



Quality Management Activities for Enterprise Architecture

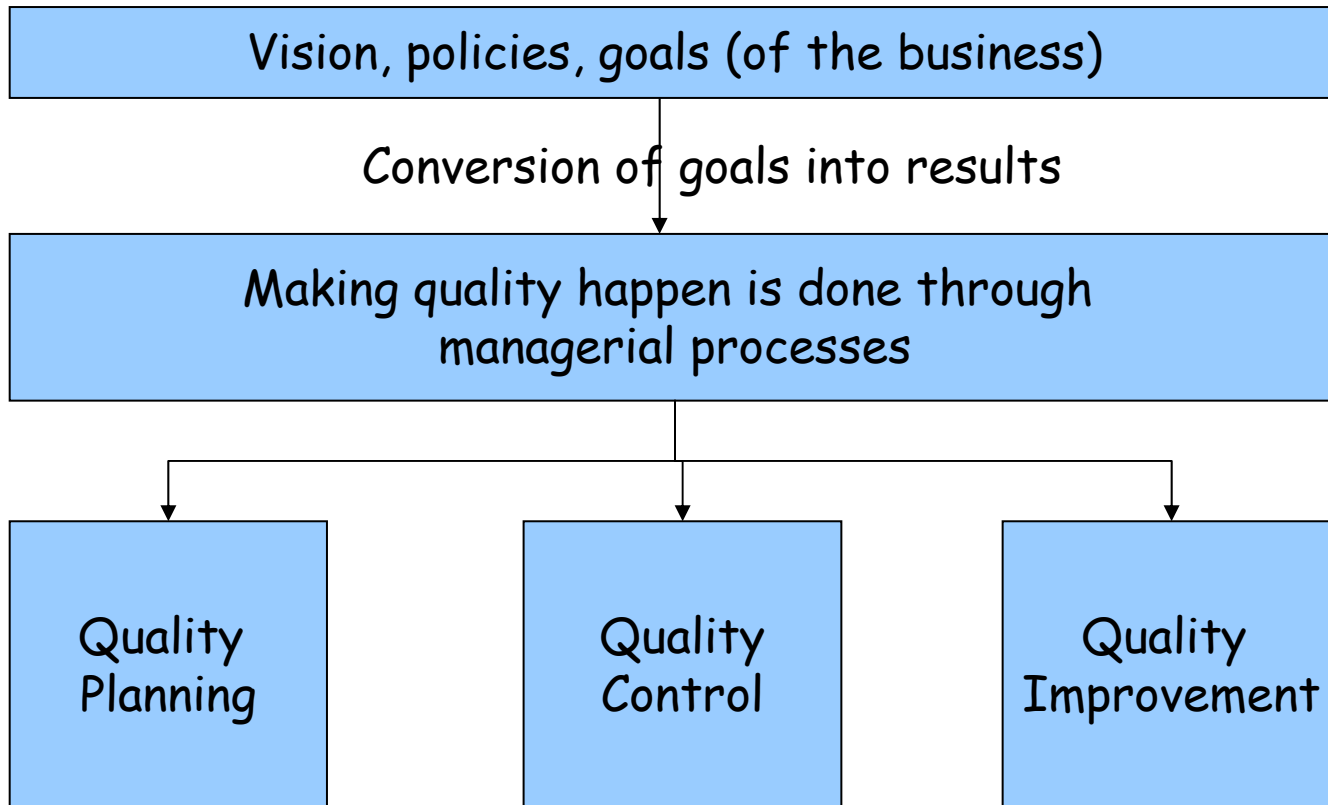
AISA Project
Tanja Ylimäki
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Research Settings

- Objectives:
 - To shed light on the quality management (QM) of Enterprise Architecture (EA)
 - To identify QM activities for EA
 - Research process:
 - Literature review
 - Empirical research; focus group interview
 - Consolidation of the results
- Theoretical perspective to QM activities for EA

