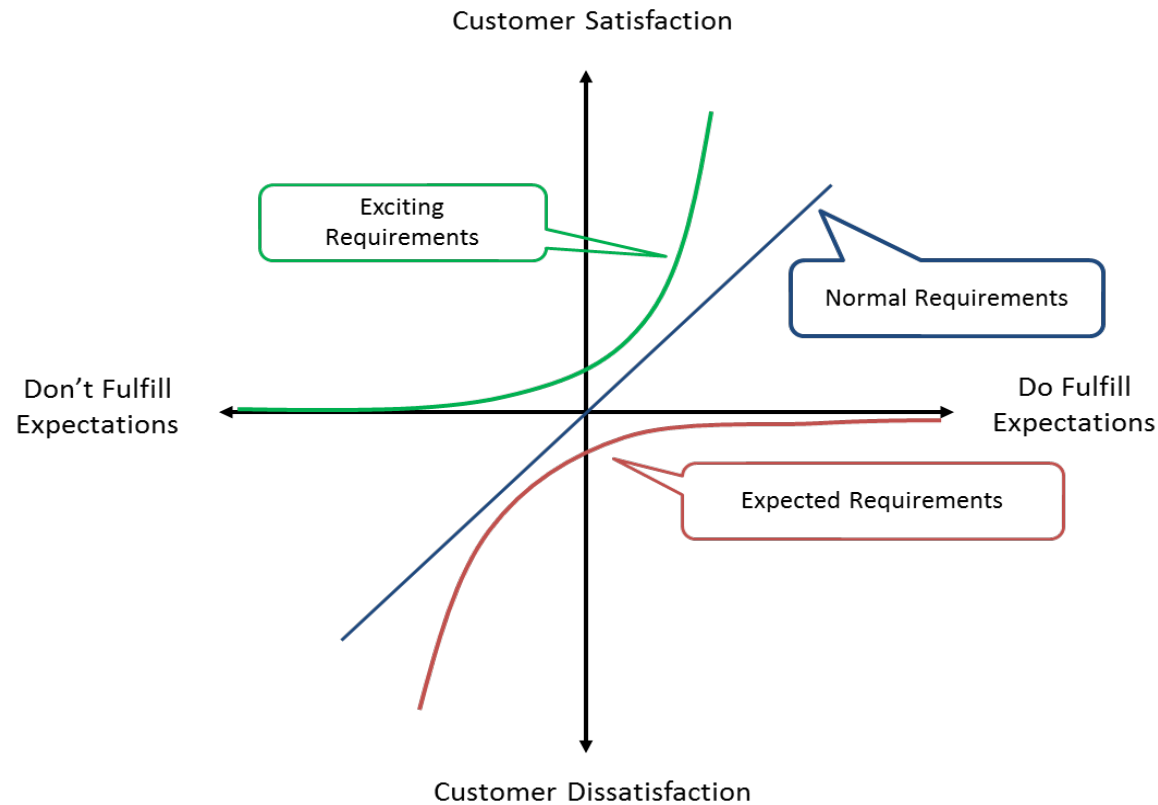


# 3.2 How to translate a business problem statement into an analytics problem

## *Kano's model*



## 3.2 How to translate a business problem statement into an analytics problem

Kano's model distinguishes between

- *expected requirements* so-called *must-be requirements*
- *normal requirements*, and
- *exciting requirements*, also called *attractive requirements*

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*Expected requirements or must-be requirements*

- Must-be requirements are taken for granted
- If they are not fulfilled the customers will be dissatisfied
- But if they are satisfied these requirements are not increasing the customers' satisfaction and can only lead to a "not dissatisfied"
- These are basic attributes of each product
- These requirements are not explicitly stated nor would customers be interested in a product lacking these requirements

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### *Normal requirements*

- Normal requirements connect the customer satisfaction and the level of fulfilment proportionally
- When the level of fulfilment increases, the customer satisfaction increases proportionally
- These requirements are usually explicitly demanded by the customers

