

# User Experience Grading via Kano Categories

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# Purpose

- How do you validate a product's user experience?
  - Functional and unit level validation testing is good at finding defects
  - Usability is much more subjective

Develop a method to evaluate the user experience before the product is ready for user feedback

# Agenda

Kano model

Product planning

Applying the process

Assessing user experience

Lessons learned

# Kano Model

## History:

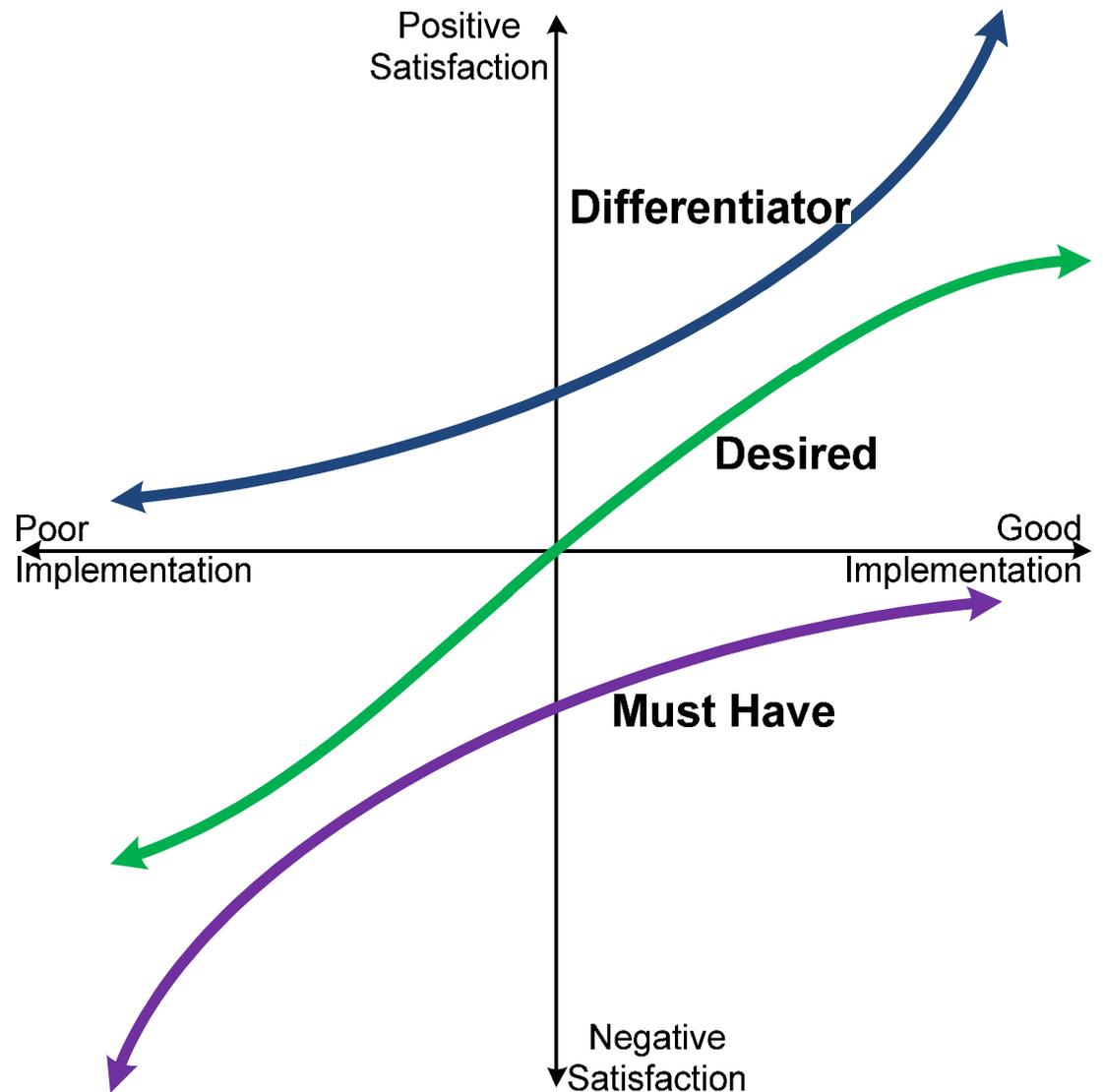
- Developed by Noriaki Kano in 1984
- Classifies customer reactions to features into five categories
  - Differentiators
  - Desired
  - Must Have
  - Indifferent
  - Reverse

