisfaction it is necessary to add the attractive and one-dimensional columns and divide by the total number of attractive, one-dimensional, must-be and indifferent responses. A calculation of an average,

without losing the quality dimension's attractive, one-dimensional, and must-be attributes, state whether customer satisfaction can be increased by meeting a certain quality attribute or whether fulfilling this quality attribute merely prevents the customer from being dissatisfied (Berger et al. 1993). For the calculation of the average impact on dissatisfaction the company should add the must-be and one-dimensional columns and divide by the same normalising factor (Berger et. al., 1993).

$$\text{Extent of satisfaction} = \frac{A+O}{A+O+M+I} \qquad \text{(Best Value)}$$

$$\text{Extent of dissatisfaction} = \frac{O+M}{(A+O+M+I)x(-1)} \qquad \text{(Worse Value)}$$

A minus sign is put in front of the CS-coefficient of customer dissatisfaction in order to emphasise its negative influence on customer satisfaction if this product quality is not fulfilled. The positive CS coefficient ranges from 0 to 1; the closer the value is to 1, the higher the influence on customer satisfaction. A positive CS-coefficient which approaches 0 signifies that there is very little influence. At the same time, however, one must also take the negative CS-coefficient into consideration. If it approaches -1, the influence on customer dissatisfaction is especially strong if the analysed product feature is not fulfilled. A value of about 0 signifies that this feature does not cause dissatisfaction if it is not met.

The positive better numbers indicate that customer satisfaction will increase by providing a quality attribute and the negative worse numbers indicate that customer satisfaction will decrease by not providing a quality attribute (Berger et al. 1993). The maximum value of better and worse is 1.

Pairs of better and worse points for each quality attribute have been plotted in a two-dimensional graph (the negative sign in front of worse has been ignored in the graph for clarity). The positive better number runs from 0.0 to 1.0 up the vertical axis, and negative worse number runs from 0.0 to 1.0 along the horizontal axis.
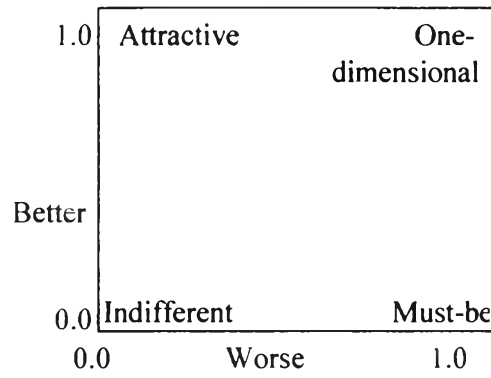
Figure 4.13: Two dimensional representation of Kano quality categories

Customer Requirements	Better	Worse
Continue using new technology	0.42	-0.71
Nationwide Coverage/ Building Coverage	0.44	-0.64
Ease of making call / Connecting to the network	0.47	-0.80
Clarity of signal /Low interruption	0.27	-0.91
Convenience/ variety of refilling methods	0.53	-0.27
Availability of airtime card in the market	0.71	-0.40
Design and appearance of airtime card	0.73	-0.33
Correctness in airtime refill	0.40	-0.87
Ease of airtime check/ convenience	0.78	-0.42
Tariff customisation / Variety of promotions	0.96	-0.40
Ease of service procedures	0.67	-0.58
Variety of services	0.82	-0.64
Availability of desired services	0.91	-0.62
Speediness of Value-added services	0.60	-0.53
Correctness and completeness of services	0.52	-0.78
Ease of contacting Call Center	0.49	-0.69
Staff ability to give advices and provide option	0.73	-0.53
Staff product knowledge	0.53	-0.69
Speediness of staff service	0.87	-0.51
Attractive and interesting activities	0.82	-0.60
Variety of activities	0.44	-0.27
Consistency of activity	0.49	-0.42
Participating in activities	0.42	-0.42
Implement Airtime Discount	0.91	-0.42
Implement Non voice service Discount	0.78	-0.31
Discount Shopping, Dining, Travel	0.67	-0.22
Discount for new handset	0.51	-0.33

