

IPE 303

Product Design I

Understanding Customer Needs

R. M. SHAHBAB
Lecturer, Department of IPE, BUET
Email: sshabbab@ipe.buet.ac.bd



1

Understanding Customer Needs

Goals of understanding customer needs in a systematic way:

- Ensure that the product is focused on customer needs.
- Identify latent or hidden needs as well as explicit needs.
- Provide a fact base for justifying the product specifications.
- Create an archival record of the needs activity of the development process.
- Ensure that no critical customer need is missed or forgotten.
- Develop a common understanding of customer needs among members of the development team.



2

2

Needs, wants, and demands

- **Needs** are the basic human requirements such as for air, food, water, clothing, and shelter.
- These needs become **wants** when they are directed to specific objects that might satisfy the need.
- **Demands** are wants for specific products backed by an ability to pay.

3

3

5 Types of Needs in Marketing

- Stated needs (expensive)
- Real needs (low operating cost)
- Unstated needs (good service)
- Delight needs (extras, e.g. GPS navigation system)
- Secret needs (to be presented as a savvy consumer)



4

4

Types of Customer Needs

Based on recognition by customer –

- **Direct Needs:** Customers have no trouble declaring those needs they are concerned about.
Example: Air-conditioner in car
- **Latent Needs:** Not directly expressed by the customer without probing.
Example: Hands-free powered liftgate in car



5

5

Types of Customer Needs

Based on consistency with time –

- **Variable Needs:** If a foreseeable technological change can happen, needs go away.
Example: long camera-film storage life (got eliminated by digital camera)
- **Constant Needs:** These needs are intrinsic to the task of the product and always will be.
Example: Nighttime picture taking, image storage capacity in camera



6

6

Types of Customer Needs

Based on proportion of customer-base –

- **General Needs:** These needs apply to almost every person in the customer population.
Example: USB mouse for desktop & laptop
- **Niche Needs:** These needs apply only to a smaller market segment within the entire buying population.
Example: Bluetooth mouse for desktop & laptop



7

7

Customer Need Gathering Methods

- **Interviews** – One or more development team members discusses needs with a single customer at a time. Interviews are usually conducted in the customer's environment.
 - Conducting interviews is the most efficient way of gathering quality information.



8

8

Customer Need Gathering Methods

- **Questionnaires** – Use the same guideline as for the interview to develop a list of questions. Prepare the questions carefully. Then organize the responses provided.
 - Questionnaires provide the lowest quality information if not designed properly.
 - The responses only pertain to the questions asked, not necessarily what the customer wants to tell the design team.



9

9

Customer Need Gathering Methods

- **Focus groups** – A moderator facilitates a session with a group of customers in the product developer's environment. The design team may observe the session behind a two-way mirror. The proceedings are usually video recorded.
 - Focus groups are more costly to attain the same amount of information.
 - Participants are usually paid a modest fee (\$50 to \$100 each) for their attendance. The total cost of a focus group, including rental of the room, participant fees, video recording, and refreshments, is about \$5,000.



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10

Customer Need Gathering Methods

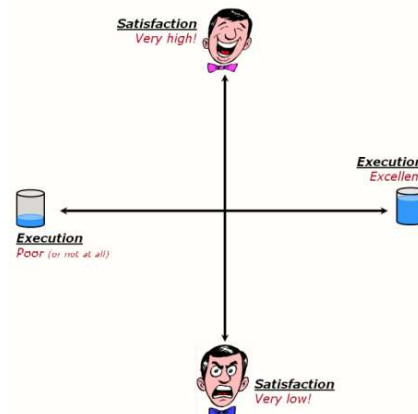
- **Observing the product in use** – Watching customers use an existing product or perform a task for which a new product is intended can reveal important details about customer needs.
 - Observation may be completely passive, without any direct interaction with the customer, or may involve working side by side with a customer, allowing members of the development team to develop firsthand experience using the product.
 - Design team may also travel to the locations where their or their competitors' product is used and act as the customer.

11

11

Kano Model

- The Kano model is a theory of product development and customer satisfaction developed in the 1980s by Professor Noriaki Kano, which classifies customer needs/requirements into different categories.
- He discovered that different needs/requirements have a different impact on customer satisfaction when fulfilled or unfulfilled.