The case study focuses on the first three categories

# Kano Model

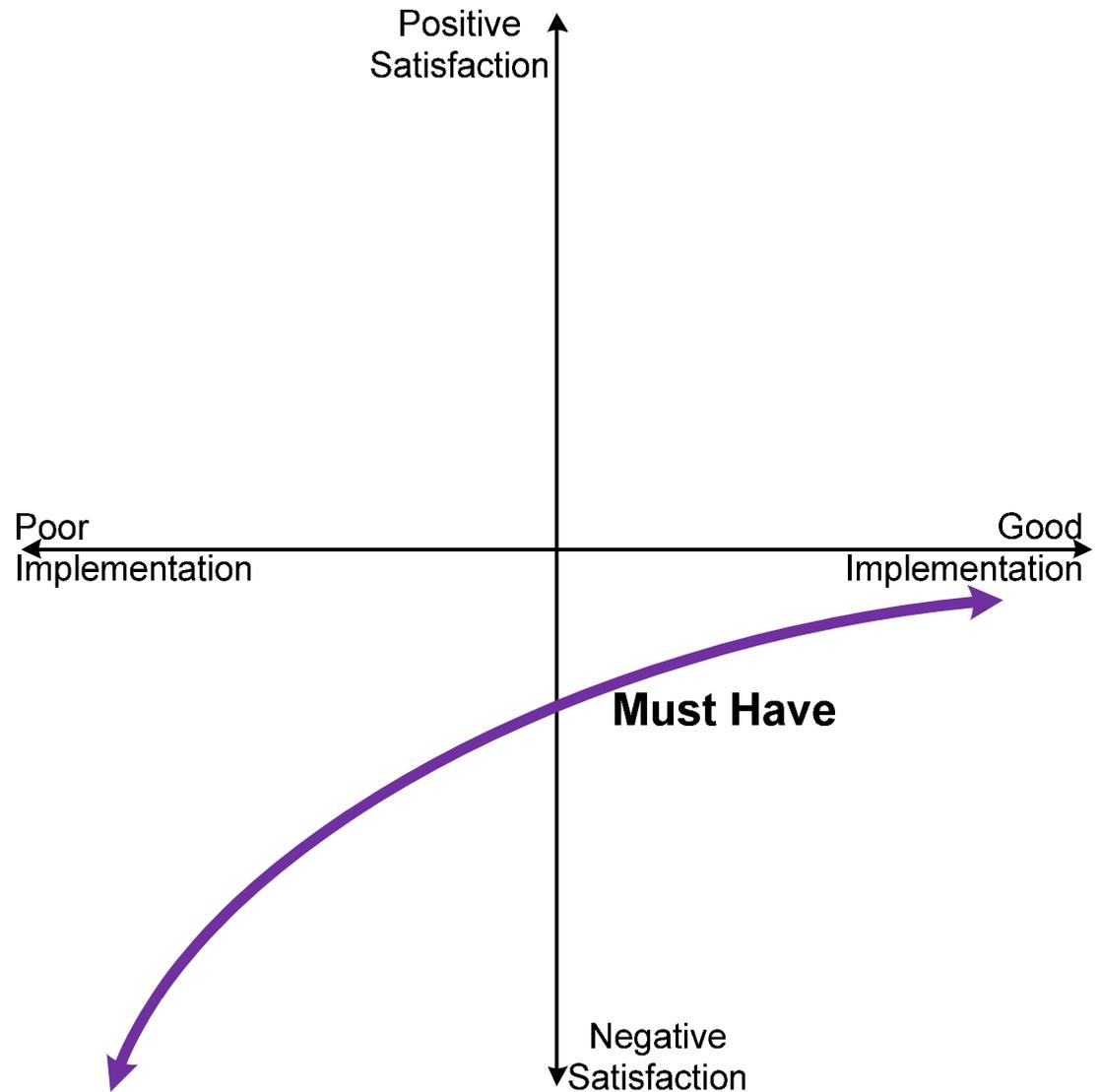
## Description:

Classifies product attributes based on how they are perceived by customers and their effect on customer satisfaction.



