Architectural Thinking
Rolling out long-term, holistic considerations in enterprises

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Agenda

1. Background CC CI @ IWI-HSG
2. What is so special about Architecture Management?
3. Is more Architecture Management always better?
4. Architectural Thinking: A first conceptualization
5. Going from here
Background

University of St. Gallen (HSG)

- St. Gallen: “Switzerland's prestigious business school” (Business Week)
- 7500+ Students
- Focus: Management, Technology and Law
- Consistent top-ten rankings among Europe’s top universities
- First continental European university to be accredited from top European as well as top US accreditation bodies
The Network
Institute of Information Management (IWI-HSG)

IWI-HSG provides an extensive network based on their research program, executive education, and their community events.

Research Program

- Competence Center Corporate Intelligence
- HNE Business Intelligence
- Independent Living
- sourcing
- CDQ

Executive Education

- Executive Master of Business Engineering
- IT Business Management
- Individual Programs (e.g. DQM, EAM, BE-Methods)

Events & Community

- AWF (St. Galler Anwenderforum)
- DW2014 Business Engineering Forum
Architecture and Transformation Group’s Four Project Perspectives

Architecture, Transformation, Intelligence

ACET
Scientific View on Architectural Coordination/Corporate Intelligence

BTA
Business Transformation Academy

CC
Competence Center
Corporate Intelligence
Practitioner View on Architectural Coordination/Corporate Intelligence

BI
Business Intelligence
Banking Community
BI Value Co-creation
Regulatory Requirements
BI Billing and Performance

University of St. Gallen
Institute of Information Management

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What is so special about Architecture Management?

Is more Architecture Management always better?

Architectural Thinking: A first conceptualization

Going from here
Enterprise Architecture Management

**A holistic perspective on the Playing Field**

1. All elements of an artifact type
2. Business and IT
3. Over time
Types of Architecture Management

1. Basic IT Architecture
   + business aspects

2a. Passive IT EAM
   + proactive action

2b. Proactive IT EAM
   + penetration of business

3. Strategic EAM
   > Strategic means for business
   > Partnership with business
   > Active EAM planning
   > Definition and enforcement of EA principles
   > Integration of EAM in IT governance

   > Extended scope with business aspects
   > Additional focus on business processes
   > Strict stakeholder-centricity (by IT for IT and business)

   > Focus on IT (by IT for IT)
   > Goal of transparency
   > Rooted and positioned in IT

The core use case of modern EAM are fundamental, non-local, often enterprise-wide changes, i.e. transformations.

This is NOT a maturity model.

(Aier, Winter, Wortmann 2012)
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The Limits of Architecture Management

Impact x Range of Influence

Traditional Architecture
10%

Maturity of Architecture Management

(based on Winter 2014)
Are architects tilting at windmills?

Two learnings

1. Higher maturity of Architecture Management does not necessarily lead to higher impact (Ross und Quaadgras 2012).

2. Traditional Architecture Management approach does not reach that other 90% of the organization that is not related to IT (Fehskens in Gardner et al. 2012).

Source: Archivo-La Nueva
EAM Studies at MIT

For many years, MIT CISR has been studying how organizations design and build valuable business capabilities—specifically digitized process platforms—by maturing their enterprise architecture. Since 2004, our case studies and surveys have shown a significant direct link between architecture maturity and business outcomes. However, the results from our 2011 survey challenge those earlier findings: they indicate that *more mature architectures do not necessarily lead to business value*. Rather, business value accrues through management practices that propagate architectural thinking throughout the enterprise.

In this briefing we discuss the management practices that distinguish companies driving value from their digitization initiatives. We then describe how one company, USAA, has implemented those management practices.

*The Impacts of Architecture Maturity*
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Architectural Thinking

Architectural Thinking is a

- lightweight (e.g., less formalized),
- utility-centered approach,

that is aimed at

- supporting non-architects and
- people outside the IT function

to

- understand, analyze, plan, transform and communicate fundamental structures and design/evolution principles of what they perceive as their work system, i.e.
- to adopt holistic, long-term considerations in their daily decisions.
# Traditional EAM vs. Architectural Thinking

<table>
<thead>
<tr>
<th>Shared Properties</th>
<th>Traditional EAM</th>
<th>Architectural Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granularity of decision-making</td>
<td>Fundamental structures and principles</td>
<td></td>
</tr>
<tr>
<td>making information base</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope of considerations</td>
<td>Holistic, long-term</td>
<td></td>
</tr>
<tr>
<td>Differences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of formalization</td>
<td>High; dedicated methods and tools</td>
<td>As low as possible; lightweight approach</td>
</tr>
<tr>
<td>Driver / Owner</td>
<td>Architects</td>
<td>Decision-makers</td>
</tr>
<tr>
<td>Hosting Organizational Unit</td>
<td>Mainly IT; sometimes corporate center</td>
<td>Decision making units, business lines etc.</td>
</tr>
<tr>
<td>Relevant stakeholders</td>
<td>Diverse (corporate management, local units)</td>
<td>Local unit</td>
</tr>
<tr>
<td>Benefit</td>
<td>Enterprise-wide, long-term: “what's in for the enterprise”</td>
<td>Local utility, medium-term: “what's in for me and why is it beneficial for all of us”</td>
</tr>
<tr>
<td>Challenges</td>
<td>“ivory tower” architecture</td>
<td>“local” architectures</td>
</tr>
</tbody>
</table>

