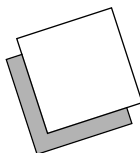


*An executive summary for manager and executive readers can be found at the end of this article*



## How to delight your customers

*Kurt Matzler, Hans H. Hinterhuber, Franz Bailom and Elmar Sauerwein*

### Customer satisfaction

More and more business enterprises realize that customer satisfaction is crucial for future business success. Striving for customer satisfaction means understanding and anticipating what customers want of the products in the future but do not expect of them. The point is to delight the customer – with products and services which engender a very positive response in the customer and surprise him. The question is, however, which product qualities are decisive for the satisfaction of the customer and which features merely prevent dissatisfaction? The authors propose a methodology for answering these questions and for drawing conclusions for the management of customer satisfaction.

A high level of customer satisfaction is one of the most powerful indicators for the future of a business. Satisfied customers are loyal customers and ensure a lasting cash-flow for the business in the future. An increase in the customer loyalty rate by 5 percent can increase the profit of a business by 100 percent (see Reichheld and Sasser, 1990) due to the fact that satisfied customers purchase the products of a company more often and in greater quantities. Satisfied customers are furthermore less price-sensitive and more inclined to spend more on tried and tested products. Stable business relations have another advantage: the positive quality image reduces the costs of attracting new customers, and the high level of customer loyalty lowers transaction costs for existing customers.

### Which products and services?

Which products and services can be used to obtain a high level of customer satisfaction? Which product features have a more than proportional influence on satisfaction, and which attributes are an absolute must in the eyes of the customer?

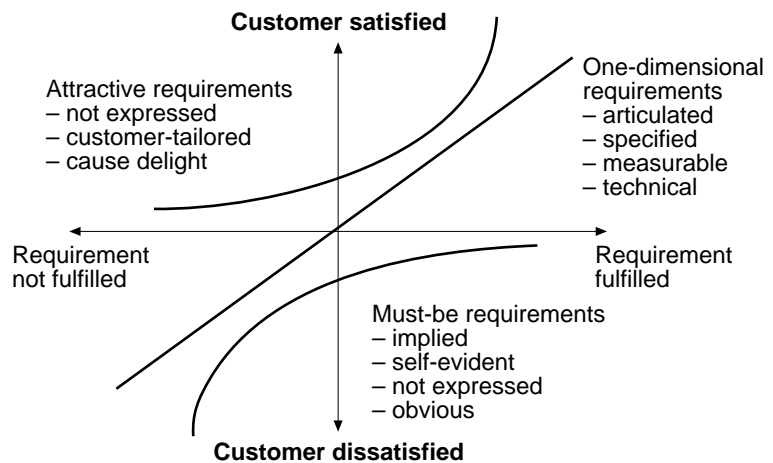
So far customer satisfaction has been seen mostly as a one-dimensional construction – the higher the perceived product quality, the higher the customer's satisfaction and vice versa. But fulfilling the individual product requirements to a great extent does not necessarily imply a high level of customer satisfaction. It is also the type of requirement which defines the perceived product quality and thus customer satisfaction. Departing from Kano's model of customer satisfaction, a methodology is introduced which determines what influence the components of products and services have on customer satisfaction. The authors also demonstrate how the results of a customer survey can be interpreted and how conclusions can be drawn and used for the management of customer satisfaction.

### **Kano's model of customer satisfaction**

In his model (see Figure 1), Kano (1984) distinguishes between three types of product requirement which influence customer satisfaction in different ways when met.

#### *Must-be requirements*

The must-be requirements are basic criteria of a product. If these requirements are not fulfilled, the customer will be extremely dissatisfied.



Source: Bager *et al* (1993)

Figure 1. Kano's model of customer satisfaction

On the other hand, as the customer takes these requirements for granted, their fulfillment will not increase his satisfaction. Fulfilling the must-be requirements will only lead to a state of "not dissatisfied". The customer regards the must-be requirements as prerequisites, he takes them for granted and therefore does not explicitly demand them. Must-be requirements are in any case a decisive competitive factor, and if they are not fulfilled, the customer will not be interested in the product at all.

Level of fulfillment

*One-dimensional requirements*

With regard to these requirements, customer satisfaction is proportional to the level of fulfillment – the higher the level of fulfillment, the higher the customer's satisfaction and vice versa. One-dimensional requirements are usually explicitly demanded by the customer.