# Kano Model Categories

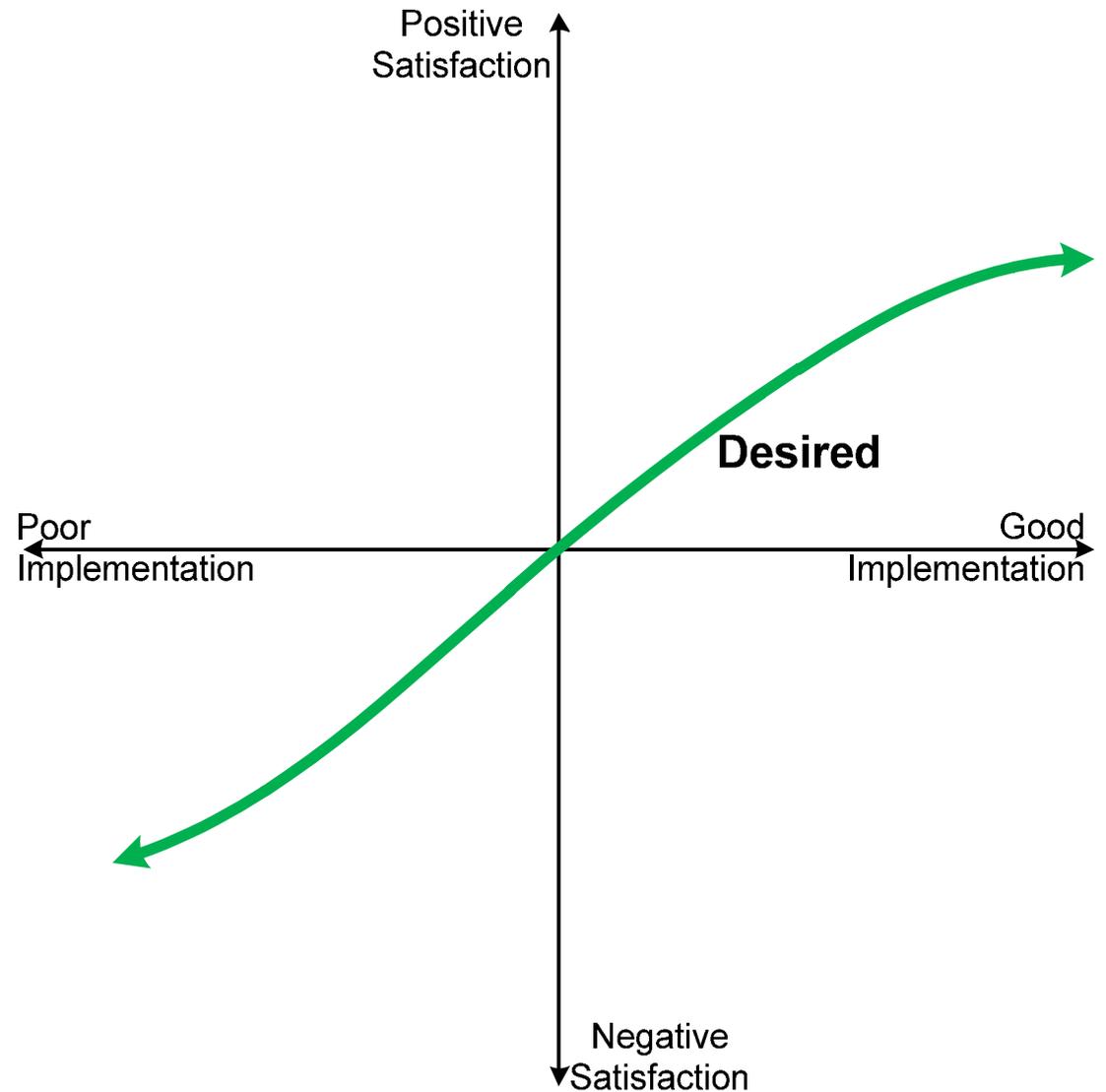
**Must Have:**  
Components that customers expect to be available for the product being designed.