Quality Thinking 1: the Juran Trilogy



(based on Juran & Godfrey, 2000)

Quality Thinking 2:

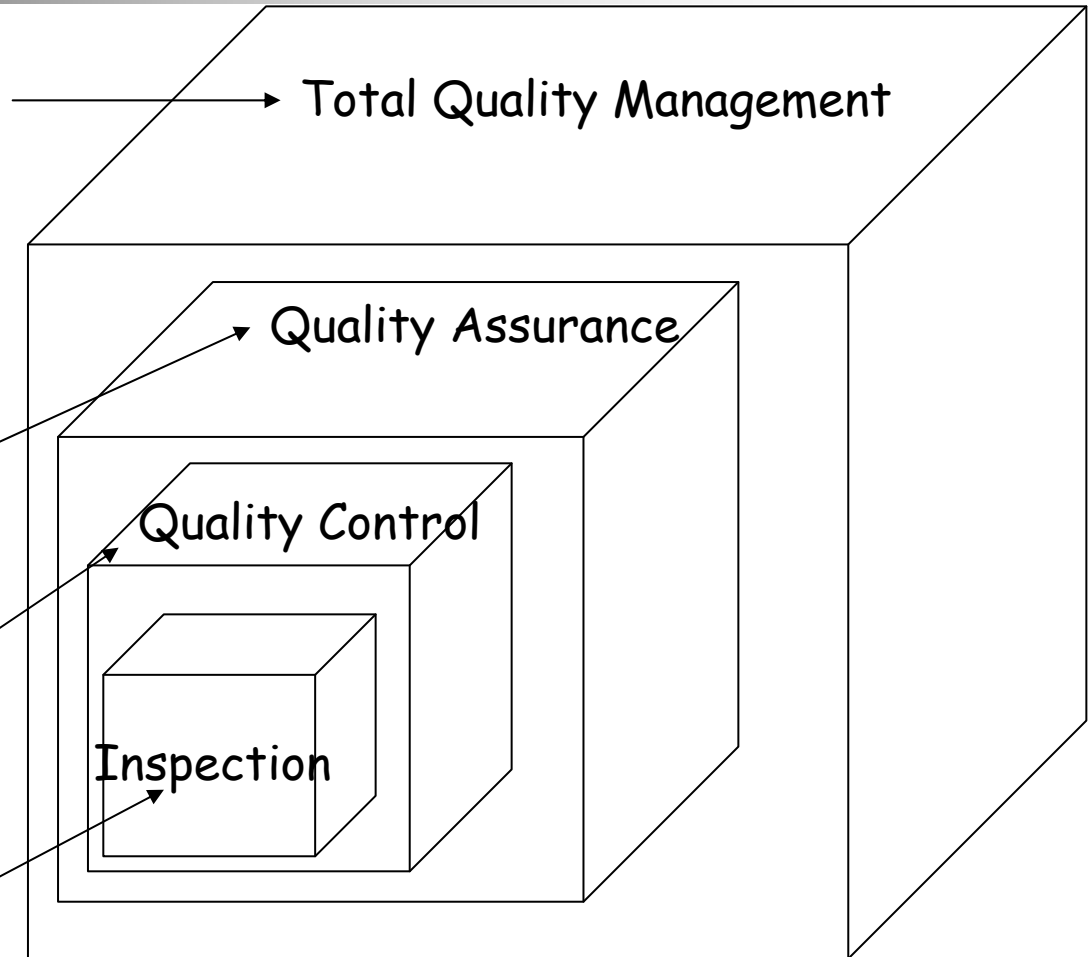
Levels of the Evolution of TQM

Company-wide approach to quality, with improvements undertaken on a continuous basis by everyone in the organization; is both a philosophy and a set of guiding principles for managing an organization to the benefit of all stakeholders.

Part of quality management focused on providing confidence that quality requirements will be fulfilled (ISO9000:2000); a prevention-based system.

