Managing Enterprise Architecture in Agile Environments

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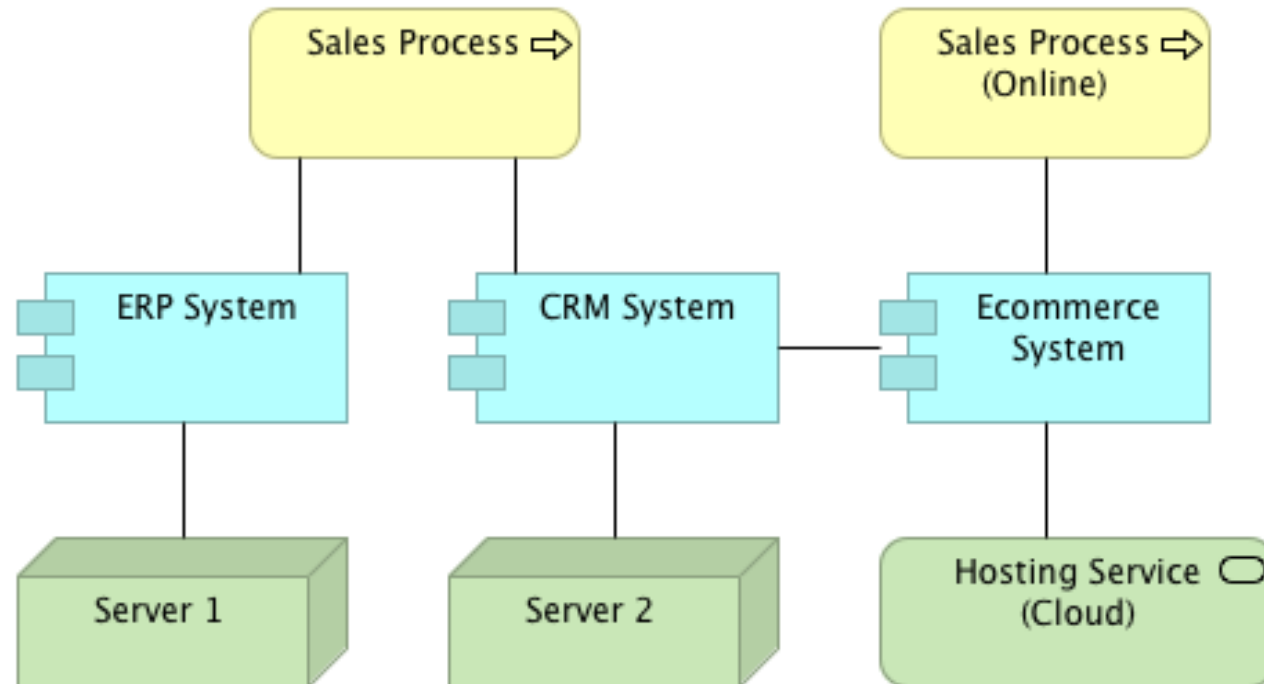
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Agenda

- Introduction

- Research Motivation

- Design Principles

- Next Steps

- Q&A

What is Enterprise Architecture (EA) and how does it relate to project management?

Enterprise Architect [1]

- Plans transitions from current to future state

- Ensures compliance during design and implementation

- Is highly involved in project planning and execution

Research Motivation

Mainstream adoption of agile practices [2]

HOW MANY?

97% The percentage of respondents' organizations that practice agile development methods:

Percentage of Teams Using Agile

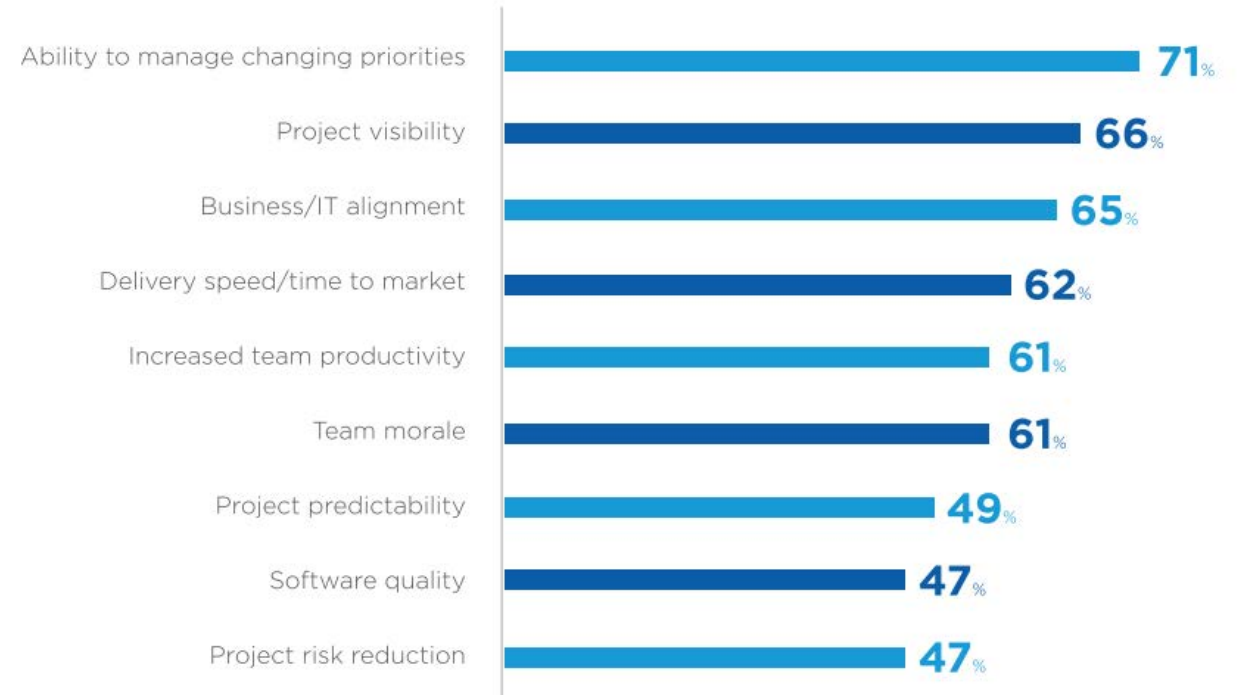52% of respondents stated that more than half of teams in their organizations are using agile practices.

25% All of our teams are agile

Benefits of Adopting Agile

By implementing agile, respondents cited seeing improvements in the following areas:

Area	%
Ability to manage changing priorities	71%
Project visibility	66%
Business/IT alignment	65%
Delivery speed/time to market	62%
Increased team productivity	61%
Team morale	61%
Project predictability	49%
Software quality	47%
Project risk reduction	47%

Research Problem

EA methodologies have not evolved to cope with agile practices

EA is still organized to deliver this...