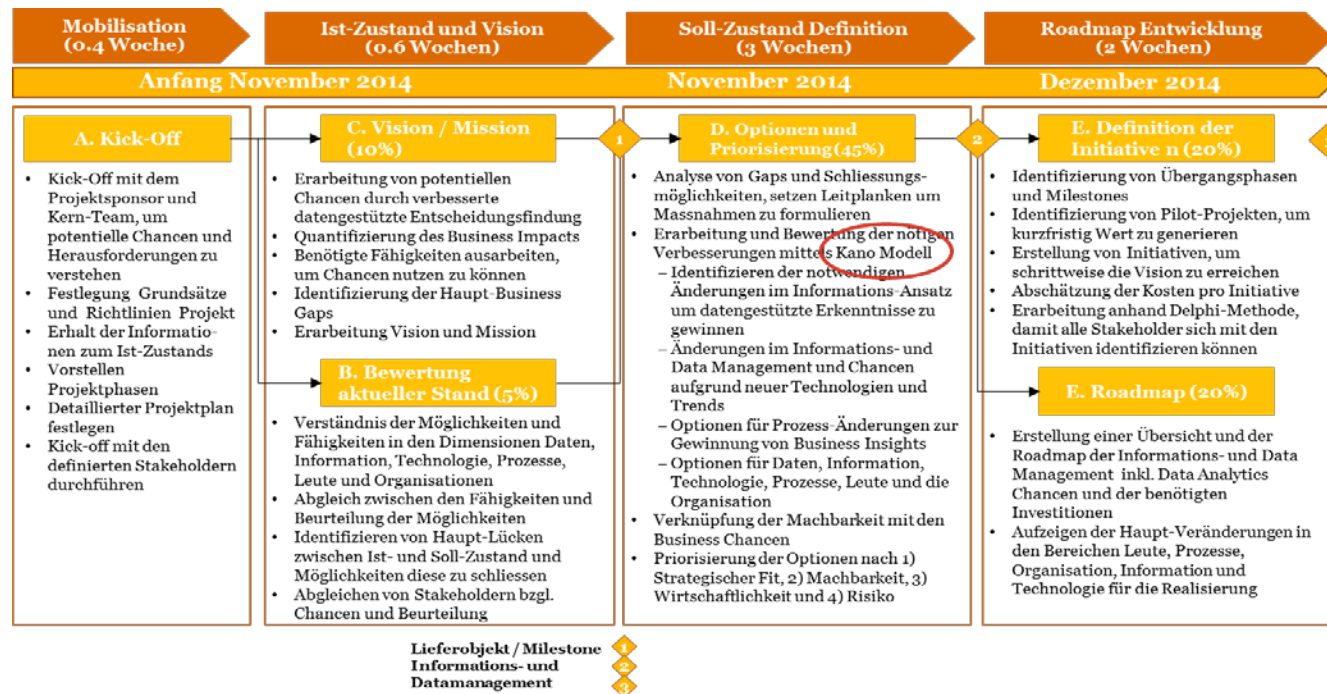
## 3.2 How to translate a business problem statement into an analytics problem

*Exciting requirements, or attractive requirements*

- These are the differentiating factor
- They have the greatest influence on how satisfied is a customer with the product
- The exciting requirements are usually not explicitly stated nor expected
- They give the additional experience with a product
- If these requirements are not fulfilled there is no dissatisfaction

# 3.2 How to translate a business problem statement into an analytics problem

Example: A bank has set up a data analytics strategy



## 3.2 How to translate a business problem statement into an analytics problem

### Advantages of Kano's model

- Understanding of the product / service requirements
- Setting priorities of requirements
- Helps in setting trade-offs between requirements
- Helps for differentiation (attractive requirements)
- Helps in the requirements of different customer groups

## 3.2 How to translate a business problem statement into an analytics problem

Four step approach:

- 1) Identification of product requirements
- 2) Construction of the Kano questionnaire
- 3) Getting the data from the customers
- 4) Analyse the results



## 3.2 How to translate a business problem statement into an analytics problem

- 1) Identification of product requirements
  - I. What are the associations of the customer when using the product /service?
  - II. Which problems are associated by the customer with the use of the product?
  - III. Which criteria is taken into account by the customer when buying the product?
  - IV. Which new features or services would better meet the expectations of the customer? Or: What would the customer change in the product?