Part of quality management focused on fulfilling quality requirements (ISO9000:2000).

Conformity evaluation by observation and judgement accompanied as appropriate by measurement, testing or gauging (as defined in ISO 9000:2000).

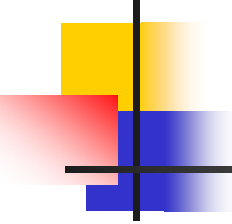




Enterprise Architecture (EA)

- Identifies the main components¹ of the organization, its information systems, the ways in which these components work together in order to achieve defined business objectives, and the way in which the information systems support the business processes of the organization
- It takes a holistic view of the enterprise's IT resources rather than an application-by-application view

¹ E.g. Staff, business processes, technology, information, financial and other resources (Kaisler et al., 2005)



Some Characteristics of an EA of High Quality

- Conforms to the agreed and fully understood business requirements + business strategies
- Fits for the purpose (e.g. to gain business value through EA)
- Satisfies the various stakeholder groups' (e.g. the top management, IT management, architects, developers) expectations in a cost-effective way
- Understands both the current needs and the future requirements
- Is understood, accepted and used in every day business functions
- Brings value to the organization



EA Maturity vs. EA Quality

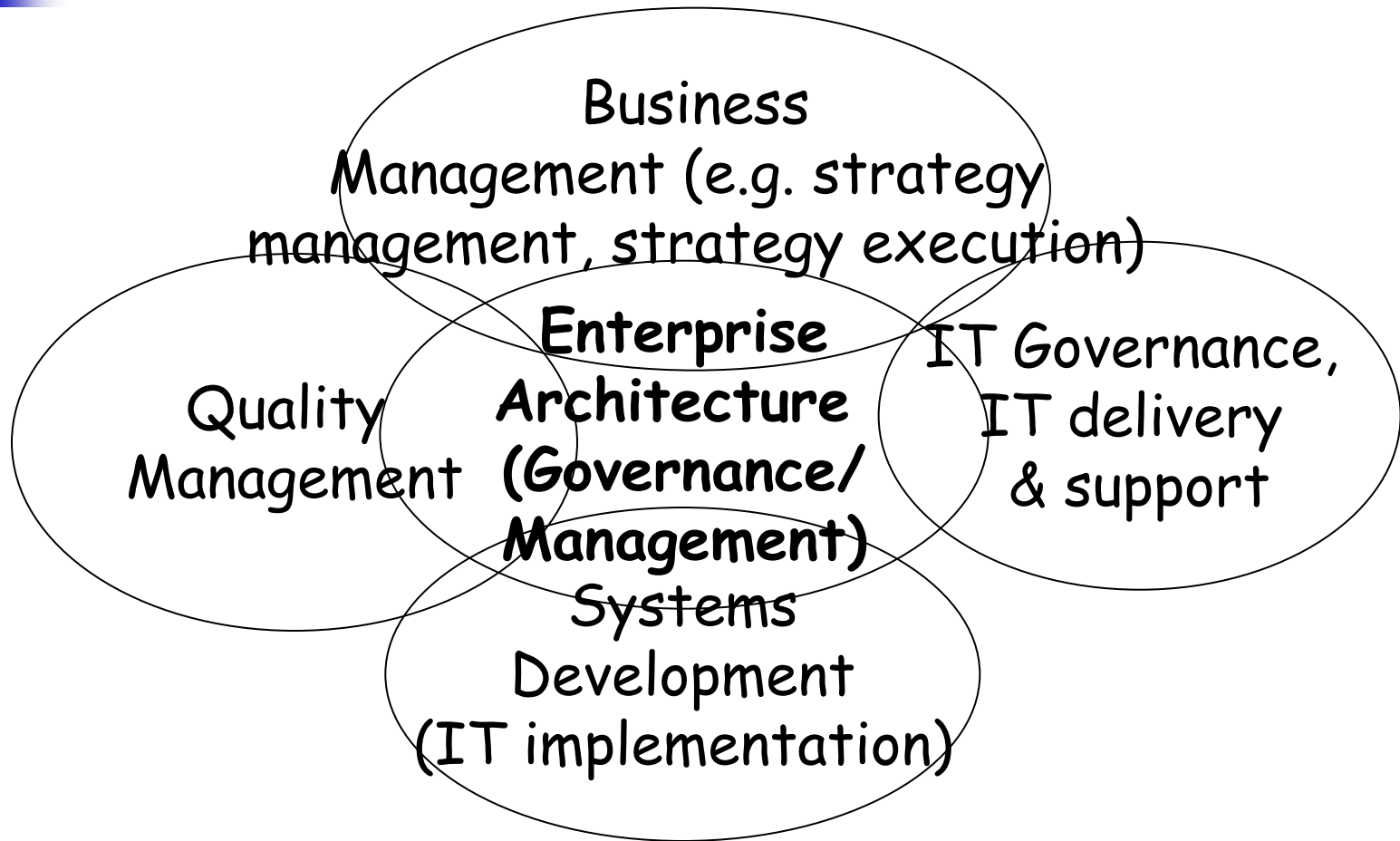
- Most maturity models have their roots in the field of TQM
- Maturity as a word means "ripeness" and it conveys the notion of development from some initial state to some more advanced state (Fraser, Moultrie et al. 2002)
- Also quality improvement evolves step by step
- Maturity models are one means or approach of advancing the quality of EA



