Title: Using the Kano Method for Customer-First Questions

Course: EMGT 510 NPD
Term: Spring
Year: 1997
Author(s): S. Oveson

Report No: P97016

Abstract: This paper is intended to be used as supplemental information input for those that are seeking methods that can be effective to answer the emphasis on business placing customers first..

Using the Kano Method for Customer-First Questions

S Oveson

EMP-9716

EMGT 510/610

New Product Development

Extra Individual Project Paper

" Using the Kano Method for Customer-First Questions "

Submitted by:

Shawn Oveson

Submitted to:

Instructor: Tugrul Daim

Portland State University
Engineering Management Program
June 05, 1997

Using the Kano Method for Customer-First Questions

Introduction: This paper is intended to be used as supplemental information input for those that are seeking methods that can be effective to answer the emphasis on businesses placing customers first. I present information on the Kano method, which considers the customer's view of looking at a product from three types of features. One type is the features that the customer presumes will be in a product. A second type are the features by which the customer evaluates the product. The third type are the features by which the customer evaluates the product.

My interest in this topic was because our course textbook (Successful Implementation of Concurrent Engineering Products and Processes edited by Sammy G. Shina, Van Nostrand Reinhold, New York, 1994, page 24) touched upon this topic. Mentioned is "The tendency of customers to perceive and communicate their needs incompletely is explained by the Kano method, which describes different types of customer perceptions. Often as this model states, the most important functional requirements will be the unspoken ones. This fact underscores the need for team members to visit and observe customers and their environments in person." I have done additional research to discover this method and so present such information below.

The Customer-First Questions and Customer Research: A basic truth is that the customer is very difficult to predict. However, there are some techniques that can reduce the risk of predicting customer behavior. There exists something that is named "customer-first questions"" These are special questions that help identify what the customer wants. The questions ask, in precise terms, why the customer would buy the new product. Also, several new and powerful customer-research techniques that can

also help identify what the customer wants include obvious stages of having engineers and managers interacting with customers; quality function deployment; conjoint analysis; cultural anthropology; and kansei (Japanese word for improvement and generally found in connection with just-in-time inventory and production) analysis. What happens if sometimes we should forget about customer research altogether ?

The Customer-First Questions (CFQ): Despite customer unpredictability, certain actions reduce the risk of developing a new product that the customer will not buy. The first and overriding consideration is to understand the goal of successfully answering the customer-first questions, or CFQ:

1. What major problems that the customer faces does this product solve that no competitor solves?
2. What major benefits does this product provide for the customer that no competitor provides?
3. What is the customer's motivation to purchase this product?

Most design teams, when asked, cannot provide good answers to the CFQ. But here is a general methodology for answering the CFQ: First, the firm should identify the needs (and wants) of the customers - the issues and problems that customers would like solved. Some needs, note, are implicit and hidden, as the customer cannot articulate them, yet the customer is still pleased when they are satisfied. Second, for each important need (including price), the firm should evaluate how its product will satisfy that need in comparison with the competition's product. From this information the firm can infer whether the customer will likely prefer its or a competitor's product.

Leading companies examples: Leading companies follow this approach. For instance, in selling copiers Xerox answers the CFQ by identifying customer needs and wants. They conduct a detailed analysis of a customer's operation, floor by floor, group by group, and sometimes person by person. The analysis determines what documents must be copied, why, and in what volume. The key documents that are of particular import are singled out. Xerox shows how its copiers, by cutting cost and turnaround time, can satisfy the customer's document-handling needs best. Xerox even uses computer programs to help it do this analysis. It systematically identifies the specific document reproduction problems the customer has, then solves them.

Similarly, the computer company Next studies how customers use computers. If many people in a target market are using computer-aided design (CAD) programs, Next will try to uncover what problems they are having with CAD. It will then design computers to help solve those problems. As for Microsoft, it tries to find out how customers use software. It looks at features they use frequently, what aspects seem cumbersome, and what problems they have. They determine what in the customer's eyes makes a good word-processing program or good spreadsheet. Using these techniques, these firms strive to develop products that satisfy customer needs and wants better than the competition.

The Kano Model: A new and exciting approach to answering the CFQ is the Kano model, conceived by Noriaki Kano. From the customer's point of view, a product can be considered to have three types of features (see Table 1-1). One type are the features that the customer presumes will be there and does not even worry about. A car, for example, will obviously have an engine and heater. The second type are the features

by which the customer evaluates the product. Is the car comfortable to drive, and does it have good mileage? The third type are the features that cause customer delight. These are the ones that are totally unexpected by the customer, and that surprise and delight him. Perhaps the car conveys a feeling of elegance, luxury, and great beauty.

The product must provide the features that the customer presumes and expects, and the Kano model takes their inclusion as a given. It is the delight features, those surprising and unexpected ones, that provide the answers to the CFQ. These are the features that distinguish the product from the competition and that provide, Kano feels, the real reasons why customers buy a product.

To use the Kano model, systematically list the features that a new product will have. Then identify the features that customers presume and expect, as well as those designed to delight. Ensure that the product has a sufficient number of the third type of features that it does create delight and consequently sales.

