INTRODUCTION

Imagine - what if the Digital Age wiped out your company?

The digital transformation provides chances and challenges for companies of every size. Successful companies realize that it is far more than an IT topic. More than ever, it becomes indispensable to create transparency on the relation between business and IT.

Enterprise Architecture Management (EAM) has struggled a long time to prove its value. It is time to change this. With the help of a modern, lean approach, Enterprise Architects can support business leaders by forming the backbone of the digital transformation.

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This whitepaper gives practical insights into how to establish and nurture a modern Enterprise Architecture Management. By focussing on a lean, collaborative approach, companies can base their digital transformation on a solid foundation. Enterprise Architects can move from ivory-tower, IT focussed, lone voice in the wilderness to being the right hand of decision makers.
IT’S NOT ABOUT WHETHER TO TRANSFORM BUT HOW

The radicality of the digital change can be compared to the invention of the printing press or of the Internet. Business models are being questioned, and technology is gaining importance for companies of all size. In these times, companies need to find new models of collaboration to be successful.

The digital transformation involves everyone.

IT is moving from the periphery to the heart of companies, but the knowledge is still distributed. Even more, local decisions are made disregarding implications for the entire company just because of a lack of transparency. A central approach to digital transformation is prone to failure. Instead, companies need to make sure to make the distributed knowledge available to everyone in the company.

The digital transformation occurs in varying speeds.

There is no “one-size-fits-all” approach. Each company carries their own IT legacy systems and processes, and faces their own level of market pressure and external regulation. As industry maturity affects the path of the individual company to digital excellence, successful companies manage to regard the transformation as an iterative process. Within this process, the business needs are addressed with different paces and strategies.

The following concrete cases of digital transformations show how companies combine collaboration and an iterative approach. They show how to connect the dots between IT and business on a lean, collaborative base, which relies on transparency about the digital and analogue assets, on courage to think out of the box, and on the ability to conduct a continuous transformation.

Case 1: Modern SW development beyond plan-build-run gives competitive advantage.

Agile teams, DevOps and Microservices are the pillars of modern software development. Combined, they allow companies to break the error-prone, tedious plan-build-run process of classical software development into small flexible parts that enable quick time-to-market, high quality and high levels of innovation. These factors are essential for succeeding in the digital world.

Establishing software development based on these pillars has both organizational and technical prerequisites. As a high level of personal interaction is one key point, teams must be small. In order to operate successfully, the boundaries to other teams must be clearly defined and any required information must be made available to the team, with the business context being part of the key information.

Successful companies establish a platform to capture both the business and the technological context. They understand that for their teams to be successful, they must provide them with modern Enterprise 2.0 collaboration facilities that fit their particular working styles. Furthermore, they understand that to leverage the knowledge of the individual teams to advance their company in one direction, they need to include sharing of data into their daily work routines.
Case 2: Transformation while juggling legacy systems.

Legacy IT systems shape how entire companies work. Companies need to prevent these systems from inhibiting digital transformation. The research firm Gartner coined the notion of pace-layered IT to describe a strategy blueprint to deal with this situation.

Pace-layered IT refers to the insight that companies should break with the concept of one central speed, consisting of release process, quality requirements and so on for all applications, but rather have a three level approach:

**System of record** - the “slow” IT consisting of all the large monolithic systems that companies either do not want to change or are not able to change frequently. Typical examples are large ERP systems or backbones of banking or insurance companies.

**System of innovation** - the “fast” IT consisting of apps, web-sites or prototypes that are changed frequently, and whose only purpose is either to react to a current trend within hours, or to conduct experiments that give companies more insights, e.g. about a certain market segment.

**System of differentiation** - the IT systems and capabilities to connect both worlds that bring critical business data from the system of records to the system of innovation while respecting all the important requirements like security, data privacy, compliance, etc.