Quality Management of EA

- It is about defining and conducting all those activities needed to reach an EA of high quality
- Relates to the same perspectives than the quality of an EA
 - Quality of EA governance process
 - Quality of EA development process
 - Quality of EA artifacts/specifications
 - Quality of implemented EA - the EA conformant systems and software
 - Quality of use?

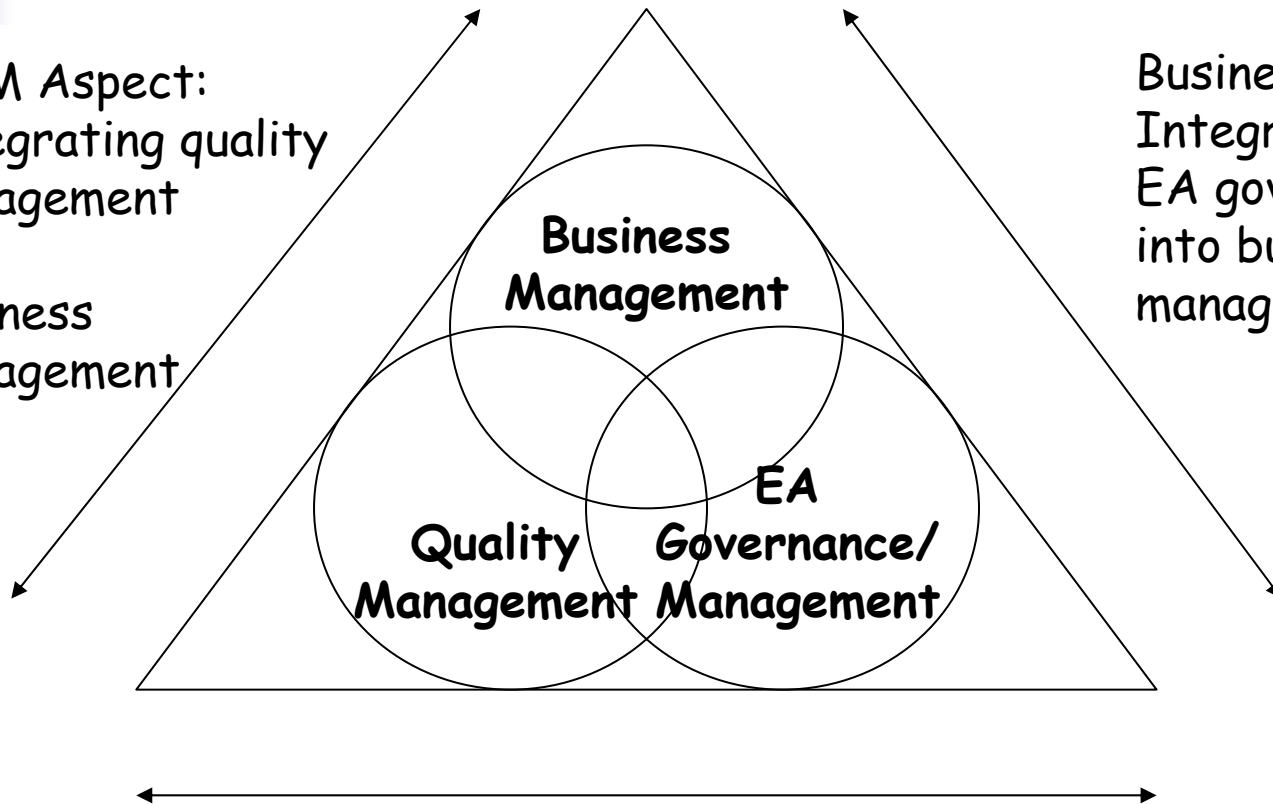
Some Management Activities in an Organization