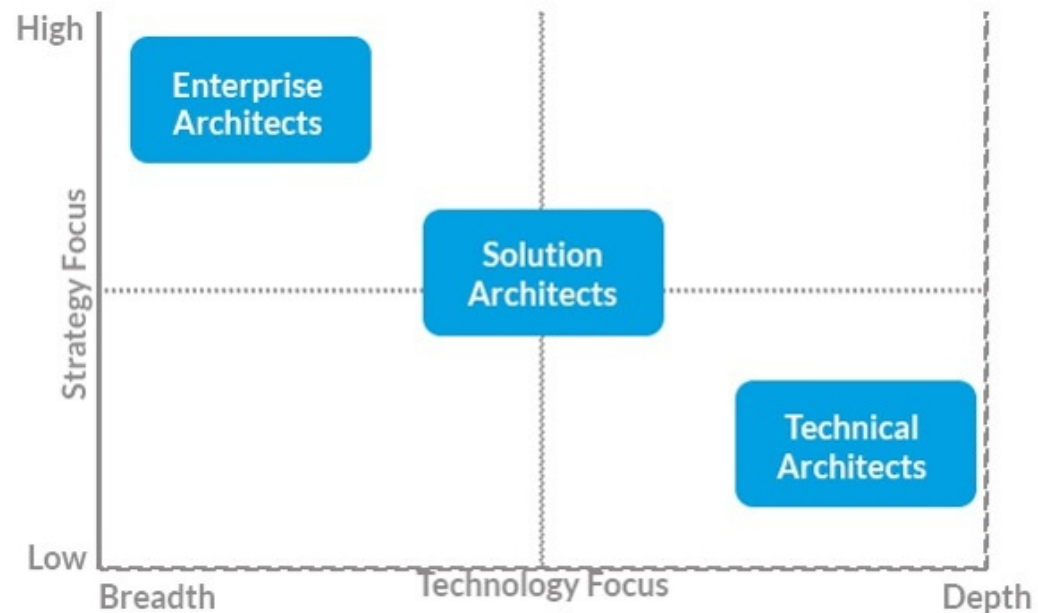Cologne Cathedral, took 640 years to complete

... when the business really wants lots of these ...

2015 RIBA house of the year nomination, built from four shipping containers

Research Focus

This work focuses explicitly on EA

- Architects differ in terms of focus, strategy vs. technology

- EA has the highest strategy focus and works on the highest level of abstraction

- Existing research focuses on technical architecture [3]
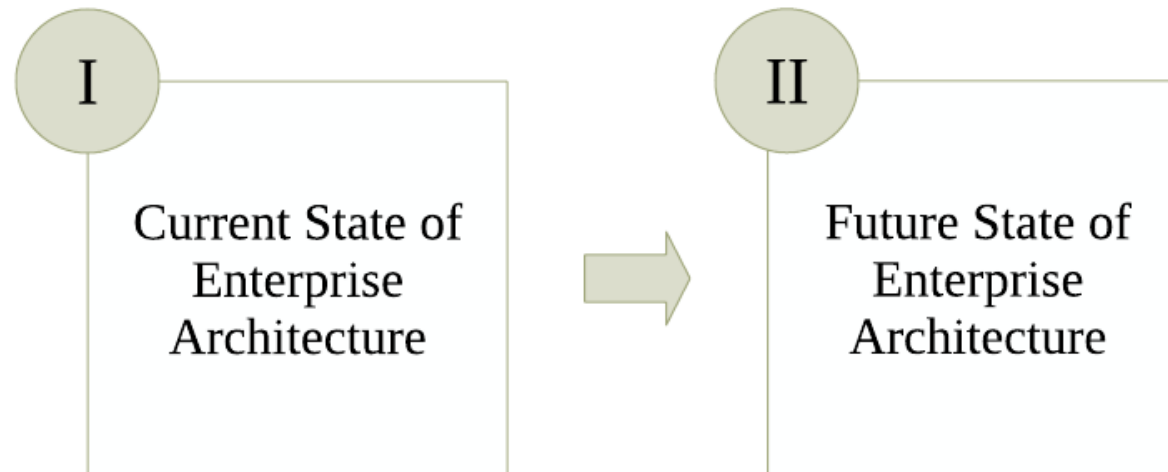
- This work focuses explicitly on EA

