

Evaluation of the Architecting Method

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Abstract

The case study is evaluated: the resulting product and its design and the way the method has been used by the product creation team. The evaluation is done by means of the predefined hypothesis and criteria.

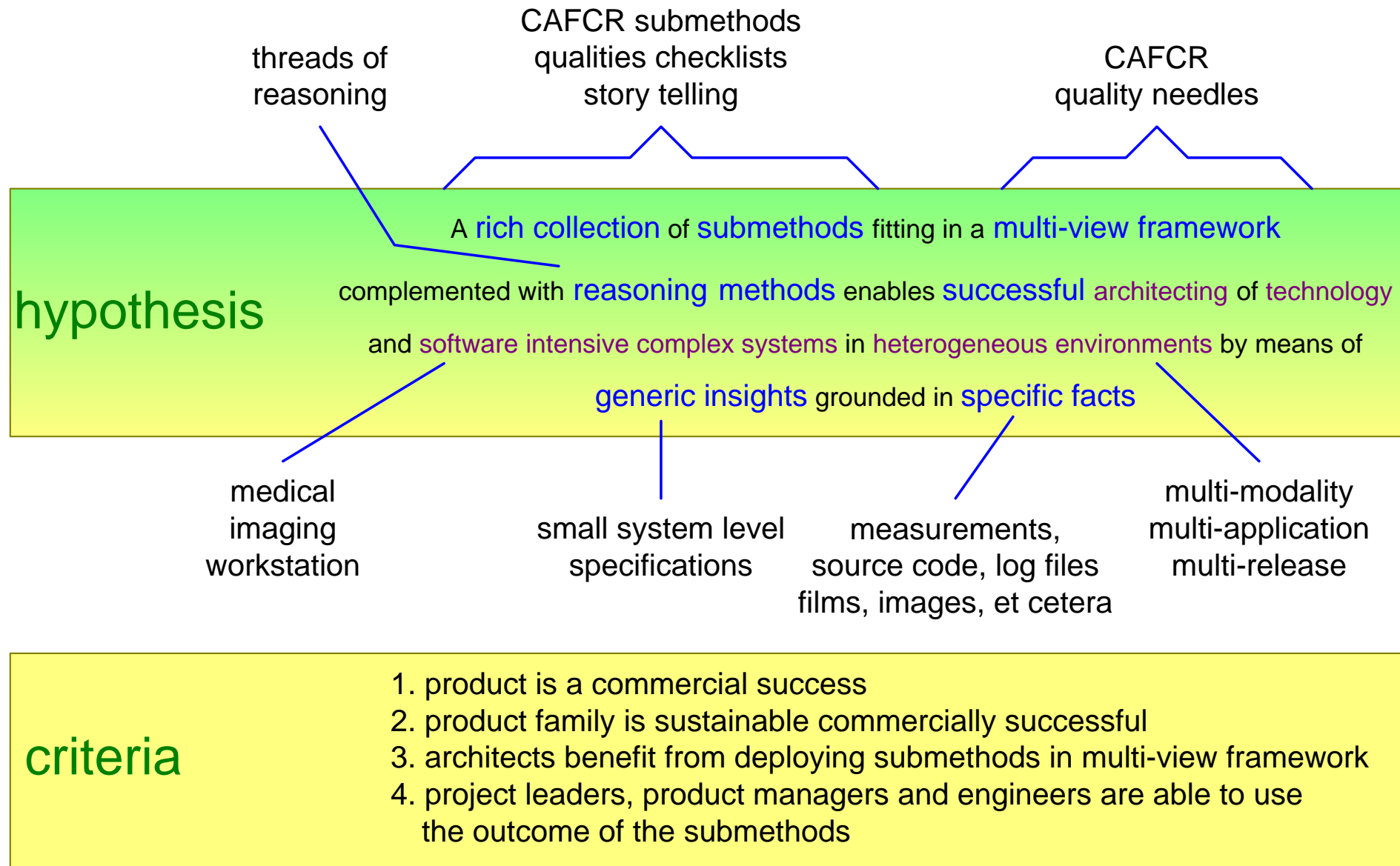
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| | |
|--|-------------------------------------|
| 1. product is a commercial success | |
| + sales volume | ✓ derived from Figure 10.3 |
| + selling price | ✓ |
| + cheap | ✓ |
| + close to market | ✓ |
| 2. product family is sustainable commercially successful | |
| + 3 products | ✓ derived from Figure 14.10 |
| + 10 releases | ✓ |
| + 3 series | ✓ |
| 3. architects benefit from deploying submethods in multi-view framework | |
| submethods: [CA?] [F] [CE] [V] | derived from sections |
| quality checklist | ✓ 10.4.1 derived from sections |
| multi-view framework | ✓ 10.4.4 derived from sections |
| reasoning | ✓ 10.4.5 |
| theory telling | ✓ 10.4.3 |
| 4. project leaders, product managers and engineers are able to use the outcome of the submethods | |
| results used by stakeholders | ✓ too late derived from Figure 10.7 |
| for many purposes | ✓ too abstract ? |

