Abstract

The notion of "business key drivers" is introduced and a method is described to link these key drivers to the product specification.
Example Motorway Management Analysis

Key-drivers

Safety
- Reduce accident rates
- Enforce law
- Improve emergency response

Effective Flow
- Reduce delay due to accident
- Improve average speed
- Improve total network throughput
- Optimize road surface
- Speed up target groups
- Anticipate on future traffic condition

Smooth Operation
- Ensure traceability
- Ensure proper alarm handling
- Ensure system health and fault indication

Environment
- Reduce emissions

Derived application drivers

Early hazard detection with warning and signaling
Maintain safe road condition
- Classify and track dangerous goods vehicles
- Detect and warn noncompliant vehicles
- Enforce speed compliance
- Enforce red light compliance
- Enforce weight compliance

Requirements

- Automatic upstream accident detection
- Weather condition dependent control
- Traffic speed and density measurement
- Cameras
- Deicing
- Traffic condition dependent speed control

Note: the graph is only partially elaborated for application drivers and requirements
Method to create Key Driver Graph

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Define the scope specific. <em>in terms of stakeholder or market segments</em></td>
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<tr>
<td>2.</td>
<td>Acquire and analyze facts <em>extract facts from the product specification and ask why questions about the specification of existing products.</em></td>
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<td>3.</td>
<td>Build a graph of relations between drivers and requirements <em>where requirements may have multiple drivers</em> by means of brainstorming and discussions</td>
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<td>4.</td>
<td>Obtain feedback <em>discuss with customers, observe their reactions</em></td>
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<td>5.</td>
<td>Iterate many times <em>increased understanding often triggers the move of issues from driver to requirement or vice versa and rephrasing</em></td>
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### Recommendation for the Definition of Key Drivers

- **Limit the number of key-drivers** minimal 3, maximal 6
- **Don’t leave out the obvious key-drivers** for instance the well-known *main function* of the product
- **Use short names, recognized by the customer.**
- **Use market-/customer- specific names, no generic names** for instance replace “ease of use” by “minimal number of actions for experienced users”, or “efficiency” by “integral cost per patient”
- **Do not worry about the exact boundary between Customer Objective and Application** create clear *goal means* relations
Transformation of Key Drivers into Requirements

Key Drivers How To

Customer 
\( \text{What} \)

Customer 
\( \text{How} \)

Product 
\( \text{What} \)

Key 
\( \text{(Customer)} \)

Drivers

Derived 
\( \text{Application Drivers} \)

Requirements

Customer 
objectives

Application

Functional

goal

means

may be skipped or

articulated by several

intermediate steps

functions

interfaces

performance figures

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REQfromDriverToRequirement