Research Question

Current and future state of Enterprise Architecture
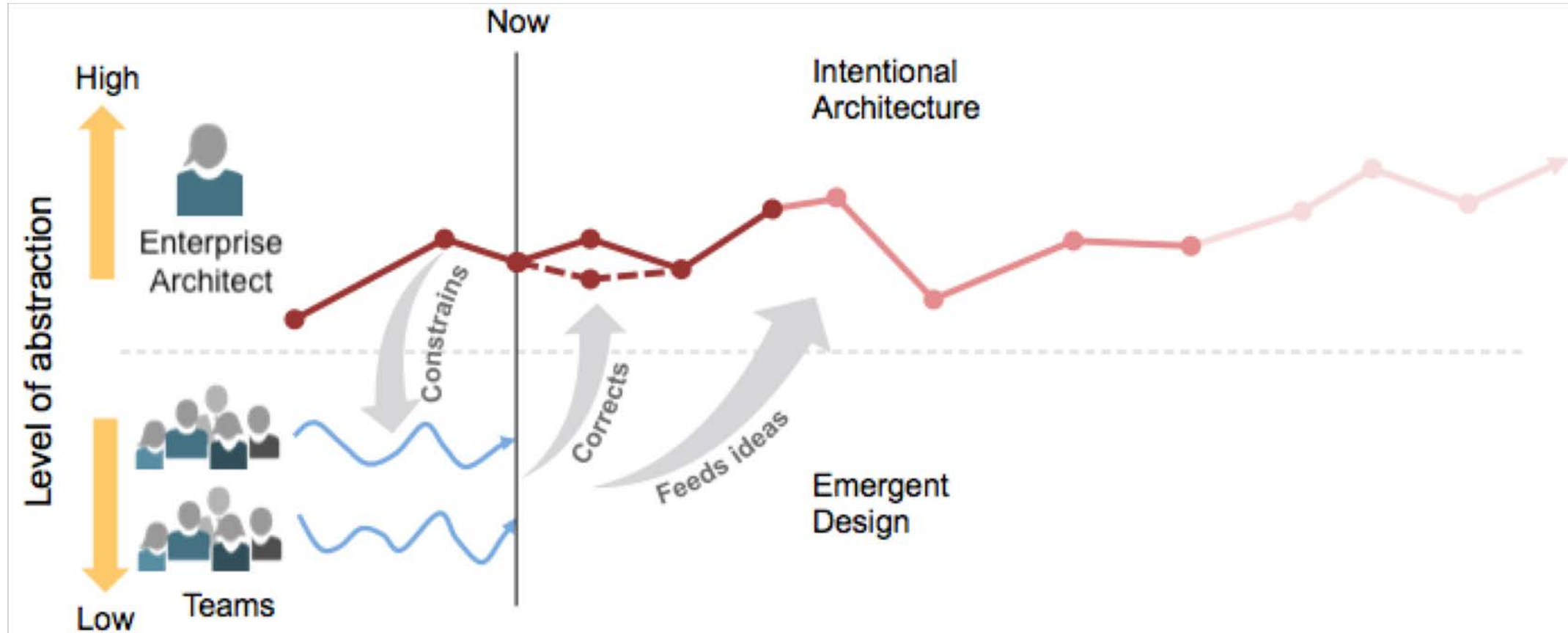
Main Research Question:

How can Enterprise Architecture be practiced effectively in agile environments?

Research Approach:

I
Current State of Enterprise Architecture

II
Future State of Enterprise Architecture

Understanding the Role of EA in Agile Environments

EA constrains, gets corrected and fed with ideas

Building Blocks of „Agile" EA

Focus on methodology in this presentation

Design Principles for EA in Agile Environments

1. In agile organizations, a **decentral EA methodology** is more effective than a central one

2. A decentral EA methodology requires a **centralized EA practice** which ensures alignment among the architects

3. Applying **peer-to-peer concepts** in EA helps to accelerate decision making while maintaining alignment

1. Centralization vs. Decentralization

In agile organizations, a decentral EA methodology is more effective [5]

- **Centralization** of authority means the power of planning and decision making are exclusively in the hands of a central authority

- **Decentralization** refers to the dissemination of powers by the central authority to teams