Hypothesis and criteria as basis for the evaluation



Evaluation of the product

| | C ustomer objectives | A pplication | F unctional | |
|----------------------|---|---------------------|---|--|
| customer feedback | <ul style="list-style-type: none"> ++ usability film layout ++ film efficiency + operator efficiency printing + ease of auto-printing | | <ul style="list-style-type: none"> + throughput + image quality + interoperability URF | <p>legend</p> <ul style="list-style-type: none"> + good or ++ very good ~ doubt - problem |
| operational feedback | <ul style="list-style-type: none"> + sales volume + selling price + margin + time to market | | <ul style="list-style-type: none"> + manufacturability + option handling | |
| | <ul style="list-style-type: none"> - concurrent viewing and auto-printing | | <ul style="list-style-type: none"> - interoperability vascular | |
| | <ul style="list-style-type: none"> - return on investment | | <ul style="list-style-type: none"> ~ network installation | |

Evaluation of the design

| C onceptual | | R ealization | |
|--|-----------------------|--------------------------|--|
| + notification | + processing pipeline | + memory management | |
| + Objective-C | + graphics | + DB based communication | |
| + standard workstation | + UI toolbox | + SW keys | |
| + X bypass | + PMSnet | + OIT | |
| + Unix | + database engine | | |
| ~ modularity | | | |
| ~ distance internal and external information model | | | |
| ~ some bloating due to over-genericity | | | |
| ~ property handling | | | |
| - dependency structure | | | |
| - interface management | | | |

legend

+ good

~ doubt

- problem

lots of discussions about :
 language choice (why not C++)
 windowing system
 platform re-use

based upon technology assessment in "Technology Improvement Plan"

Coverage of submethods

| C ustomer objectives | A pplication | F unctional | C onceptual | R ealization |
|---|---|---|--|---|
| <p>key drivers value chain</p> <p>business models suppliers</p> | <p><i>context diagram</i></p> <p>stakeholders and concerns</p> <p>entity relationship models dynamic models</p> | <p><i>case descriptions</i> <i>commercial</i> <i>decomposition</i> <i>service</i> <i>decomposition</i> <i>goods flow</i> <i>decomposition</i> <i>function and</i> <i>feature</i> <i>specifications</i> <i>performance</i> <i>external interfaces</i> <i>standards</i></p> | <p><i>construction</i> <i>decomposition</i> <i>functional</i> <i>decomposition</i> <i>designing with</i> <i>multiple</i> <i>decompositions</i> <i>execution</i> <i>architecture</i> <i>internal interfaces</i> <i>performance</i> <i>start up</i> <i>shutdown</i> <i>integration plan</i></p> <p>work breakdown safety</p> <p>reliability security</p> | <p><i>budget</i> <i>benchmarking</i> <i>performance</i> <i>analysis</i> <i>granularity</i> <i>determination</i></p> <p>value and cost</p> <p>safety analysis reliability analysis security analysis</p> |

legend

explicitly addressed

addressed only implicitly

not addressed

coverage based on documentation status of first product release

Documentation of qualities in 1996

usable

usability

attractiveness

responsiveness

image quality

wearability

storability

transportability

reliable

safety

security

reliability

robustness

integrity

effective

throughput or
productivity

interoperable

connectivity

3rd party extendible

liable

liability

testability

traceability

standards compliance

efficient

resource utilisation

cost of ownership

consistent

reproducibility

predictability

serviceable

serviceability

configurability

installability

future proof

evolvability

portability

upgradeability

extendibility

maintainability

logistics friendly

manufacturability

logistics flexibility

lead time

ecological

ecological footprint

contamination

noise

disposability

down to earth

attributes

cost price

power consumption

consumption rate

(water, air,

chemicals,

et cetera)