The system of differentiation provides the means to integrate slow and fast IT. For teams working at the boundaries, it is crucial to speak the same language and have access to the same information. Only then, the required transparency is provided to answer questions like:

* Which innovative systems do we need and which conclusion can we draw from the included experiments?*

* Are certain systems really systems of records, in a way that the company can afford slow release cycles? If not, is there a way to move part of the functionality to the system of differentiation?*

* How do we reconcile conflicting requirements like time-to-market and IT security?*

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<td>+ short release cycles (2-4 weeks)</td>
<td>+ guarantee agility &amp; low time-to-market</td>
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<td>+ flexible configuration of new products &amp; services</td>
<td>+ internal platform development</td>
<td>+ foster experiments &amp; innovation</td>
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<td>+ medium release cycles (4-8 weeks)</td>
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<td>+ standardized, high quality information</td>
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<td>+ traditional release cycles (&gt; 2 months)</td>
<td>+ guarantee stability and cost efficiency</td>
<td>+ support business continuity, consolidation and compliance</td>
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Case 3: IT advances the entire business model, e.g. in publishing.

The publishing industry was hit early on by the implications of digitization, as their customers quickly turned from passive consumers to active prosumers. How to make digital content profitable is still challenging the entire industry and demands high levels of creativity.

To overcome those challenges, media companies have switched more and more to a culture of experimentation. Their willingness to learn - and also to fail from time to time - is among the key tenets for digital transformation. Small, cross-functional teams form the basis to tackle the digital journey.

Major publishing houses over Europe are working on better utilizing the enormous amount of customer data they sit on. This is a prerequisite to truly switch to digital business models. While they still have a way to go, chances are good that they will serve as role models for other companies in mindset and organizational setup to truly master digitization.

Other prominent cases include Vorwerk’s “Thermomix” or Braun’s smart toothbrush. Adding software to a formerly analogue product allows these companies not only to charge premium prices, but to raise the bar for their entire industry. And not even to mention the most prominent disruptions that are in the news at regular basis, e.g. the case of Uber changing the entire urban transportation.

Almost 30 years later, the discipline EAM has evolved, standardization has been applied, e.g. TOGAF or Archimate, but in most companies, EAM has either failed completely or is reduced to a minor part, e.g. to IT architecture only. Effectively speaking, it plays in no way a critical role in advancing the mentioned transformation capabilities.

The challenge: Overcoming the EA ivory tower.

EAM failing to play a critical role is alarming to both company leaders and EA practitioners. On the one hand, the demand for transparency and business-IT alignment is ever-growing. Without knowing its data, its applications or its business capabilities, how should any organization meet the introduced challenges of continuous transformation, which are critical for survival. On the other hand, how can EA practitioners overcome the reputation of being ivory tower theoreticians that have no impact at all on the business?

From Keeper of the Grail to Vanguard EA.

Successful practitioners understand that it is time for a change of mindset. Gartner coined the notion of a Vanguard EA to distinguish him from the classical Enterprise Architect. His attention needs to shift from IT-specific legacy tasks towards providing the necessary collaboration facility. Only then, he can help companies to establish the common direction they need, and to build a modern IT for the digital age.

The ideal nature of the modern Vanguard EA varies from company to company. However, successful companies make sure he is not hidden in the IT department but has his place close to the CEO’s office. That can imply to change the setting of an existing, IT-focussed EA team and move it closer to the business, or to create a new function.

LEAN EAM AS BACKBONE OF DIGITAL TRANSFORMATION

All the cases examined share the need of collaborative knowledge-sharing in order to allow agile teams to pursue digital excellence. To practitioners of Enterprise Architecture Management (EAM), this sounds more than familiar. Since John Zachman published his ontological framework in 1987, many companies have seen central Enterprise Architecture teams evangelizing and pushing into the direction of Business-IT alignment.
INGREDIENTS OF A MODERN, LEAN EAM.

This changed mindset forms the base of a modern, lean EAM. In contrast to approaches failed previously, it is shaped by the following core properties:

EAM for everyone instead of building complex models.
The digital core competencies of a company are inherently distributed. A central EA team must fail if they want to bear the brunt of the work all by themselves. As a consequence, EA must be made accessible for everyone in the company, in a way that you do not need a Ph.D. to understand a complex meta model.

Doing things instead of fearing failure.
EAs have for a long time established the reputation of being governance-oriented gatekeepers. That simply does not go with an area where experimentation, courage to allow failure and short time-to-market are core ingredients for organizational success. Particularly the example of slow IT and fast IT proves that EAs can be facilitators of this culture, even when dealing with legacy systems.

EAM as communication vehicle rather than as font of all wisdom.
What EAM can learn from knowledge management is that its main goal is not to answer questions, but to connect people. If people know who to ask about a certain topic, it is easy for them to connect all the dots themselves.