## 3.2 How to translate a business problem statement into an analytics problem

### 2) Construction of the Kano questionnaire

A pair of questions is formulated for each product / service feature:

- A functional form of the questions which concerns a reaction if a product has a feature
- A dysfunctional form of the question which concerns a reaction if a product does not have a feature

Example:

- If you can perform the data analysis any time, how do you feel?
- If you cannot perform the data analysis at any time, how do you feel?

## 3.2 How to translate a business problem statement into an analytics problem

### 2) Construction of the Kano questionnaire

The answer is always one of five different ways:

- 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

# 3.2 How to translate a business problem statement into an analytics problem

## 2) Construction of the Kano questionnaire

Customer requirements		Dysfunctional question				
		Like	Must-be	Neutral	Live with	Dislike
Functional questions	Like	Q	A	A	A	N
	Must-be	R	I	I	I	M
	Neutral	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

A: Attractive    N: Neutral    M: Must-be    R: Reverse    I: Indifferent    Q: Questionable

# 3.2 How to translate a business problem statement into an analytics problem

## 2) Construction of the Kano questionnaire

Functional: If you can perform the data analysis any time, 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

Dysfunctional: If you cannot perform the data analysis at any time, 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

# 3.2 How to translate a business problem statement into an analytics problem

## 2) Construction of the Kano questionnaire

Customer requirements		Dysfunctional question				
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	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

A: Attractive    N: Neutral    M: Must-be    R: Reverse    I: Indifferent    Q: Questionable

## 3.2 How to translate a business problem statement into an analytics problem

### 3) Getting the data from the customer

- Standardised questionnaire vs. interview
- Mail vs. online questionnaire
- Customer panel vs. randomised potential customer

# 3.2 How to translate a business problem statement into an analytics problem

## 4) Analyse the results

Functional: If you can perform the data analysis any time, 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

Dysfunctional: If you cannot perform the data analysis at any time, 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

Customer requirements		Dysfunctional question				
		Like	Must-be	Neutral	Live with	Dislike
Functional questions	Like	Q	A	A	A	N
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	Neutral	R		I	I	M
	Live with	R		I	I	M
	Dislike	R	R	R	R	Q

A: Attractive N: Neutral M: Must-be R: Reverse I: Indifferent Q: Questionable

Product Requirement	A	N	M	I	R	Q	Total	Category
Any time performance	1							
Reporting purpose								
....								



## 3.2 How to translate a business problem statement into an analytics problem

### 4) Analyse the results

Results as frequencies

Product Requirement	A	N	M	I	R	Q	Total	Category
Any time performance	50.3%	12.3%	6.5%	16.7%	13.1%	1.1%	100%	<b>A</b>
Reporting purpose	4.8%	8.4%	63.4%	18.3%	4.3%	0.8%	100%	<b>M</b>
....	...	...	...	...	...	...	100%	....

## 3.2 How to translate a business problem statement into an analytics problem

### 4) Analyse the results

Evaluation order:

- If there is a clear category => choose this category
- Otherwise:  $M > N > A > I$

## 3.2 How to translate a business problem statement into an analytics problem

### 4) Analyse the results

Customer Satisfaction Index: how strongly a product feature may influence satisfaction or dissatisfaction:

$$\text{Satisfaction: } \frac{A+N}{A+N+M+I}$$

$$\text{Dissatisfaction: } -1 \times \frac{N+M}{A+N+M+I}$$

## 3.2 How to translate a business problem statement into an analytics problem

### 4) Analyse the results

Results as frequencies

Product Requirement	A	N	M	I	R	Q	Total	Category	Satisfaction	Dissatisfaction
Any time performance	50.3%	12.3%	6.5%	16.7%	13.1%	1.1%	100%	<b>A</b>	<b>0.73</b>	<b>-0.22</b>
Reporting purpose	4.8%	8.4%	63.4%	18.3%	4.3%	0.8%	100%	<b>M</b>	<b>0.14</b>	<b>-0.76</b>
....	...	...	...	...	...	...	100%	....		

## 3.2 How to translate a business problem statement into an analytics problem

4) Analyse the results

Results as frequencies