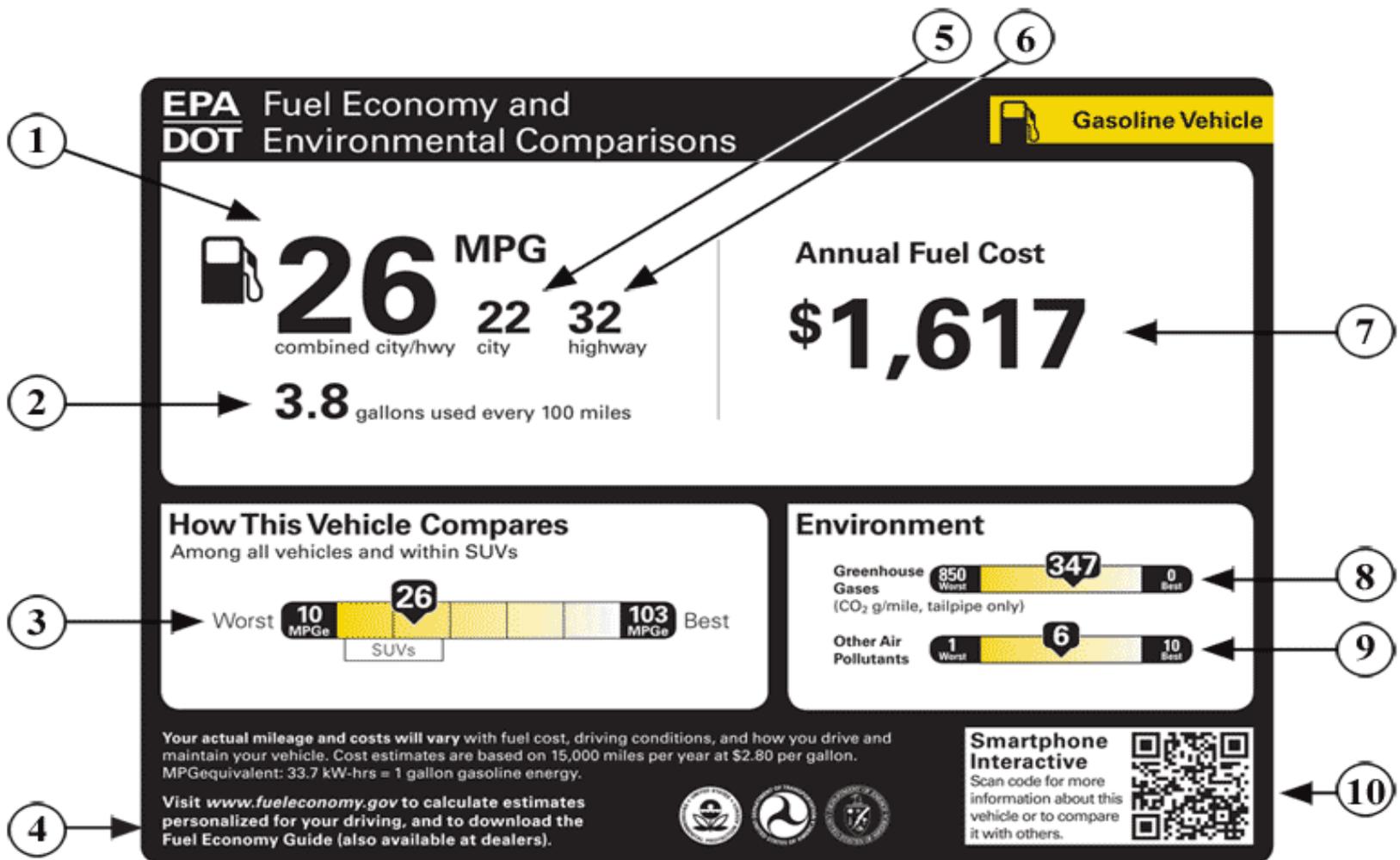




# Kano Model Categories

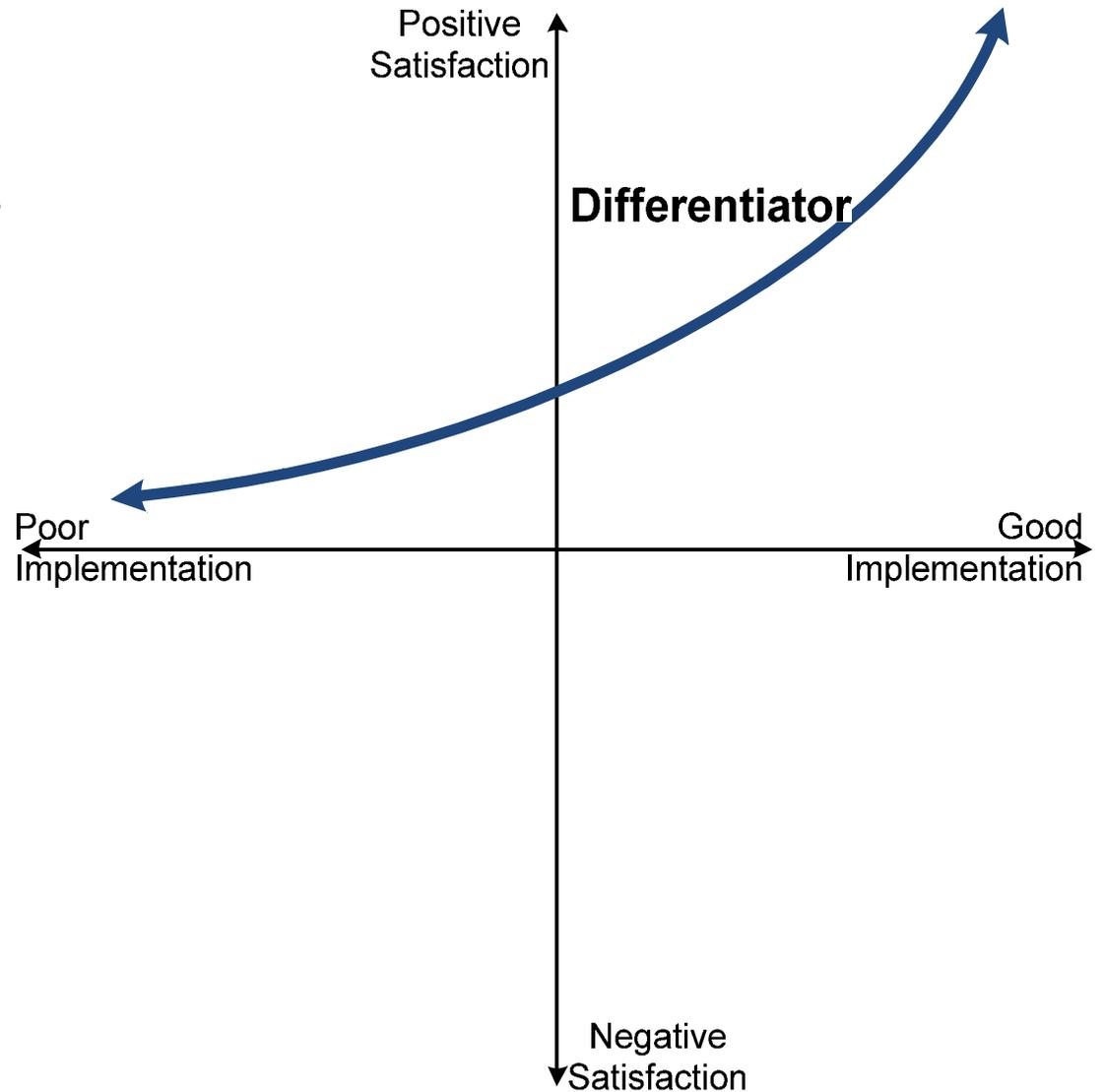
**Desired:** Related to performance and quality. The more of this the better.





# Kano Model Categories

**Differentiator:**  
Uniquely differentiates  
a product from other  
similar products.





# Product Planning

1. Understand the target demographic
  - User studies, market research, questionnaires...
  - Context is important!

1. How satisfied would you be if this product had this attribute?

Dissatisfied

Neutral

Satisfied

Don't Care

2. How satisfied would you be if this product didn't have this attribute?

Dissatisfied

Neutral

Satisfied

Don't Care

# Product Planning

1. Understand the target demographic
  - User studies, market research, questionnaires...
  - Context is important!
2. Classify usages and features into Kano categories
  - Enhances prioritization

