

We  IWSPM08

Sony Ericsson

Introducing Support for Release Planning of Quality Requirements – An Industrial Evaluation of the QUPER Model

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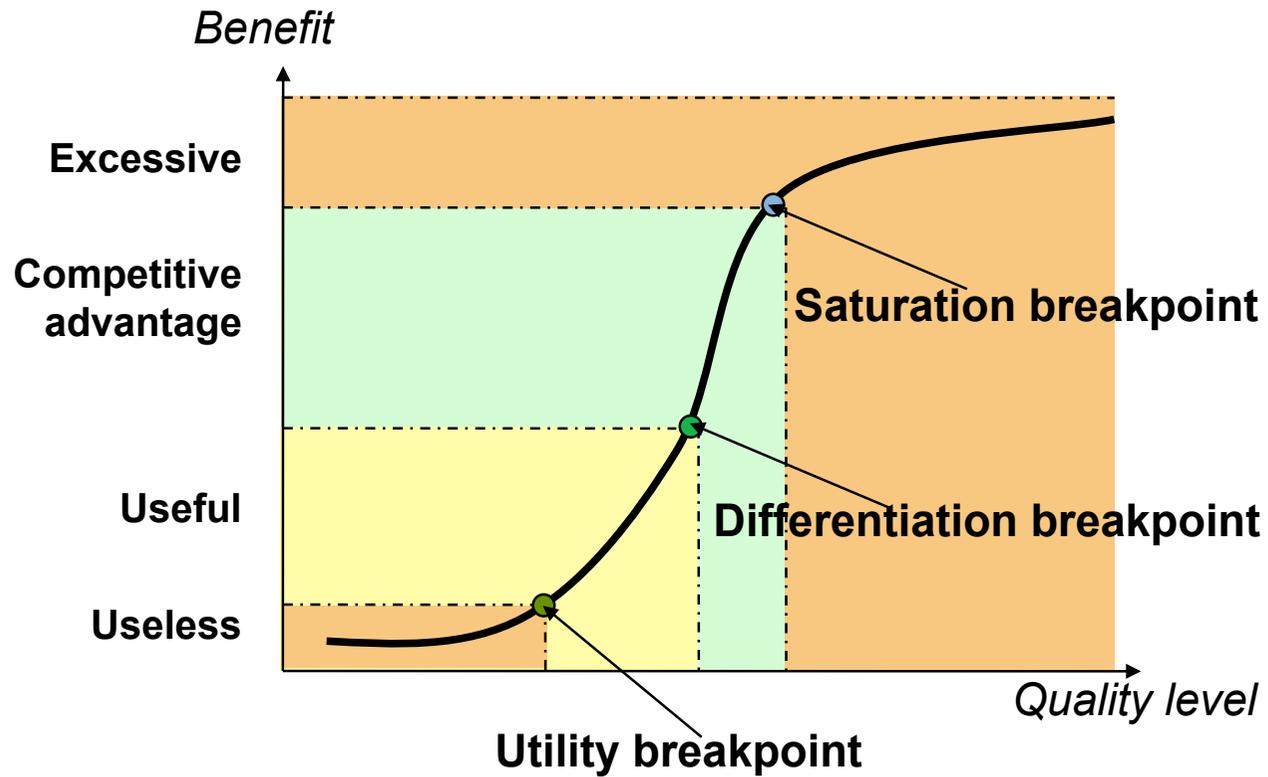
Background

- Release planning
 - Selecting what features and requirements
 - When it should be released and at what cost
- Prioritization of Quality Requirements in release planning?
- We developed the QUPER model
 - Support requirements prioritization of quality requirements in release planning

Objectives

- Evaluate the QUPER model in an industrial context
 - Performed at Sony Ericsson
 - Platform development process, a number of products are developed
- Evaluate how easy the model adapts to existing processes
- Evaluate what value the QUPER model may bring to release planning

QUPER benefit view



Research Methodology

- Step 1. *Interview (part 1)*. The goal was to obtain an understanding of their current process of handling performance requirements.
- Step 2. *Workshop*. Introducing QUPER and practical application. The main goal of the workshop was to achieve an understanding of how to use QUPER on real requirements in their projects.
- Step 3. *Interview (part 2)*. The goal was to get an understanding of the subjects experience and view of the QUPER model. Part 2 was conducted about 3 months after the workshop.

QUPER validation results

- Four sub-domains:
 - **Network access:** >1000 system requirements, ~10% PR
 - **Email:** ~1000 system requirements, none PR
 - **Video systems:** ~500 system requirements, ~10% PR
 - **Positioning:** ~40 use cases, PR unknown
- QUPER is applicable to all quality requirements, not only PR
- QUPER is easy to learn and understand

	Network access	Email	Video systems	Positioning
General View	Saturation breakpoint important input: valuable to know when to stop improving the quality	Extensive work with competitor analysis	Performance beyond saturation makes no difference	Good to know when to stop improving the quality
Challenges and difficulties	Difficult to identify differentiation and saturation breakpoints	What value should the breakpoints have?	Is the time spent really worth it?	QUPER comes natural
Using QUPER	Relates to the real world	Benefit of comparing our products against our competitors	...not only for more accurate PR, but also to understand the advantages of competitors	Provides better basis for PR
Decision-Making	Input for decisions about introduction of new product to the market	Overview of the current market, which helps in decision making	More informed decisions in sense of breakpoints and competitors	More knowledge of the market situation
Time spent	It took more time to use QUPER compared to the previous process. However, all subjects stated it will be less time consuming when QUPER has been used for a while. All new processes and models takes longer time to use in the beginning			
Estimation accuracy	All subjects stated that the most difficult and insecure PR estimations may be more accurate by using QUPER			

QUPER validation results

- **Previous process:**

- Standard references
- Performance provided by hardware suppliers
- **Challenge:** had to accept the provided quality

We wrote use cases [for a particular feature] based on what the user expected and needed from the new feature. We did not release this feature because the hardware could not deliver what we thought was good enough quality. We did not know if this quality level was acceptable in the market or how good our competitors' quality level was.

- **QUPER:**

- Provides an overview of the market
- Helps in understanding what is good enough

With the QUPER model we would have had an understanding of what is good enough quality in the market, and how good our competitors are. Maybe the quality level we had would have been good enough at this particular time and we could have released it

QUPER validation results

- Problem: specify PR as an interval
 - *"What is good enough?"*
 - QUPER identifies the current market, provides an understanding of what is good enough
- Problem: specify PR that are representative of the "real world" and under what conditions
 - HW and market segments are considered, and consequences for the PR
 - *"QUPER recognizes the fact that in a real mobile network you do not necessarily have the clean conditions that the standards specify."*

Future Research

- Evaluation of the QUPER model involving more areas and subjects
- Practical application and evaluation of the QUPER cost view
- Predicting future quality levels based on today's market

Conclusions

- + Relevant in high-level decision-making for quality requirements, such as release planning
- + QUPER is easy to understand, not complicated to apply in current practice
- Difficulties to identify and specify the differentiation and saturation breakpoints

Thank you!

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