*It is NOT either/or – it is both: Traditional EAM AND Architectural Thinking.*
Making «The Other 90% of the Organization» Comply with Architecture

- EAM exerts pressure to comply with ‘grand designs’

- Organizational actors’ reactions range from acquiescence over compromise and avoidance all the way to defiance and manipulation (Oliver 1991, Pache and Santos 2013)

- Architectural Thinking aims at avoiding negative reactions and creating conditions that support agreement with restricted design freedom

- New institutionalism aims at explaining why and how imposed regulations in organizations are “institutionalized” by the addressed actors, i.e. develop “a rulelike status in social thought and action.” (Meyer and Rowan 1977)
How to foster long-term, holistic considerations in the daily decisions of individuals?
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I’d love to quit smoking. But my dad won’t let me.
How to foster long-term, holistic considerations in the daily decisions of individuals?
Now, what is the strategy of that other 90%?
Architectural Thinking Needs to Create Supportive Conditions so that

1. actors **gain social fitness** inside the organization when complying with rules and guidelines (social legitimacy)

2. actors **become more efficient** when following rules and guidelines (efficiency)

3. AT is **anchored within the organization’s values** in terms of strategy definition, top management support or the position in the organizational hierarchy (organizational grounding)

4. actors are **confident** that the EAM function does the right things right (trust).

(Weiss, Aier and Winter 2013)
Going beyond the limits of traditional Architecture Management?

**Impact x Range of Influence**

- Traditional Architecture with Architectural Thinking?

- Maturity of Architecture Management

10%

(based on Winter 2014)
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Consequences

1. EAM will see an increasing stakeholder orientation and thus needs to further differentiate its service.

2. Not everybody doing EAM is called «Architect» (or should be called this way).

3. Current transformation drivers like digitalization, regulatory requirements etc. provide new challenges for EAM, which requires a certain maturity (e.g. effectiveness, proven value contribution); this drives the required effort.

4. However, these (possibly increasing) efforts can only be justified if we create conditions that allow for reaching «that other 90% of the organization».

5. Architectural Thinking is NOT an alternative to traditional EAM, it’s a companion.

6. Managing Architectural Thinking means addressing dimensions such as social status, efficiency, establishment of values and trust to complement traditional EAM efforts.
Resulting Research Directions

1. Mechanisms that impact the social fitness of actors and relate it to architectural compliance.

2. Co-creation mechanisms that link actors’ ‘tasks to be done’ to rules and guidelines. Those guidelines are not a ‘product’ that is consumed by “that other 90% of the enterprise”, but instead are an affordance that should create ‘value in use’ for these actors.
   As a consequence, context and use situations need to be better understood, and architectural guidelines need to be configurable to those contexts and use situations.

3. Architectural Thinking needs to be positioned as a valuable business support instead of an annoying ‘restriction of design freedom’.
   AT has to become an organizational value and thus has effects on how KPIs, incentive systems, and project reviews are designed.

4. Architectural Thinking needs to constantly demonstrate and communicate its value contribution. As providers of a service, architects need to understand their share of value creation, need to tailor their support to a variety of ‘tasks to be done’.
### Future Research at CC CI

#### Value co-creation in EAM and in IT-Services

**Design the USE of architecture:**
Currently we are dumping EA products and EA information «over the fence» and we wonder we they are not used. The same is true for the often found IT Demand /Supply structures. We need to understand how to realize value co-creation in use and context.

#### Institutionalization of Architectural Thinking

**Establish Architectural Thinking:**
There are only a few architects, their impact is limited. But «business value accrues through management practices that propagate architectural thinking throughout the enterprise.» (Ross/Quaadgras 2012) «Architecture Management covers only 10% of an organization that is somehow related to IT» (Fehskens in Gardner et al. 2012)
We need to understand how to reach “the other 90%” of the organization.

#### Management of Complexity

**Complexity as a central construct:**
Everyone in an organization has an idea about complexity. However, it is difficult to find and agree on affective strategies and means to control complexity. How can the management of complexity be integrated with existing EAM processes?

#### Still Boundary Objects

**Making EA Models effective boundary spanners:**
What are the processes of building boundary objects? How become boundary objects effective? Sociomateriality?

#### EAM as Entrepreneur/Innovation support

**Inhibitor or Entrepreneur:**
How can architects become entrepreneurs and innovation supporter from time to time – within IT and beyond? What is the contribution of EAM to innovation processes?
Thank You!

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References