"The Management Triangle"

TQM Aspect:
Integrating quality
management
into
business
management

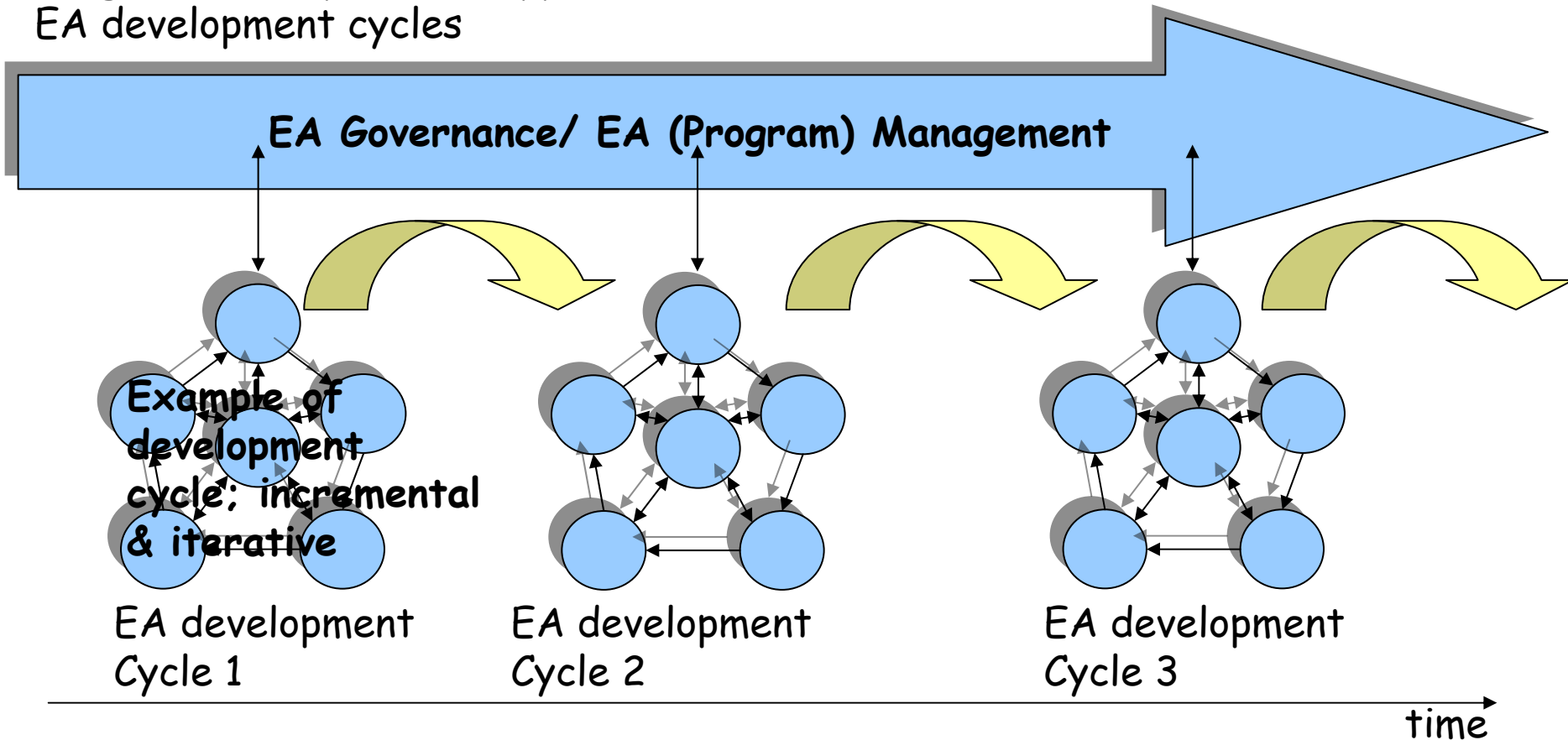
Business-Driven EA:
Integrating
EA governance
into business
management