Why is a modern, lean EAM indispensable for modern IT-driven companies? The cases above all shared the importance of transparency and collaboration. Without transparencies, companies are wandering around in the dark instead of advancing their business. Only when companies manage to foster collaboration and create a shared knowledge platform, the distributed expert can achieve the digital excellence the company requires.

THE LOW-HANGING FRUITS ON THE WAY TO DIGITAL EXCELLENCE

The way to digital excellence is long and tedious, as organizational priorities, culture and politics must not be overlooked. One key recommendation is to regard the introduction of a lean EAM as a change management project. However don’t assume you will be able to address the entire change in one big-bang, but be prepared for an iterative, evolutionary approach. There are three main messages from change management experience that are inevitable:

Build strong, lasting coalitions.
Focus on business value early on.
Don’t condemn change - embrace it.

The classic change process works in phases. Understand that you need your early adopters to become the majority, and understand that the change is not persistent until it has reached at least some of the laggards. Your role as an EA is to change the mindset of people.

In order to climb this mountain, there is no alternative than to create business value early on. Sustainable coalitions are built on tangible successes. Otherwise, organizational priorities and politics will become insurmountable obstacles.

And finally, be prepared that things will change. People leave companies, technology becomes obsolete. Do you really believe that a five-year plan can help you?
The low hanging fruits on the way to digital excellence are typically the following:

1. What applications matter most for the business and how are they changing?

Talk to an architect about this question and he will answer: What is the definition of applications? What is the business? In order not to lose too much time here, find the right people in the business who can answer this question. Use their view on the IT as a starting point, and find a simple model to create transparency on this view. This is where the business support matrix comes in extremely handy.

Once you have gathered a first understanding of the business view on the IT applications, you will be able to come up with a first shot of user group and business capability classification. Add a high-level assessment of the business criticality, the functional fit and the technical fit of the application, and you get an invaluable communication instrument for both business and IT to spot improvement opportunities at a glance.

2. Free your head of operational issues.

You know the reality of IT landscapes. Every time you start dealing with strategic projects, an operational question distracts your attention. OS updates, urgent business support requests from an unknown group, technological emergencies or urgent projects to cut costs by removing redundancies are only a few examples that every EA knows too well. Escape the rat race by identifying these issues proactively before they can distract you. Let us look at the examples above:

OS or major database updates distract you because you don’t know which applications are affected. Once you figured out for your top business applications what major technology they rely on - don’t go into any detail here - you can make decisions proactively instead.

Urgent requests of business support typically hit you from the blue. Again, you can take the driver seat once you have compiled your business support matrix. Look at white spots and talk to the business how critical they are. In particular, try to get an assessment from your business, which user groups and capabilities are most important, and focus on the related white spots.

A Business Support Matrix helps you achieve a transparent overview of your IT landscape.
You can deal with typical cost-cutting requests in a similar manner. All the information you require is in the business support matrix. Just identify the low-hanging cost savings before somebody else does.

3. Know your business data.

They say “data is the new oil”. When you have identified the major applications, the most urgent improvements and managed to get ahead of operational worries, it is time to focus on data and how it drives your business. Typically, this occurs at two different levels of granularity.

At business level, it is of major importance to focus on the key data objects that drive the business. Typically, all you need is a set of 10-20 data objects, dependent on your domain, to get started. With such a basic set you can already answer questions:

+ Which applications have access to certain data and which do not? Why?
+ Which is my classified information, and which can be moved easily to a cloud vendor?
+ Where can I get the information from that my data analytics specialists should take a look at?

At a lower level, another granularity could be required:

+ Where do I get the service that I need, in which protocol?
+ Who is affected by our API change?

It cannot be reinforced too much that all that matters are the needs of your stakeholders. Identify them, focus on their business value, and they will form the coalition you urgently need.

From low-hanging fruits to leveraging transformation.

Once the first business value is created, the level of trust by peers and management allow EAs to look further into the future. It is their task to formulate target architectures and present the ways for the company to get there. However, they must keep in mind that focus on creating business value and high data quality is inevitable in order to avoid the ivory tower fallacy.