## Must Have

- Neutral if present
- Dissatisfied if not present

## Desired

- Satisfied if present
- Dissatisfied if not present

## Differentiator

- Satisfied if present
- Neutral if not present

## Indifferent

- Don't Care if present
- Don't Care if not present

## Reverse

- Dissatisfied if present
- Satisfied if not present

# Product Planning

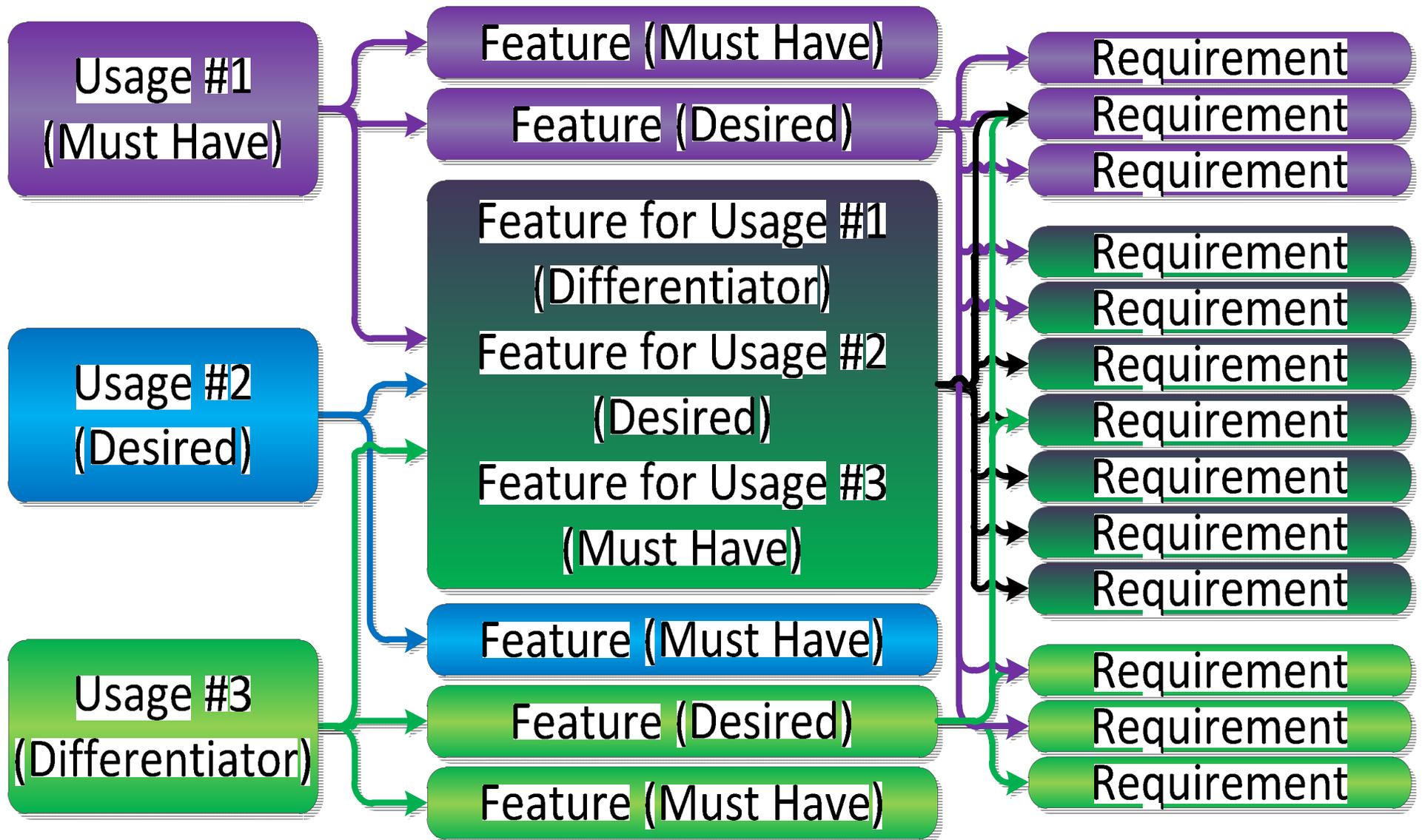
1. Understand the target demographic
  - User studies, market research, questionnaires...
  - Context is important!
2. Classify product usages, features, requirements into Kano categories
  - Enhances prioritization
3. Scoping the product
  - Decide which usages the product needs to enable to achieve target users' goals