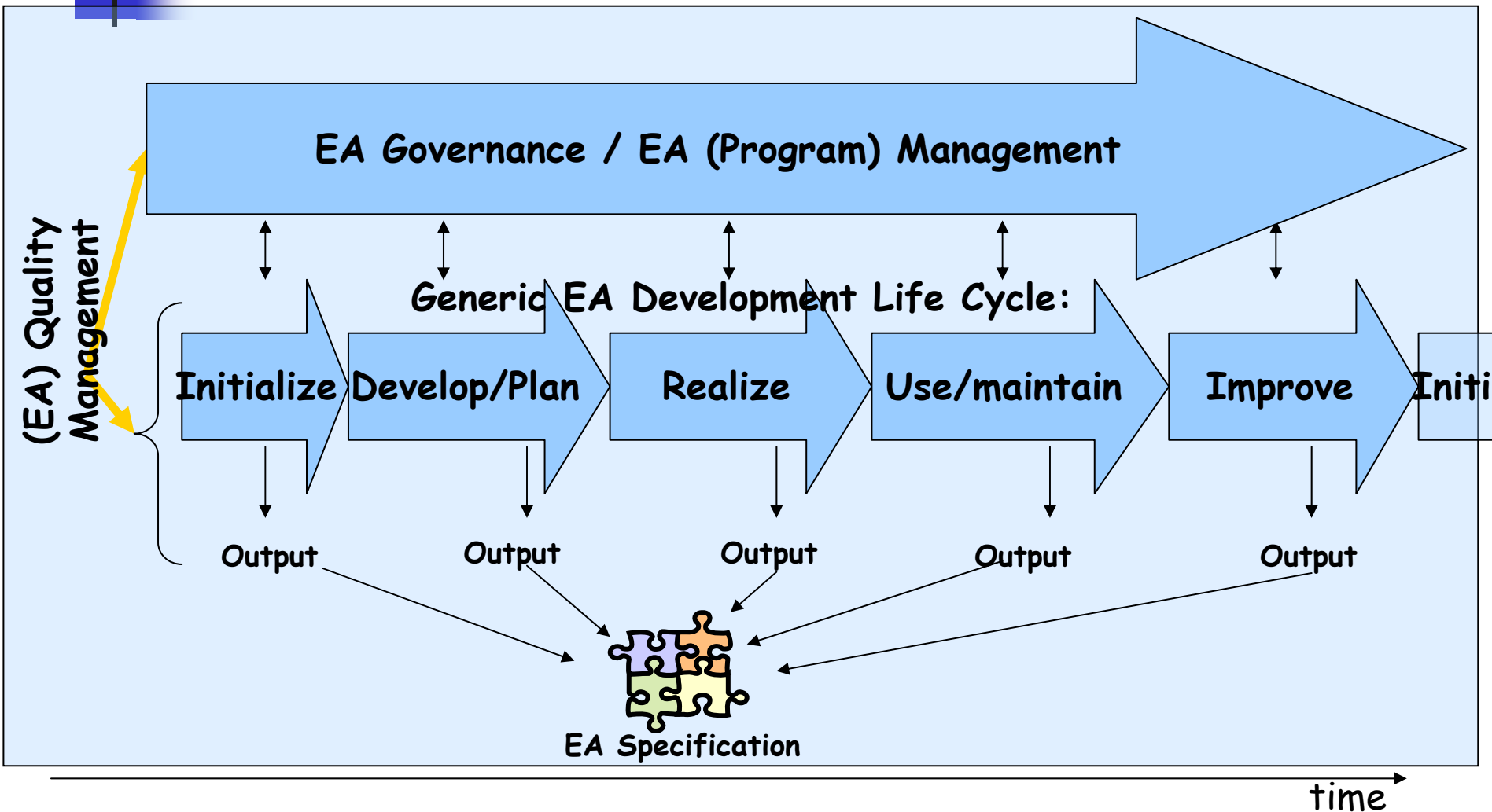
EA Quality Aspect:
Integrating (some) quality management (tasks)
into EA governance