*Attractive requirements*

These requirements are the product criteria which have the greatest influence on how satisfied a customer will be with a given product. Attractive requirements are neither explicitly expressed nor expected by the customer. Fulfilling these requirements leads to more than proportional satisfaction. If they are not met, however, there is no feeling of dissatisfaction.

Quality function deployment

The advantages of classifying customer requirements by means of the Kano method are very clear:

- Product requirements are better understood: the product criteria which have the greatest influence on the customer's satisfaction can be identified. Classifying product requirements into must-be, one-dimensional and attractive dimensions can be used to focus on.
- Priorities for product development. It is, for example, not very useful to invest in improving must-be requirements which are already at a satisfactory level but better to improve one-dimensional or attractive requirements as they have a greater influence on perceived product quality and consequently on the customer's level of satisfaction.
- Kano's method provides valuable help in trade-off situations in the product development stage. If two product requirements cannot be met simultaneously due to technical or financial reasons, the criterion can be identified which has the greatest influence on customer satisfaction.

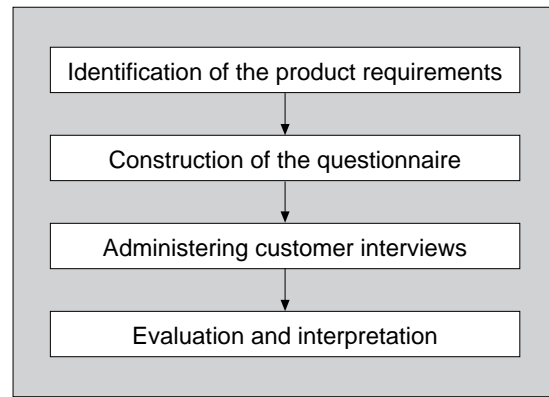


Figure 2. Individual steps of the “Kano project”

- Must-be, one-dimensional and attractive requirements differ, as a rule, in the utility expectations of different customer segments. From this starting point, customer-tailored solutions for special problems can be elaborated which guarantee an optimal level of satisfaction in the different customer segments.
- 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 *et al.*, 1994).
- Kano’s model of customer satisfaction can be optimally combined with quality function deployment. A prerequisite is identifying customer needs, their hierarchy and priorities (Griffin and 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.

In the following steps we will explain how product requirements can be classified by means of a questionnaire. The ski industry, in which more than 1,500 customers were interviewed, is used to demonstrate how product requirements are ascertained, how a questionnaire is constructed, how the results are evaluated and interpreted and how they are used as the basis for product development (see Figure 2).

#### **Step one: identification of product requirements – “walk in your customer’s shoes”**

#### **Product requirements**

The starting point for constructing the Kano questionnaire is the product requirements which have been determined in explorative investigations. Griffin and Hauser (1993) found that only 20 to 30 customer interviews in homogenous segments suffice to determine approximately 90 to 95 percent of all possible product requirements. Many market research institutes use focus group interviews to determine product requirements, assuming that group dynamic effects enable a greater number of more diversified customer needs to be discovered. Compared with the expense, individual interviews seem to be more favorable. Customer interviews are useful for registering visible product requirements and customer problems, but when investigating potential new and latent product requirements they usually do not suffice. Especially attractive requirements are not expressed by the customer, as these are the features he does not expect.

## Purchasing motives

### *Analyzing customer problems instead of customer desires*

If customers are only asked about their desires and purchasing motives in the exploratory phase, the results are usually disappointing and the answers already known. The product expectations mentioned by the customer are only the tip of the iceberg. It is necessary to ascertain the “hidden” needs and problems. A detailed analysis of the problems to be solved, the conditions of application and the product environment can lead to instructive information on promising product developments.

The following four questions are of assistance when investigating customer problems (Shiba *et al.*, 1993):

- (1) Which associations does the customer make when using product *x*?
- (2) Which problems/defects/complaints does the customer associate with the use of product *x*?
- (3) Which criteria does the customer take into consideration when buying product *x*?
- (4) Which new features or services would better meet the expectations of the customer? What would the customer change in product *x*?

The answers to the first question are generally of a very vague nature. Nevertheless, very interesting information may be gathered concerning the attitude toward a product, its field of application and purpose. When analyzing the different general associations in connection with the use of the product, innovative product ideas may take shape.