A product that attempts to do too much  
won't do anything well

## Applying the process

1. Establish well defined links between usages, features, requirements
  - Based on how each relate to each other

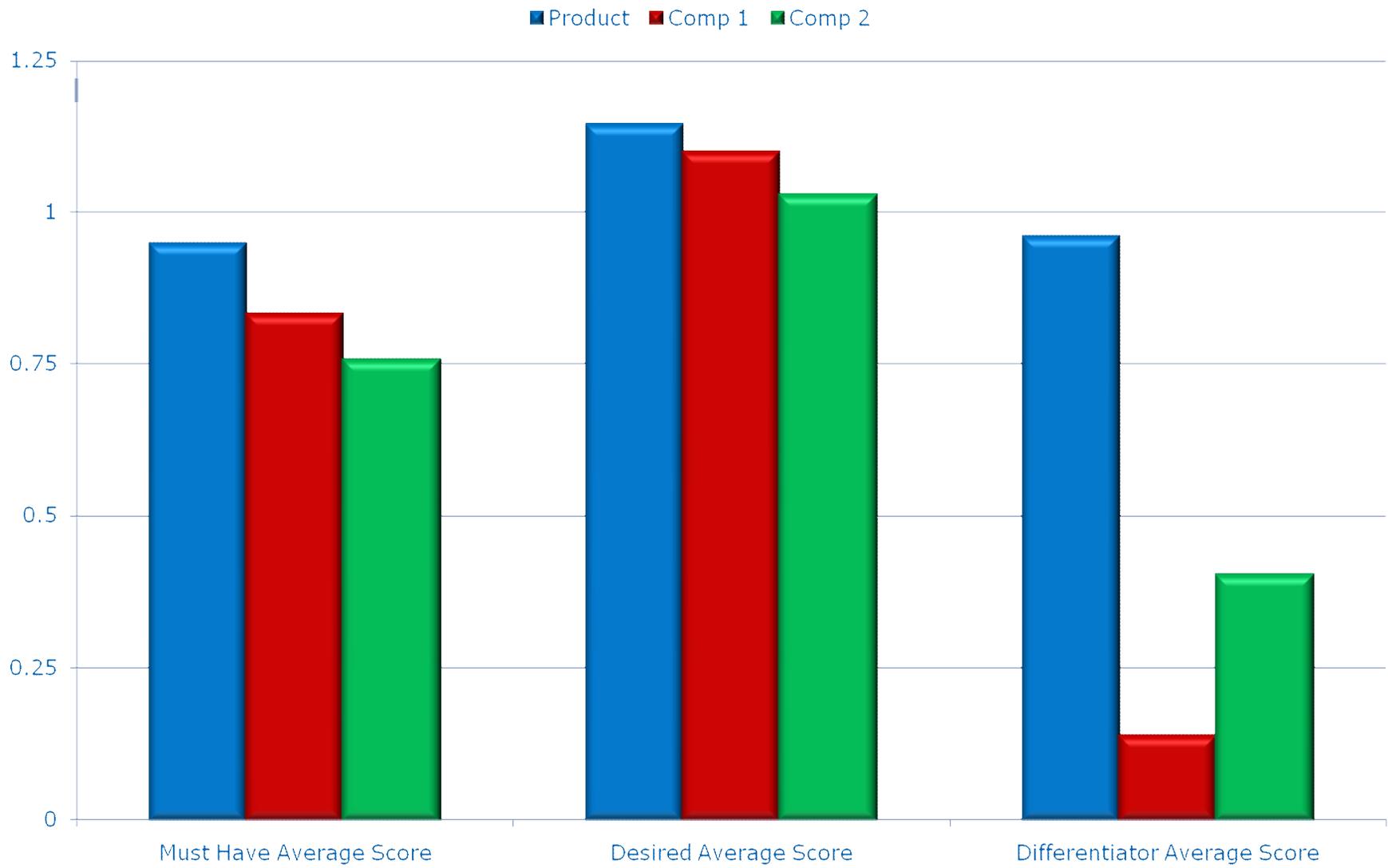


## Applying the process

1. Establish well defined links between usages, features, requirements
  - Based on how each relate to each other
2. Group like features together
  - Leverage development effort
  - Well defined threshold requirements

## Applying the process

1. Establish well defined links between usages, features, requirements
  - Based on how each relate to each other
2. Group like features together
  - Leverage development effort
  - Well defined threshold requirements
3. Validate against competition
  - Categorize competition's features
  - Perform competitive analysis