EA governance vs. EA development cycles

EA governance process supports the iterative and incremental EA development cycles



Theoretical Perspective to Quality Management of EA





QM Activities within the EA Governance Process

- Define the quality policy and quality objectives
- Define the architectural starting points, such as
 - Key stakeholders
 - Vision, objectives, principles, scope, intended use of the EA, etc.
 - Framework
 - Terms and concepts (basics for common language)
- Establish the EA governance structures (incl. responsibilities)
- Define communication, documentation and review policies
- Define risk and change management strategies
- Do quality measurement planning for EA (→ measure the processes)
- Do resource management (establish the EA team, assign or estimate other resources and train people/develop a training plan)
- Develop the EA methodology (develop the process, select appropriate modeling languages and techniques, and tools)



QM Activities within the EA Development Life Cycle

- | | |
|----------------|--|
| Initialization | <ul style="list-style-type: none">■ Define/refine scope, vision, objectives etc.■ Define the depth of EA■ Identify internal and external stakeholders and discover their needs |
| EA Development | <ul style="list-style-type: none">■ Model the current and the target EA■ Ensure traceability■ Do migration planning■ Do quality control and assurance |
| Realization | <ul style="list-style-type: none">■ Implement the plans; conduct and support EA conformant projects (→ IS development and project management practices)■ Do quality control and assurance |
| EA Usage | <ul style="list-style-type: none">■ Continuously track for changes and new (business) requirements■ Do quality control and assurance |
| Improvement | <ul style="list-style-type: none">■ Plan for continual improvement■ Evaluate the maturity of the current EA → improvement needs■ Plan a new development cycle |



Conclusions 1/2

- A (theoretical) perspective to QM of EA was provided
 - QM activities for EA were derived from general QM activities & EA management/development activities
 - QM activities for EA were integrated into the 1) EA governance process and 2) the phases of the EA development life cycle
- Suggests a vision or a "big picture" of what activities could and should be included in the EA governance and development processes rather than offering a ready-made package for QM of EA to be put into action



Conclusions 2/2

- Preliminary study, strong generalizations cannot be made, but there seems to be a need to
 - shift from investment decisions driven EA development to EA governance driven development
 - increase the maturity of the EA governance and development processes
 - develop metrics for controlling, assessing and evaluating e.g. the quality, maturity and performance of EA

Potential CSFs for EA

