# Long-Term and Sort-Term Architecture Decisions

**AISA - Quality Management of Enterprise and Software Architectures**

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# Content

- Research Description and Motivation for Study

- Concepts: e.g. short-term, long-term

- Architecture Planning Levels
  – Architecture Decision Making Levels

- Short and Long-Term Architecture Decisions
  in Architecture Planning and Decision Making Levels

- Arguments for Short-term and Long-term Architecture
  Decisions

# Motivation For Study

- Challenge in Architecture Decision Making
  - Far-sighted architectural decisions are difficult to justify in the quarterly thinking.
- Open Questions:
  - What are short-term and long-term architecture decisions?
  - Why should it be done long-term architecture decisions?
  - How could it be argued for long-term architecture decisions?
- Exist a need
  - To understand what distinguish long-term and short-term decisions
  - To find ways to argue for long-term solutions
  - To identify metrics that can be used in arguing for long-term architecture solutions

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# Research Description

- A prestudy for research of architecture decision making (AISA-project's 3rd year).
- Aims:
  - To define concepts: short-term and long-term architecture decision
  - To define features relating short-term and long-term architecture decisions
- Research phases and sources:
  - Literature review, concept definition
  - Some discussions with practitioners
- Results:
  - Aspects on long-term and sort-term architecture decisions and decision making

# Decision, Solution -Concepts

- **<u>Decision</u>**
  judgment, arbitration, conclusion, finding, outcome, resolution, result, ruling, sentence, settlement, verdict

- **<u>Solution</u>**
  answer, clarification, elucidation, explanation, key, resolution, result, solving, unfolding, unravelling

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# Short-term vs. Long-term -Concepts

- **Short-term:**
  **1** of, for, or extending over a limited period.
  **2** *Finance.* extending over, maturing within, or required within a short period of time, usually twelve months: *short-term credit; short-term capital.*


- **Long-term:**
  **1** lasting, staying, or extending over a long time: *long-term prospects*
  **2** *Finance.* maturing after a long period of time: *a long-term bond*

MOT Collins English Dictionary 1.0a

# Architecture Planning and Decision Making Levels in Organisations

- EA Planning: Architecture visioning, road map development, principles development
  - Are we building right capabilities? Are we preparing for business changes?
  - Long-term planning

- Portfolio planning:
  decision of projects to be carried out and how projects link to each other
  - Are we leveraging synergies and avoiding redundant business solutions?
  - Near-term planning

- Project: solution design – design of architecture solutions
  - What is the best practical solution for in-scope business needs?
  - Current

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# Decisions in
# Architecture Planning / Decision Making Levels

| Architecture Planning / Decision Making Level | Decisions |
|---|---|
| EA Planning | • Decisions made in enterprise scope<br>• Architectural guidelines and principles, Roadmap, Architecture Visio, Target architecture, etc.<br>• EA development tasks to be carried out |
| Portfolio planning<br>- Choosing of the projects | • Decisions made in enterprise / unit scope<br>• Projects to be carried out, prioritization of projects |
| Project – Solution Design | • Decisions made in project / system scope<br>• System's key structural elements, relationships between elements, used patterns, fitting to the context etc. |

# Short-Term vs. Long-Term Architecture Decision

- Commonly used concepts in industry: Clear definitions for these lacks.

- Suggestion on based previous concepts and definitions for these definitions:

**Sort-term decision / solution**
- Decision /solution is expected to have limited life span.
- It is known already in decision making that decision has to be changed in future or in solution planning that solution has to be replaced in future.
- Financial benefits are expected to be achieved quickly.

**Long-term solutions**
- Decision/solution is expected to have long life span.
- Decision is not expected to be changed or solution is not to be expected to be replaced.
- Financial benefits are expected to be achieved over a long time.

# Short and Long-Term Architecture Decisions in Architecture Planning Levels

|  | Short-term architecture decision | Long-term architecture decision |
|---|---|---|
| EA planning: Architecture visioning, road map development, development of principles | • Suitable for <u>near-term</u> strategy, near-term business environment change and near-term business trends and forecasts | • Suitable for <u>long-term</u> strategy, business environment change and business trends and forecasts |
| Portfolio planning - Choosing of the projects | • Suitable for current business plans, drivers and needs BUT<br>• <u>Do not support</u> long-term architecture visio and roadmap | •Suitable for current business plans, drivers and needs AND<br>• Support long-term architecture visio and roadmap |
| Project – solution design | • Suitable for the defined business requirements for project BUT<br>• Do not support the long-term plans | • Suitable for defined business requirements for project AND<br>• Supports long-term architecture plans |

# Argumentation: Short-Term Architecture Decisions (examples)

**Arguments For**

- Requires less resources (e.g. money, time and manpower) initially
  - Only acquisition/project resources required
  - Fasten time-to-market
- Yields benefits quickly
- Fulfills project/investment requirements

**Arguments Against**

- Greater costs in long-term (e.g. maintenance, standardization and integration)
- Do not typically support long-term requirements

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# Argumentation: Long-Term Architecture Decisions (examples)

**Arguments For e.g.**

- Less life cycle costs (e.g. maintenance, integration and standardization)

- Greater quality of solutions in long-term (e.g. maintainability, less complexity, agility in changes)

- Less IT costs at company level (e.g. maintenance, integration and standardization)

- Greater level of standardization and integration at company level

**Arguments Against e.g.**

- Requires more resources (e.g. money, time and manpower) initially

- Yields benefits in long-term

- More difficult to justify

# Good Architecture Decision?

- Short-term or long-term architecture decision can be a good decision.

- Good Architecture Decision:
  - Suitable for situation
  - Arguments for decision exist
  - Consequences of decisions are identified

# Summary

- This study define concepts:
  long-term and short-term architecture decision
- This study will be continued in the project's 3rd year
- Future research :
  - What architecture decisions are and what kind of architecture decisions may exist?
  - In which levels architecture decisions can be done?
  - How can decisions be done and managed?
  - How architecture decisions relate to other decision making processes?