## Desires and problems

The second question is designed to identify the desires and problems which so far have gone undetected. Uncontrollable sliding on icy and hard pistes, for instance, emerged as the most important problem for most skiers. By means of trapezoid ski construction, a ski manufacturer launched a technological innovation on the ski market with a product which had improved edge grip. Furthermore, skiers often complain that it is arduous to carry the heavy skis from the car to the piste – a problem which is not directly connected with the actual use of the product, but can be found in its field of application and can be solved by using a lighter material in ski fabrication.

## Desires and expectations

The answers to the third question usually coincide with the one-dimensional requirements of the product. These are the qualities which the customer demands explicitly. The last question is used to identify those desires and expectations which the customer is aware of, but which have not yet been fulfilled by the current product range, such as being able to trade-in your old skis for a new model, or free service of edges and ski base once a year.

This extensive analysis of the desires and problems of the customer is generally an impressive source for potential improvements and new developments. The following are the most important product criteria for skis gained by this method:

- Good edge grip on hard pistes.
- Great ease of turn.
- Good powder snow features.
- Very light skis.
- Integrated anti-theft device.
- Scratch-resistant surface.

- Design matches bindings and ski boots.
- Free service of edges and base.
- Trade-in offer for old skis.
- Regular up-to-date information concerning test results, maintenance of skis and safety measures.

**Customer reaction**

**Step two: construction of the Kano questionnaire**

Must-be, one-dimensional and attractive requirements as well as product requirements toward which the customer is indifferent can be classified by means of a questionnaire.

For each product feature a pair of questions is formulated to which the customer can answer in one of five different ways (Table I) (see also Kano, 1984). The first question concerns the reaction of the customer if the product has that feature (functional form of the question), the second concerns his reaction if the product does not have that feature (dysfunctional form of the question).

**“Voice of the customer”**

When formulating the questions, the “voice of the customer” (Hauser and Clausing, 1988) is of prime importance. The “voice of the customer” is a description of the problem to be solved from the customer’s viewpoint. If one asks about the technical solutions of a product, it can easily happen that the question is not correctly understood. The customer is not interested in how but which of his problems will be solved. In addition, if the solution to the technical problem is already provided in the formulation of the question, the engineers’ creativity might well be restricted in the field of product development at a later date. By combining the two answers in an evaluation table (Table II), the product features can be classified.

**Customer requirement evaluations**

If the customer answers, for example, “I like it that way,” as regards “If the edges of your skis grip well on hard snow, how do you feel?” – the

Questions	Answers
Functional form: If the edges of your skis grip well on hard snow, how do you feel?	(1) I like it that way (2) It must be that way (3) I am neutral
Dysfunctional form: If the edges of your skis do not grip well on hard snow, how do you feel?	(4) I can live with it that way (5) I dislike it that way

*Table I. Functional and dysfunctional questions in the Kano questionnaire*

Functional (positive) question	Dysfunctional (negative) question				
	(1) Like	(2) Must be	(3) Neutral	(4) Live with	(5) Dislike
(1) Like	Q	A	A	A	O
(2) Must-be	R	I	I	I	M
(3) Neutral	R	I	I	I	M
(4) Live with	R	I	I	I	M
(5) Dislike	R	R	R	R	Q

**Note:** A: attractive; M: must-be; R: reverse; O: one-dimensional; Q: questionable; I: indifferent

*Table II. Kano evaluation table of customer requirements*

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If your skis make it much easier for you to ski in deep powder snow, how do you feel?  I like it that way  
 It must be that way  
 I am neutral  
 I can live with it that way  
 I dislike it that way

If your skis do not make it any easier for you to ski in deep powder snow, how do you feel?  I like it that way  
 It must be that way  
 I am neutral  
 I can live with it that way  
 I dislike it that way

---

How would you rank the deep powder snow features of your skis?

1     2     3     4     5     6     7  
 Totally unsatisfactory Excellent

---

How important are the following features?