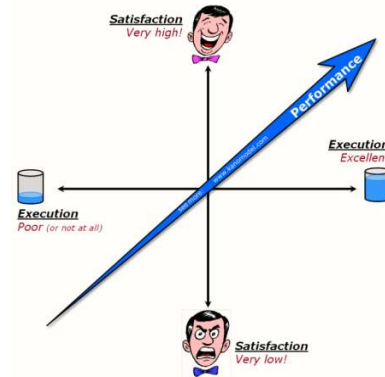
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12

Kano Model - Customer Requirement Type

One Dimensional/Performance:

- These are the requirements that the customers are able to articulate and are at the top of their minds when making choices and evaluating options.
- They are the most visible of the Kano requirements and likely easiest to acquire because customers freely talk about these.
- The better they are performed, the more satisfaction they bring, conversely, the worse they are performed, the more dissatisfaction they bring.



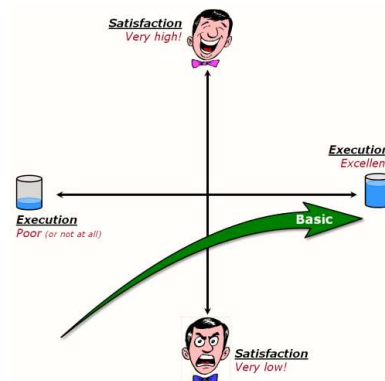
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13

Kano Model - Customer Requirement Type

Must-Be/Basic:

- These are the requirements that the customers expect.
- They are taken for granted. When done well, customers are just neutral, but when done poorly, customers are very dissatisfied.
- They are the requirements that must be included and are the price of entry into a market



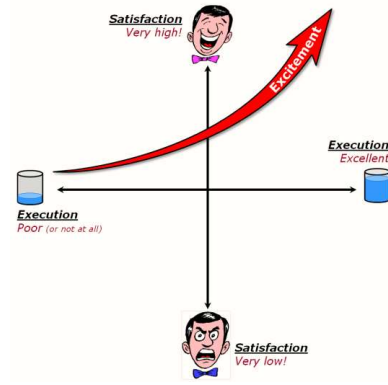
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14

Kano Model - Customer Requirement Type

Attractive/Excitement:

- These are the unexpected and pleasant surprises you provide your customers.
- They are the Innovations that differentiate your offering. Some companies call them Unique Selling Propositions, USP's, others call them the WOW factor.



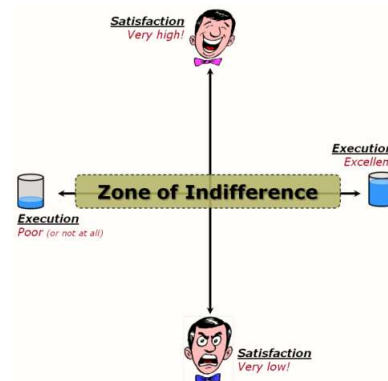
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15

Kano Model - Customer Requirement Type

Indifferent:

- These are the requirements that most customers simply don't care about whether they are present or absent, their satisfaction remains neutral under either circumstance.
- If the vast majority of customers don't care about these functions or features and they are expensive to include you may want to consider eliminating them in your offering because they provide so little value.



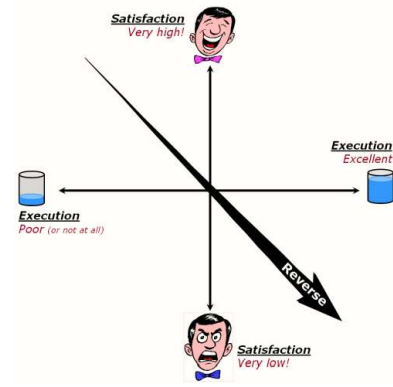
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16

Kano Model - Customer Requirement Type

Reverse:

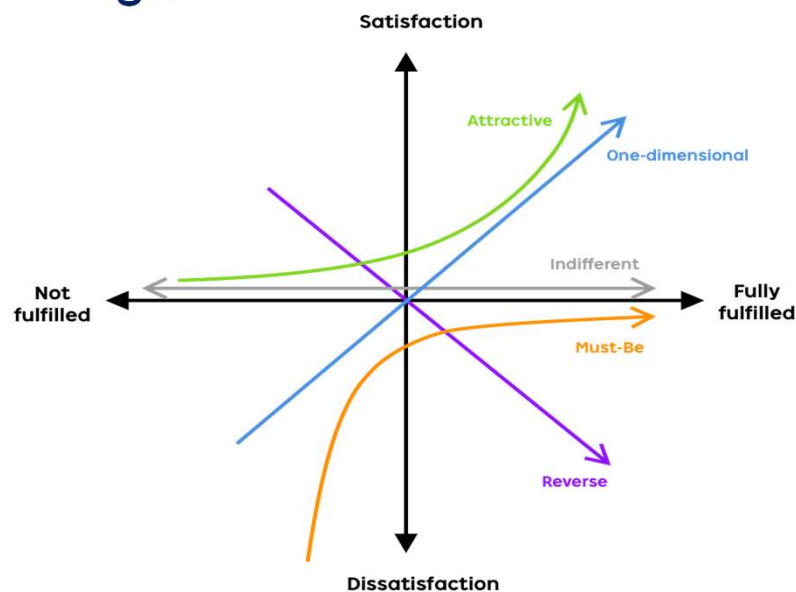
- Likely the rarest category, and items one want to exclude from the offering.
- These are the requirements that cause dissatisfaction when present and satisfaction when absent.
- They are the features or attributes that cause customers to say "I hate when they do that".



17

17

Kano Diagram



18

18

Kano Model Survey – Practice Yourself

Two types of questions need to be asked to customer:

1. Functional Form of Question
2. Dysfunctional Form of Question

Functional Form of Question	
<i>If the solution allows you to search candidates at any time, how do you feel?</i>	<ol style="list-style-type: none"> 1. I like it that way; 2. It must be that way; 3. I am neutral; 4. I can live with it that way; 5. I dislike it that way.
Dysfunctional Form of Question	
<i>If the solution does not allow you to search candidates at any time, how do you feel?</i>	<ol style="list-style-type: none"> 1. I like it that way; 2. It must be that way; 3. I am neutral; 4. I can live with it that way; 5. I dislike it that way.

19

19

Kano Model Survey – Practice Yourself

Two types of questions need to be asked to customer:

1. Functional Form of Question
2. Dysfunctional Form of Question

Functional form of questions



If macnews.de contains links to external information providers, what do you think about that?	<ol style="list-style-type: none"> 1. I like it that way 2. It must be that way 3. I am neutral 4. I can live with it that way 5. I dislike it that way
If macnews.de does not contain links to external information providers, what do you think about that?	<ol style="list-style-type: none"> 1. I like it that way 2. It must be that way 3. I am neutral 4. I can live with it that way 5. I dislike it that way

Dysfunctional form of question



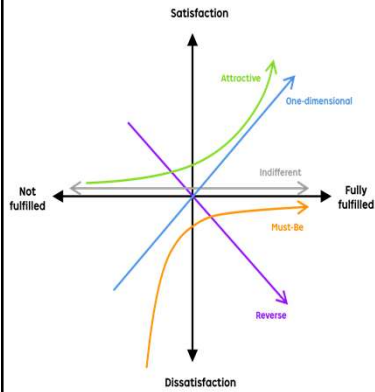
(https://www.researchgate.net/figure/Functional-and-dysfunctional-questions-in-a-Kano-questionnaire_fig1_235254980)

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20

Kano Model Survey – Practice Yourself

Mapping the customer requirement from Kano model survey:



		Dysfunctional form of question				
		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
Functional form of question	I like it that way	Q	A	A	A	O
	It must be that way	R	I	I	I	M
	I am neutral	R	I	I	I	M
	I can live with it that way	R	I	I	I	M
	I dislike it that way	R	R	R	R	Q

A: Attractive
 M: Must be
 R: Reverse
 O: One-dimensional
 Q: Questionable result
 I: Indifferent