size, weight

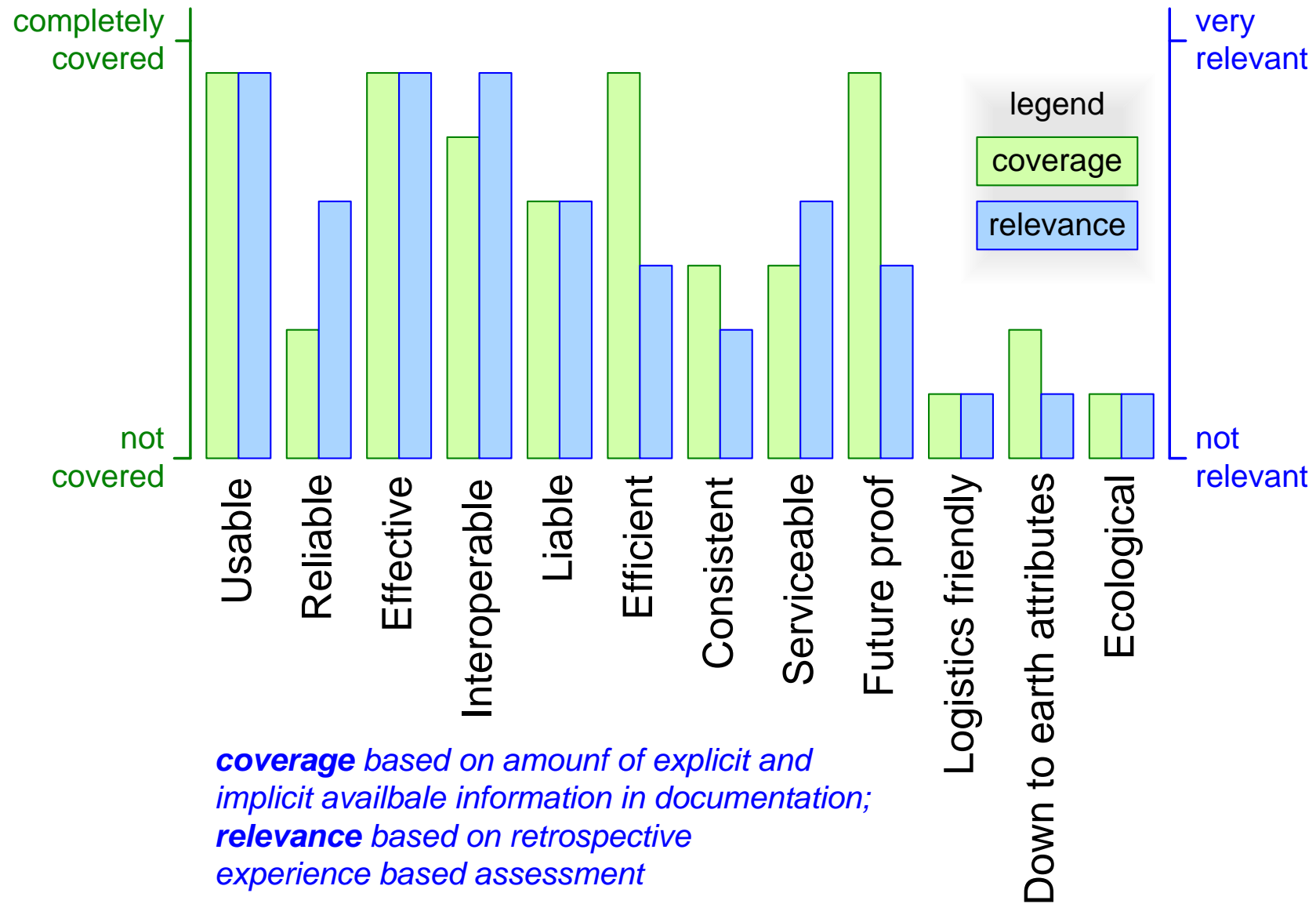
accuracy

legend

in separate document

implicit in other documents

Coverage profile of qualities



Users and usage of the results of the architecting method

results used by:

product management
application
project leaders
engineers
test engineers
purchasing
manufacturing
suppliers