	Totally unimportant						Very important
	1	2	3	4	5	6	7
Good edge grip on hard snow							<input checked="" type="checkbox"/>
Ease of turn					<input checked="" type="checkbox"/>		
Excellent deep snow features							<input checked="" type="checkbox"/>
Scratch-resistant surface			<input checked="" type="checkbox"/>				

---

Figure 3. Structure of the Kano questionnaire

functional form of the question – and answers “I am neutral,” or “I can live with it that way,” as regards “If the edges of your skis don’t grip well on hard snow, how do you feel?” – the dysfunctional form of the question – the combination of the questions in the evaluation table produces category A, indicating that edge grip is an attractive customer requirement from the customer’s viewpoint. If combining the answers yields category I, this means that the customer is indifferent to this product feature. He does not care whether it is present or not. He is, however, not willing to spend more on this feature. Category Q stands for questionable result. Normally, the answers do not fall into this category. Questionable scores signify that the question was phrased incorrectly, or that the person interviewed misunderstood the question or crossed out a wrong answer by mistake. In the study quoted here, no product criterion received a Q-rate higher than 2 percent. If looking up the answer in the evaluation table yields category R, not only is this product feature not wanted by the customer but he/she even expects the reverse. For instance, when offering holiday tours it might well be that a specific customer segment wants preplanned events every day, while another would dislike it (see Berger *et al.*, 1993).

**Product criteria**

In addition to the Kano questionnaire (Figure 3), it might be helpful to have the customer rank the individual product criteria of the current product and to determine the relative importance of the individual product criteria (self-stated importance). This will help you establish your priorities for product development and make improvements wherever necessary.

**Customer interviews**

**Step 3: administering the customer interviews**

Decide which method you want to use for carrying out the customer interviews (Table III). In principle, the most favorable method for ascertaining customer expectations and satisfaction is by mail. The advantages are the relatively low costs and the high level of objectivity of the results; one disadvantage is, however, the frequently low return rate (see also Homburg and Rudolph, 1995).

Our experience has shown that standardized, oral interviews are the most suitable method for Kano surveys. A standardized questionnaire reduces the

Criterion	By telephone	By mail	Personal interview
Return rate	High (-)	Lower tendency, but can be strongly influenced (?)	High (+)
Costs	High (-)	Average to low (++)	Very high (--)
Control of interview situation	Good (+)	Low (who is actually answering the questionnaire?) (-)	Very good (++)
Objectivity of results	Problematical (influence through interviewer) (-)	High (++)	Very problematical (influence through interviewer) (--)
Necessity of assistance when carried out	Assistance given (--)	Assistance not given (++)	Assistance given (--)

**Source:** Homburg and Rudolph (1995)

*Table III. Advantages and disadvantages of different types of survey*

influence through the interviewer, the return rate is very high and in case of comprehension difficulties, the interviewer can explain. Usually the questionnaire must be explained owing to its new and unfamiliar nature.

#### **Step four: evaluation and interpretation**

The questionnaire is evaluated in three steps (Figure 4). After having combined the answers to the functional and dysfunctional question in the evaluation table (see Table II), the results of the individual product criteria are listed in the table of results (Table IV) which shows the overall distribution of the requirement categories. The next step is to analyze and interpret the results.

The following possibilities are available for processing the results of a Kano survey.

#### *Evaluation according to frequencies*

An overview of the requirement categories of the individual product requirements is gained from the table of results (Table IV).

The easiest method is evaluation and interpretation according to the frequency of answers. Thus, edge grip would be a must-be requirement (49.3 percent), ease of turn a one-dimensional requirement (45.1 percent) and service of edges and base an attractive requirement (63.8 percent).

As a rule, a more differentiated interpretation is required, as the answers to a product requirement are often spread out over more than one category. In this case we believe that this distribution can be explained by the fact that customers in different segments have different product expectations. For instance, we found that the significance of edge grip varies depending on the skill of the skier. While expert skiers presuppose edge grip as a must-be requirement, novices see it as a one-dimensional requirement. If the questionnaire includes sufficient customer-oriented variables, the results can be used as the ideal basis for market segmentation and thus differentiation of products and services according to utility expectations of the different customer segments.