- Traditionally EA was organized in a centralized manner

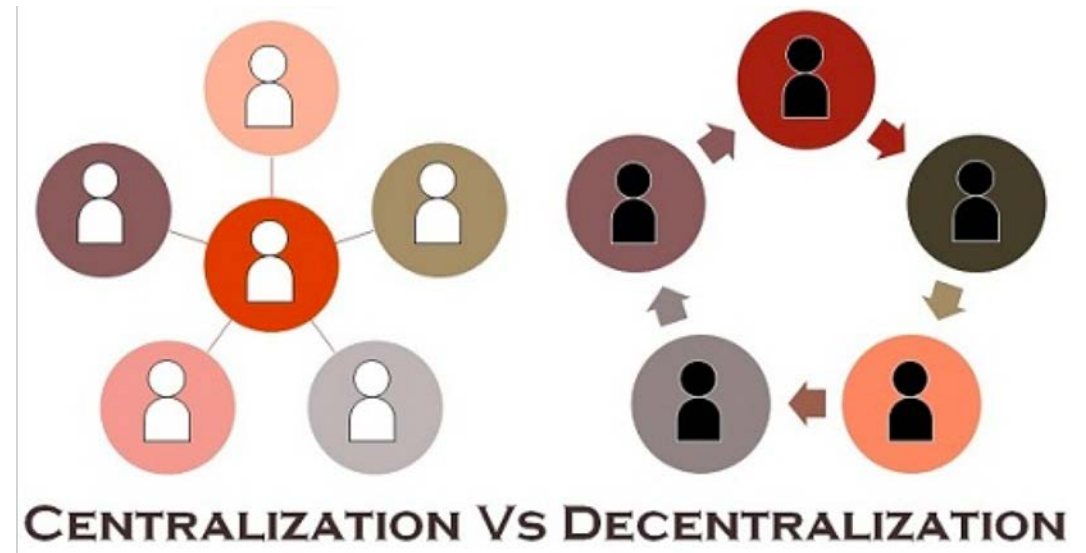- → In agile organizations, a **decentral EA methodology** is more effective than a central one

CENTRALIZATION VS DECENTRALIZATION

2. Decentralization Requires Alignment

A decentral EA methodology requires a centralized EA practice [5]

- EA has the goal to achieve enterprise-wide alignment

- Without alignment among decentral architects no enterprise-wide alignment can be achieved

- → A decentral EA methodology requires a **centralized EA practice** which ensures alignment among the architects

3. Peer-to-Peer Concepts in EA

Applying peer-to-peer concepts in EA helps to accelerate decision making [6]

- In traditional EA setups a central architecture board is overseeing important architecture decisions

- As an alternative, peer-to-peer approaches can be used to validate and oversee architectural decisions

- → Applying **peer-to-peer concepts** in EA helps to accelerate decision making while maintaining alignment

Image Source: https://doublethedonation.com/tips/wp-content/uploads/2018/07/Best-Peer-to-Peer-Fundraising-Tools-Double-the-Donation.png

Next Steps

- Formulate design principles for all areas: Methodology, Competency, Content, Tools

- Discuss applicability of design principles in a series of expert interviews

- Develop reference model for EA agile environments

Questions and Answers

Bibliography

[1]   R. L. Nolan and D. W. Mulryan, "Undertaking an architecture program," Stage by stage, vol. 7, no. 2, pp. 1–10, 1987.

[2]   VersionOne Inc., "State of Agile Report." 2017.

[3]   L. Mauersberger, "Enterprise Architect vs . Solution Architect vs. Technical Architect," LeanIX, 2017. [Online]. Available: https://blog.leanix.net/en/enterprise-architect-vs-solution-architect-whats-the-difference.

[4]   Scaled Agile Inc., "Agile Architecture," 2017. [Online]. Available: https://www.scaledagileframework.com/agile-architecture/. [Accessed: 31-May-2018].

[5]   J. Madison, "Agile Architecture Interactions," IEEE Softw., vol. 27, no. 2, pp. 41–48, Mar. 2010.

[6]   T. Speckert, I. Rychkova, J. Zdravkovic, and S. Nurcan, "On the changing role of enterprise architecture in decentralized environments: State of the art," Proc. - IEEE Int. Enterp. Distrib. Object Comput. Work. EDOC, pp. 310–318, 2013.

Thank you