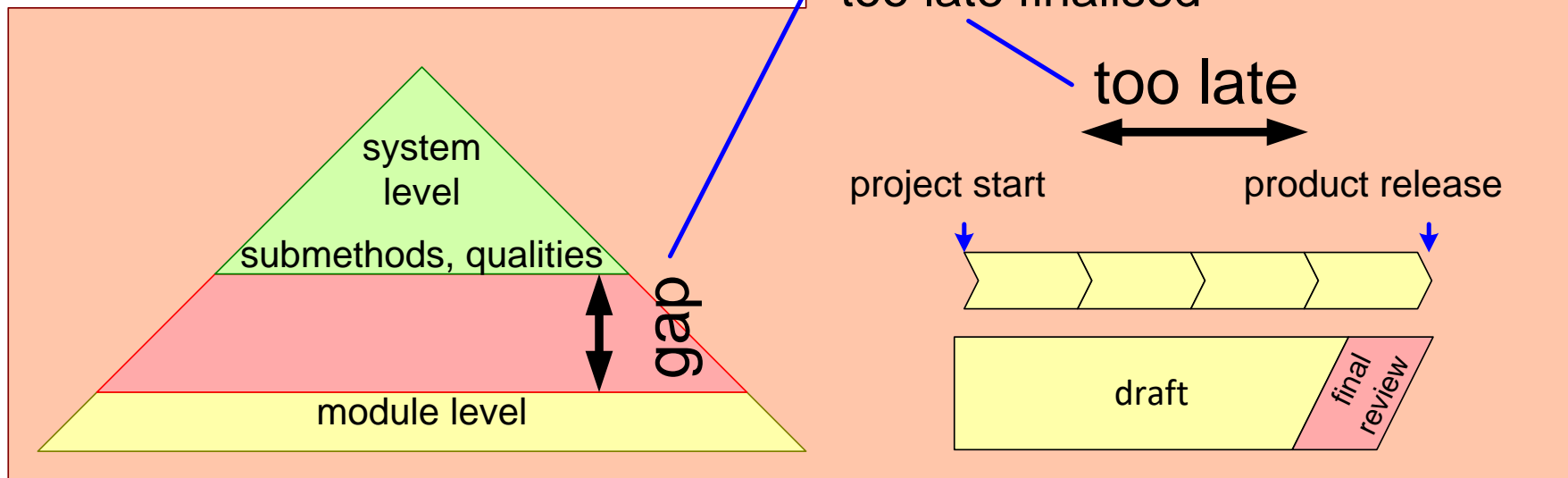
results used for:

detailed specifications
testing
communication
derived documentation (manuals)
used for succeeding products



engineers critics

too abstract
too late finalised



The conclusion of the case evaluation

1. product is a commercial success

| | | |
|---|---|--------------------------|
| + sales volume + selling price + margin + time to market | ✓ | derived from Figure 18.3 |
|---|---|--------------------------|

2. product family is sustainable commercially successful

| | | |
|---|---|---------------------------|
| + 3 products + 10 releases in 5 years | ✓ | derived from Figure 14.10 |
|---|---|---------------------------|

3. architects benefit from deploying submethods in multi-view framework

| submethods | CA ? | F | ✓ | CR | ✓ | derived from sections |
|---------------------|------|---|---|----|---|-----------------------|
| qualities checklist | | | ✓ | | | 18.4.1 |
| story telling | | | ✓ | | | 18.4.2 |
| | | | | | | 18.4.3 |

| integration of the method | derived from sections |
|---------------------------|-----------------------|
| multi-view framework | ✓ 18.4.4 |
| reasoning | ✓ 18.4.5 |

4. project leaders, product managers and engineers are able to use the outcome of the submethods

| | | | |
|---|---|----------------------------|--------------------------|
| results used by stakeholders for many purposes | ✓ | too late too abstract ? | derived from Figure 18.7 |
|---|---|----------------------------|--------------------------|

| |
|--------|
| legend |
| OK |
| doubt |