## **A basis for market segmentation**

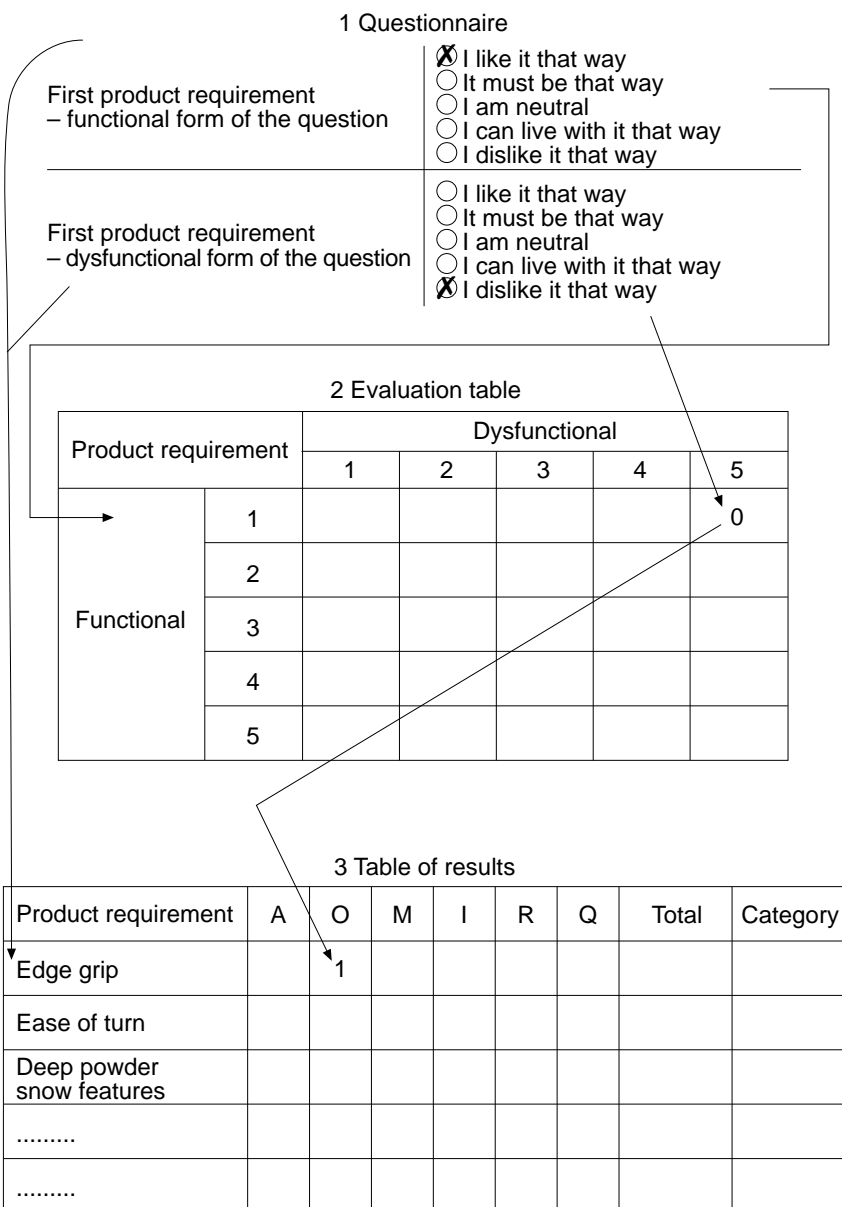


Figure 4. Evaluation process

Product requirement	Percentage of replies						Total	Category
	A	O	M	I	R	Q		
Edge grip	7.0	32.3	49.3	9.5	0.3	1.5	100	M
Ease of turn	10.4	45.1	30.5	11.5	1.2	1.2	100	O
Service	63.8	21.6	2.9	8.5	0.7	2.5	100	A

Table IV. Results

*Evaluation rule  $M > O > A > I$*

If the individual product requirements cannot be unambiguously assigned to the various categories, the evaluation rule “ $M > O > A > I$ ” is very useful. When making decisions about product developments, primarily those features have to be taken into consideration which have the greatest influence on the perceived product quality. First, those requirements have to be

**Evaluation rule**



Customer satisfaction

fulfilled which cause dissatisfaction if not met. When deciding which attractive requirements should be satisfied, the decisive factor is how important they are for the customer. This can be determined by using “self-stated importance” in the questionnaire. If those two or three attractive requirements which are regarded as the most important ones per customer segment are fulfilled, the result is a package of product features which cannot be beaten.