DATA QUALITY - THE KEY TO TRANSPARENCY

How much of your budget is wasted because of poor data quality? It does not take an expert to realize that a central, collaborative EAM platform is useless if people mistrust the information they get from it. In a company in pursuit of digital excellence, it is not only the management that suffers because of poor data quality. Instead, everyone is affected as the quality of local decision depends on the knowledge of the overall context.

The four cornerstones of high data quality

When considering high data quality, you first have to admit to yourself that balance between data providers and consumers is an illusion. As with any documentation, you do not write it for yourself, but either for the future you, or for a different stakeholder. That said, high quality EA data can only be maintained decentrally anyway, as otherwise the effort of a central entity to maintain data would resemble a modern variant of The Hare and The Hedgehog.

There are four cornerstones to maintaining a high level of data quality:

1. Focus on ease-of-use.

People in general tend to be lazy. That implies that usability is not nice-to-have, but mandatory for any data capturing tool. The easier it is to use the tool, the more people will accept it and include it in their daily work.

To achieve ease-of-use, formulate some KPIs:

+ How long does it take until a new user can use the tool? Do not make the mistake to ask the expert, ask the slowest candidate.
+ How much documentation is required?
+ How long does it take to execute basic transactions, e.g. create a new application?

Once you formulated these KPIs, be radical in improving them.
2. **Leave out everything that does not create value.**

One aspect of usability deserves particular attention. EA initiatives have long been known to collect any data that might possibly help them in the future. As your people are smart, they will ask the question: Why do I need this data record? If you cannot give them a satisfying answer, be prepared that people will not maintain a certain record and consider to drop it.

3. **Sensible governance.**

Governance might not be the latest trend, but without it, your data will sooner or later become unusable. Successful companies find smart ways of combining governance with other cornerstones, like clear conventions on which data to enter or defined milestones to enter data, e.g. project gateways or definition of done in Scrum. On a more sophisticated level, a lean quality management system helps the “gardeners” of the EA data to keep it regularly up-to-date. Such a quality management system should be supported by the EAM platform.

4. **Smart automation.**

There is a lot of data in companies already available. This ranges from business data, e.g. customer or product data, to project information, but mainly also to operational information. Examples for the last one are tools used for development or operating, e.g. Docker, but also tools that hold information on response time, system availability or issues occurred. Automating the data exchange is two-fold. On the one hand, the obvious advantage of connecting dots automatically is that no manual maintenance is needed, and that automated data cannot deteriorate. On the other hand however, data automation projects can be tedious and often do not keep their promise.

It is one main task of the EA to decide which data is required automatically to create business value, and for which data manual synchronization is sufficient. Keep in mind the second point as well. In many cases, you will find out that you do need a certain data record.

When you are choosing your tool, look for best-of-breed instead of best-of-suite, i.e. get the best tool for each challenge. There are many excellent tools already present at companies, whether for project management or operative monitoring. Open APIs allow companies to smartly combine these tools. This does not only avoid redundant data capturing, but gives companies a high level of flexibility. As you cannot say what data you will need a year from now, do not sacrifice the opportunity to integrate data once you need it.
GETTING STARTED

What you need to do until tomorrow.
Accept that digitization changes your business, sooner or later. Start to communicate that digitization is not an IT or technology issue, but that it affects the whole company. Dispassionately assess how mature your company is in terms of digital capabilities, and how mature it needs to be.

What you need to do until next week.
Create an early coalition. Look at the stakeholders around you that are most affected. That might be a project leader struggling with complexity, an infrastructure expert not understanding business priorities, or a business leader making budget decisions. Support these stakeholders to create their transparency. Have a look at the low hanging fruits mentioned above, and help your stakeholders to pursue them.

What you need to do until next year.
Make sure to be part of any Digital Initiative. Make sure to advance from low-hanging fruits to a trustworthy EA platform with reliant data. Focus on core questions only and don’t let operational issues or obstacles distract you. Once you have built the trust, make sure to extend your coalition. Then, utilize the platform to visualize a clear roadmap to a successful digital future.

UNTIL NEXT WEEK

Create & nurture an early coalition. Identify & pursue the low-hanging fruits.

UNTIL NEXT YEAR

Be part of any digital initiative. Provide a trusted EA platform.

TOMORROW

Accept digitization as business focus. Dispassionately assess your current state.