Table 4.2: The positive better value and negative worse value

To get an overview of the 27 quality attributes in the investigation, these values were plotted in a better and worse diagram. The focus of this analysis is on the six different entities of quality attributes, that is, network and system, airtime refill, value added service, call center, customer relationship activity, and discount. The graph shows that overall; these six entities have different roles in the perception of quality.
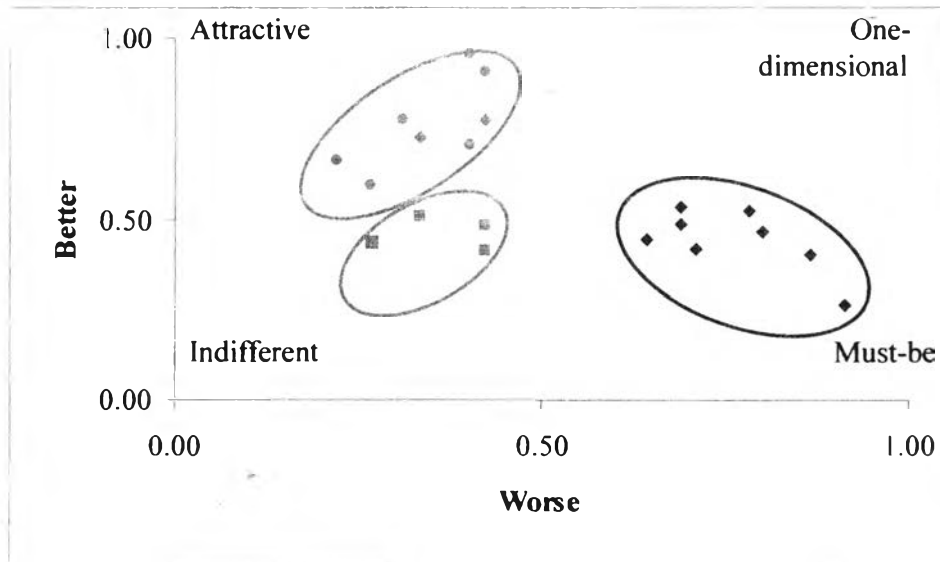
● Airtime Refill requirements and Discount requirements	Value Added Service requirements and Call center requirements
▦ Customer Relationship activity requirements	◆ System and Network requirement

Figure 4.14: An overview of the quality requirements in a better and worse diagram

From Figure 4.14, it can be seen that there are two entities, the system and network entity is positioned from the middle and out toward the must-be corner of the better-worse diagram. The quality attributes that are further away from the middle, such as ease of making call and connecting to the network with the clarity of signal and low interruption are must-be requirement. Concerning the attributes those airtime refill and discount categories stay on top left corner its mean these are the most important quality attributes, because they are important for their image, and lead to high levels of satisfaction which are attractive requirement. To the whole population, the value added

service and call center entity contributes creating customer satisfaction directly, one-dimensional requirement. Increased levels of satisfaction are caused by increased levels of achievement. On the contrary, in customer relationship activities these attributes are no impact on customer satisfaction. Customer generally ignores, if the attributes are present, the customer is generally satisfied which call indifferent requirement.

Using the Kano Questionnaires and the Kano Evaluation Table the company classified each of the customer requirements tested and determined what design requirements were most important to customers. It has also been observed that customers' requirements change over time. Sources of excitement when the company was first introduced tend to become expected as the market becomes familiar and saturated with the customer. In time, excitement quality will become a performance item, and, with the passage of time, quite possibly a basic requirement.

It is important to remember that the Kano model is dynamic in that what excites today becomes expected tomorrow. That is, once introduced, an exciting service will soon be imitated by the competition and customers will come to expect it from everybody. An example would be free evening and weekend mobile phone minutes – initially an advertising plan by one provider, and now available from all providers. Conversely, expected requirements can become exciting after a real or potential failure. Otherwise, today's exciting features become tomorrows must be features. For example, a graphical user interface and multi-processing were once exciting features, but today they are must be features for any brand competing in the high-end segment in mobile phone system. Really successful products are frequently due to newly identified exciting features that address those basic customer needs in innovative ways. The dynamic nature of Kano's model suggests a need for ongoing measurement of customer expectations over a product's lifecycle. There is no doubt that to be competitive, products or services must perfectly execute all four quality types. Meeting customers' basic quality needs provides the foundation for the elimination of dissatisfaction and complaints. Exceeding customers' performance expectations creates a competitive advantage, and innovations differentiating the product and the company creates an excited customer. When the customer discovers an excitement feature, they are pleasantly surprised and even delighted. Within the context of the Kano Model, excitement features provide the greatest opportunity to differentiate the product.