*Customer satisfaction coefficient (CS coefficient)*

The customer satisfaction coefficient (Table V) 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). 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. The CS-coefficient is indicative of how strongly a product feature may influence satisfaction or, in case of its “nonfulfillment”, customer dissatisfaction. 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. For the calculation of the average impact on dissatisfaction you should add the must-be and one-dimensional columns and divide by the same normalizing factor (see Berger *et al.*, 1993).

Extent of satisfaction:

$$\frac{A + O}{A + O + M + I}$$

Extent of dissatisfaction:

$$\frac{O + M}{(A + O + M + I) \times (-1)}$$

A minus sign is put in front of the CS-coefficient of customer dissatisfaction in order to emphasize 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 analyzed product feature is not fulfilled. A value of about 0 signifies that this feature does not cause dissatisfaction if it is not met.

For instance, a bad edge grip with a negative CS-coefficient of -0.83 leads to more than proportional dissatisfaction; good edge grip with a positive CS-coefficient of 0.40 can only slightly increase satisfaction (Figure 5).

Product requirement	Percentage					Total Category	$A + O$	$O + M$
	A	O	M	I	$A + O + M + I$		$A + O + M + I$	
Edge grip	7	33	50	10	100	M	0.40	-0.83
Ease of turn	11	46	31	12	100	O	0.57	-0.78
Service	66	22	3	9	100	A	0.89	-0.25

Table V. CS-coefficient

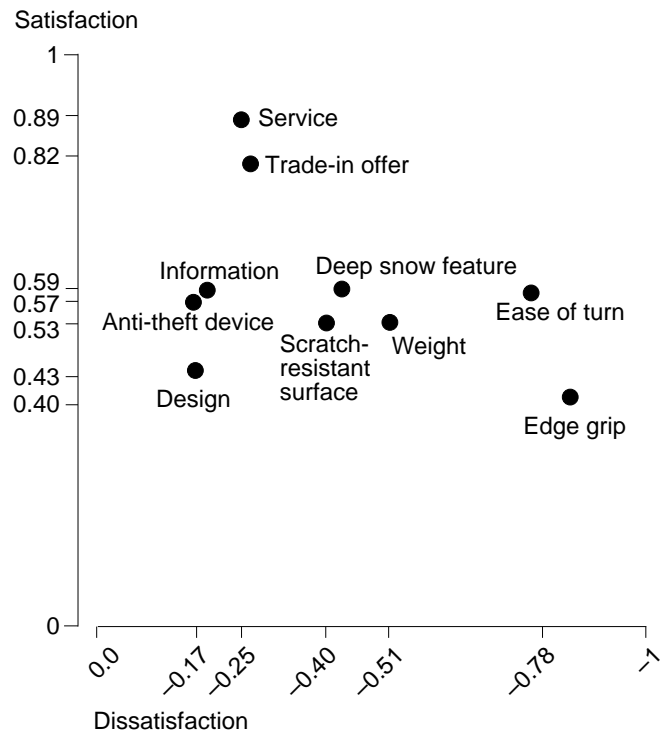


Figure 5. Influence of product features on satisfaction or dissatisfaction

#### Quality improvement index

The quality of one's own products perceived in comparison with that of the strongest competitors is of prime importance for product development strategies and improvement measures. Thus it is useful not only to have the customers evaluate one's own products but also to get customers' opinions of the competitors' products.

The quality improvement index (QI) is the ratio calculated by multiplying the relative significance of a product requirement (self-stated importance) for the customer with the gap value of the perceived product quality (own product versus competitor's product) gained from the rating scale in the questionnaire (see also Griffin and Hauser, 1993):  $QI = \text{Relative importance} \times (\text{evaluation of own product} - \text{evaluation of competitor's product})$ .

The extreme values of the quality improvement index (Figure 6) depend on the number of points in the rating scale. In this example it ranges from -42 to +42. The value is indicative of how important the product requirement is in terms of competition. The higher the value in the positive range, the higher the relative competitive advantage in the perceived product quality from the customer's viewpoint. However, the higher the negative value of this index, the higher the relative competitive disadvantage. Therefore it is far more important to improve this product requirement. The own product has a QI of -21 in this example. It goes without saying that action must be taken.