## Assessing user experience

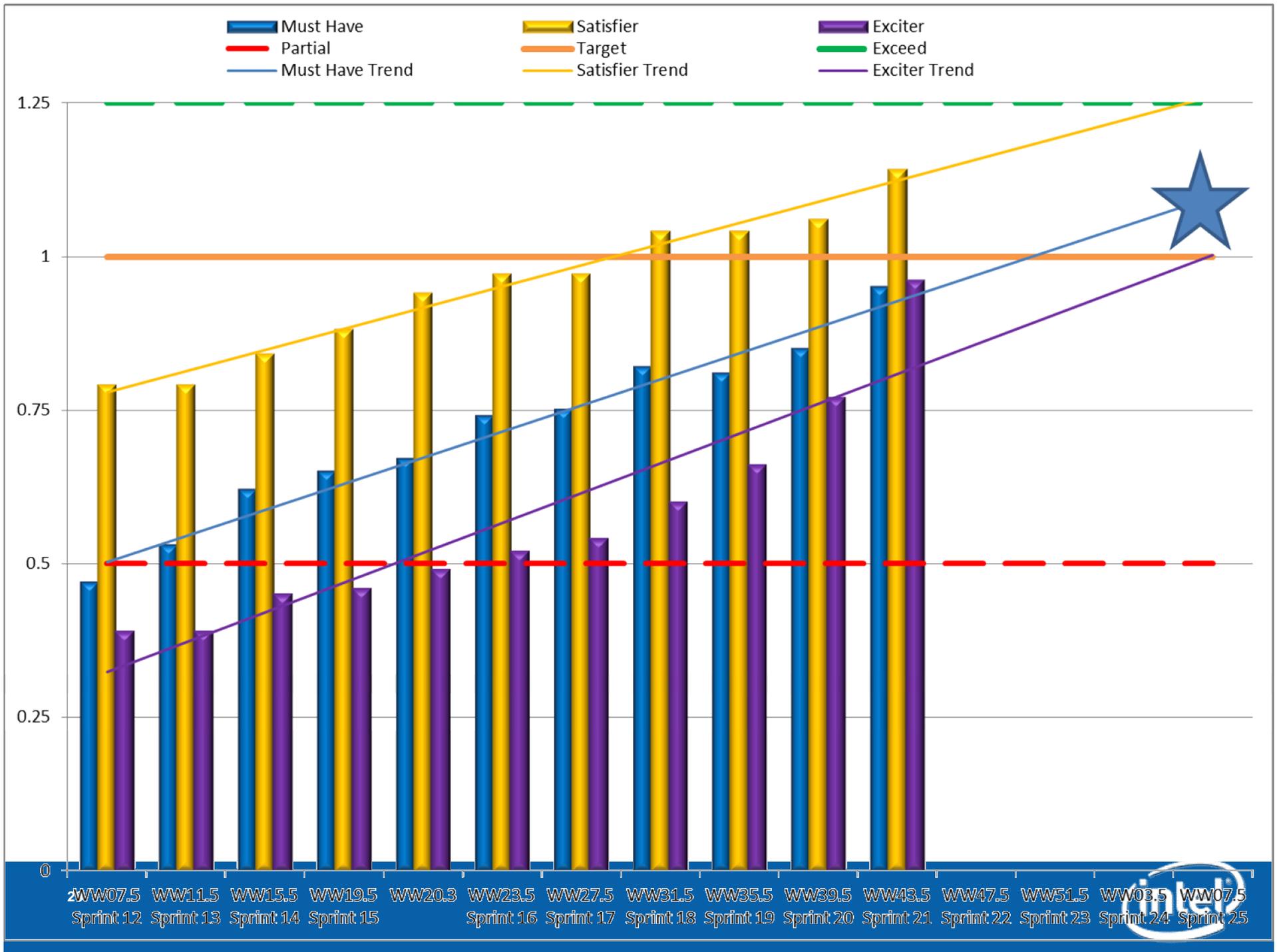
- Usages, features, and requirements are assessed using a point scale
  - Functional attributes assessed using binary scale
  - Non-functional attributes assessed with larger scale

# Assessing user experience

<b>Assessment Result</b>	<b>Point Value</b>
Not Implemented	0.0 points
Partially Implemented	0.5 point
Fully Implemented	1.0 point
Implemented Beyond Minimum Requirement	1.25 points

# Assessing user experience

- Sprint based assessments allow for dynamic allocation of resources during product development
  - Track progress to completion
  - Assess progress of Must Have, Desired and Differentiator attributes



# Assessing user experience

- User experience validation can happen before product is functional
  - Grading how well usages, features, and requirements have been implemented

## Case Study

- Applied process during development of next generation graphics control panel

# Case Study



# Case Study



Tom's Hardware September '09

"What Intel is really aiming its integrated graphics core towards is HD video. It now supports dual-stream HD decode... Intel has also been working to improve the user interface of the graphics control panel. What we saw looked much improved over the existing Intel control panels... videophiles now have more control over key parameters than they did previously."

## Case Study

- Applied process during development of next generation graphics control panel
- Benefits
  - Early issue detection
  - Improved requirements management
  - Reduced development team overhead
- Lessons Learned
  - Start process early
  - Feature and usage focus

# Acknowledgements

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- Erik Simmons for his encouragement, mentoring, and advice while I was writing this paper.
- Phil Scuderi who inspired the use of the Kano model for this project
- Scott Boss who initially tolerated and eventually accepted the crazy way I was validating his software project

# Q&A



Optional list of topics covered in backup

# BACKUP