The Business Side of a Software Architect

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About Me

• Chief Software Architect at Orbotech
• Presidency member at ILTAM
Orbotech in the Electronics Value Chain Today

- Flat Panel Displays (FPD)
- Touchscreens, Advanced Packaging, MEMS, RF, Power
- Printed Circuit Boards (PCB)
Do Software Architects Have to Understand Business Models?

Business?

Business Needs

Business Methodology Technical
Leadership Technology
Domain Negotiation
• One of the roles of a software architect is to translate business cases into software requirements and then to software architecture.

• The Software architect also have to verify that the actual running software is aligned with the business needs.

• In order to translate between two languages you need to be able to understand both of them
  - The context
  - The terms
  - The nuance
  - The sub context
The Business Side of a Software Architect

- Understanding of the business language can assist:
  - Validate decisions and find misalignments
  - Better communication.
  - Identify risks
  - Remove biases
Frequently Asked Questions

• How to make sure we didn’t miss important quality scenarios?

• How to make sure we capture the right response measures?

• How to make sure we didn’t lose the big picture in the prioritization process?

• How to handle similar quality scenarios with different response measures?

• What to do in the case of a tradeoff, when a response measure can not be achieved?
Differentiated Strategies

- Performance
- Conformance
- Reliability
- Low Cost
- Service
- User Experience

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Differentiated Strategies and QAW Priority

QAW Priorities

Performance
Serviceability
Usability
Performance
...
Reliability
...

Misalignment

Performance
Conformance
Reliability
Low Cost
Service
Usability

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Where are My Response Measures?

- Business Value
- Response Measure

Can we know those values?

Augmented Product

Expected Product

Core Benefit

Quality Scenario

Where is my response measure on the graph?
Five Product Levels

- Core Benefit
- Generic product
- Expected product
- Augmented product
- Potential product

Five products levels – Philip Kotler
Understand Your Product Concept

Quality Scenario 1

Quality Scenario 2

Core Benefit
Generic product
Expected product
Augmented product
Potential product
The Trivial Requirements

Architecting Your Previous Product

Core Benefit
Generic product
Expected product
Augmented product
Potential product
Quality Scenario Consolidation

Response Measure = 30

Consolidate

Response Measure = 40

Core Benefit
Generic product
Expected product
Augmented product
Potential product
Quality Scenario Consolidation

Response Measure = 30
Higher Priority

Response Measure = 5

Core Benefit
Generic product
Expected product
Augmented product
Potential product

The business side of a software architect
Quality Scenario Fallbacks

Response Measure = 30

Response Measure = 40

Fallback

Core Benefit
Generic product
Expected product
Augmented product
Potential product

The business side of a software architect
## Segmentation Strategy

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<th>Market A</th>
<th>Market B</th>
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Market Segmentation

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Multi products scenarios
Product Segmentation

Are those the same actors?

Multi markets scenarios
How Many Actors?

End User → A

End User → B

Product A
Product B
Product C

Market A
Market B
Market C

Are those the same actors?
How Many Actors?

Are those the same actors?

Profile A
Profile B
Profile B

Product A
Product B
Product C

Market A
Market B
Market C
Business knowledge can help a software architect:

- Discover some important scenarios that may be ignored.
- Capture response measures that are better aligned with the business needs.
- Trigger an alarm when the big picture is lost in the prioritization process.
- Better handling of similar quality scenarios with different response measures.
- Better handling of response measures in the presence of tradeoffs.
Software Architecture and Business, Where to?

- Should a software architect have business knowledge?
- Can the business-software architecture cases be extended to create guidelines?
THANK YOU