#### Conclusion

If one knows to what extent a product feature influences the perceived product quality and in turn influences customer satisfaction (must-be, one-dimensional or attractive requirement), and if one is aware of the relative significance of this product feature and assessment from the customer's viewpoint compared to the competitors, the satisfaction portfolio (Figure 7)

#### Quality improvement index



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*This summary has been provided to allow managers and executives a rapid appreciation of the content of this article. Those with a particular interest in the topic covered may then read the article in toto to take advantage of the more comprehensive description of the research undertaken and its results to get the full benefit of the material presented*

## **Executive summary and implications for managers and executives**

### ***Exceptional products mean delighted customers***

*A UK national newspaper recently published a letter from one of its readers commenting on the fact that a letter posted in Perth, Western Australia, took only three days to reach its UK destination. The individual receiving the letter was evidently so delighted (and amazed) by the speed of service they chose to "tell the world" – or at least readers of the Daily Telegraph. Matzler et al. focus on how to achieve the superior quality of service or product needed to achieve such a delighted response.*

*It is obvious that, since delight results from exceeding customer expectations, we cannot simply deliver what the customer expects. Doing this is a pretty good start and customers will get the impression of an efficient and effective organization but something more is still needed to make people sit up and think "wow, that's brilliant!"*

*Matzler et al. take Kano's model of customer satisfaction as the starting point for creating a method to identify ways to delight customers. Kano isolated three elements of customer satisfaction: those elements that must be present for any satisfaction, those elements that customers say they want (termed one-dimensional requirements) and those elements that are genuinely attractive. In theory this is a very useful measure but the difficulty comes in discovering those elements of the product or service that are not usually articulated by the customer.*

*Our letter writer might be satisfied to receive a letter from Australia in ten days. But this is unremarkable – they are not delighted. For the provider of the service, knowing that rapid delivery delights the customer gives them an area to concentrate on. Alongside making sure letters get to their destination and do so within the time advertised, the postal service can try to exceed this – not every time but on enough occasions to delight enough people to make a real difference in perception of the service.*

*However, most organizations do not get the feedback provided by people writing to the newspapers. With a little luck the customer will tell us they are delighted but we cannot count on this. We have to try and guess what will delight, which is not an easy task when even the customer cannot articulate the all-important information.*

*Adapting a simple and theoretically strong assessment of customer satisfaction to produce a clear, easily applied method gives businesses a great opportunity. We can find out some of the elements that would not be expected by a customer. Features or services they see as adding value to their purchase. By providing these we might just delight the customer.*

*The method presented in this article does all this. It is explicit, easy to apply and does not involve complex mathematics. Moreover, the authors' example demonstrates how it applies to a specialized and particular market. Indeed by extending the approach to compare the relative quality of competitive products it suggests ways in which organizations can identify and address factors that do not delight the customer (at least not as much as features of competing products).*

*Having identified the elements that must be present, the elements that meet customer requirements and those factors that delight, a company can improve its products and services. In the short run this benefits sales, helps keep customers loyal and attracts new buyers. However, what happens when the things that delight become expectations? If the post office always delivered its letters in three days from Australia surely it would not be amazing but expected. Indeed, our letter writer would be complaining if delivery took six days!*

*When we come to expect a level of quality from a supplier we are no longer delighted. If after sales support, waxing and safety advice came from every ski manufacturer these factors would not exceed what customers' want. Clearly, the application of Matzler et al.'s method must be regular. Improvements to product or service quality are not a once-and-for-all-time exercise. Examples abound of features that were once exceptional and are now standard – remote control for televisions, airbags and other safety features in cars, multiple gear systems on bicycles and so on. Improvements to products and accompanying services mean that relative advantages change all the time.*

*Without doubt the significance of the Kano model and the application technique described by Matzler et al. is that it takes some of the guess-work out of product development. Such an approach means that improvement can continue even when the creative juices have dried up. This does not mean that the flash of inspiration becomes redundant but that a way exists to provide direction for product improvement and the development of higher quality.*

*A recent research project from the London Business School (reported in Marketing Business, May 1996) showed that a marketing strategy focussed on customer satisfaction is more likely to result in improved profitability for a product. This shows the significance of attention to product quality from the perspective of the customer. Kano's theory and Matzler et al.'s methodology can assist in raising customer satisfaction and thereby really contribute to the profitability of an organization.*

*(A précis of the article "How to delight your customers". Provided by Marketing Consultants for MCB University Press)*