Even with the Kano model, however, answers to the CFQ are difficult to identify with certain products, such as when the customers want style, to be a trend setter, or something really unique. Indeed, answering the CFQ fully is not always possible. But it is essential for a firm to clarify as precisely as it can the reasons the customer will buy its new product and not that of its competitor.

TABLE 1-1

The Kano Model

From a customer's viewpoint, a product has three types of features:

1. Presumed: these are the ones the customer assumes the product will have and pays little attention to.

2. Expected: these are the ones the customer examines in the buying decision.

3. Delight: these are the ones the customer does not expect and that really sell the product.

Two Conceptual Approaches to the CFQ: Two basic and seemingly opposite approaches can be used to obtain good answers to the CFQ. The first is customer research. The objective here is to get more accurate customer-preference information, particularly information that the engineering designers can utilize in product development.

The second approach is flexibility. This approach understands that much customer research is unreliable, so it relies upon it less. Instead, the engineers design the product to be modular and flexible. Then, as reliable information about what the customer wants comes in, they revise the product. In certain markets customer research is abandoned as too costly and inaccurate. Instead of asking customers what they want,

companies "throw" products on the market and see what sells. Actual sales patterns then guide product development.

These two approaches may seem contradictory, since one requires more customer research, while the other proposes less (see Table 1-2). But they are not really contradictory because cost will determine which one to use and whether the product is innovative-driven in a high technology market along with what industry patterns exist. If changing a product is costly, the approach will be to use more customer research. Conversely, if the cost of altering a product is small, customer research will not be worth the expense. It will be cheaper to make the product, attempt to sell it, then revise the product based upon actual sales. This latter approach of doing less customer research, is becoming common, but is ill advised in the high technology products industries.

TABLE 1-2

Two "Opposing" Approaches to Answering the CFQ

1. Do more customer research.
   a.) Ensure that the information is accurate and timely.
   b.) Ensure that the information is useful to the design people and engineers.
2. Create flexibility and do less customer research.
   a.) Use this if customer research is costly.
   b.) Or does not predict customer behavior as well.
   c.) If the cost of flexibility is low enough, products can be thrown into the market without customer research.

Summary: To answer the CFQ, the first approach stresses customer research, particularly information that the engineers can actually use in innovating the new product (see Table 1-3 below). It is very important for the design engineers to understand well what customers want. This can be accomplished by creating a partnership between marketing and engineering, in which executives and engineers assist with customer research and are in direct contact with customers.

More formal customer research methods also help. Quality function deployment (QFD) is used to obtain voice-of-the-customer statements and, by use of a matrix, helps translate them into engineering language. Conjoint analysis highlights the product's attributes and can help engineers innovate new products. Cultural anthropology observes the customer in his natural habitat and provides important information of which even the customer may be unaware. Kansei analysis strives to get in touch with a customer's inner feelings about a product. These techniques not only target the customer better but cut the number of later engineering changes, thereby reducing the time of product development.

Above all else, the customer comes first. There are many techniques that obtain customer information, but the problem of forecasting what customers will purchase remains difficult. Customer research can help, but it does not solve the problem completely. Constantly thinking minds and adaptability will always be an advantage.

Final observations: Since innovative products are a departure from the experience of most people, people's comments about the value of such products are often erroneous. Still, listening to advanced or leading-edge users is sometimes beneficial as, being on the cutting edge, they often understand what will be useful in the future.

TABLE 1-3: Summary of Using Customer-First Questions

Answers to the CFQ isolate the reasons customers will buy the firm's product and not that of a competitor. Part of the answer is to provide the customer with "delight."

Two Major Approaches to Answering the CFQ:

1. Conduct customer research, with engineering designers directly involved in the process.
2. Do less customer research, but build flexibility into the design.

Customer-research should include these newer techniques.

1. QFD, to ensure the product design matches the voice of the customer.
2. Conjoint analysis, to get detailed information of what features customers want in a product.
3. Cultural anthropology, to identify by observing customers' behavior issues customers cannot easily articulate.
4. Kansei analysis, to get past statements that customers make about products and identify their true feelings.

For novel products:

Discount opinions of existing typical customers.
Check with leading-edge customers.
Use cultural anthropology.

By answering the CFQ, these techniques:

- guide the innovation process
- target the customer better
- reduce conflicts and the number of decisions based upon personal opinion instead of fact
- cut the number of engineering changes.

A requirements document should be created that specifies how the product will meet what the customer wants and answer the CFQ.

In addition, since they have advanced needs, they often make their own extensions of the product, extensions that have provided many ideas for new products.

Microsoft has formed groups of computer hacks, which it frequently consults to get ideas. Hewlett-Packard visits laboratories to see what new applications the researchers are using HP's products on and what difficulties are occurring. That also has led to ideas for many new products.

Another approach to evaluating novel products is cultural anthropology. If a product provides the customer with a clear benefit, such as convenience or cost, it has a greater chance of success. Yet, it is important to remember that with revolutionary or novel products that customer research is often misleading. Knowing when to use management gut feeling and spreading the risk of new product development by utilizing partnership development techniques with key customers is still a wise move for business survival.