

## Chapter 2

# An EAM navigator

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## Management summary

*Enterprise Architecture Management (EAM) is a comprehensive, interdisciplinary management approach that builds on techniques and practices from computer science, organisational engineering and change management, as well as business process management and other fields. Owing to its complexity, focussing on just one aspect of EAM – such as modelling or tools – will not yield results. Our research revealed seven important building blocks of successful EAM initiatives:*

- *Top management awareness and support (a CxO agenda).*
- *EAM governance and organisation.*
- *Embedding EAM into strategic planning.*
- *Embedding EAM into the project life cycle.*
- *Embedding EAM into operations and monitoring.*
- *EA frameworks, modelling and tools.*
- *People, adoption and EAM introduction.*

*We consider each of these building blocks as crucial to any EAM initiative and will explain why you should consider them. Our empirical work shows that companies that (a) have a thorough understanding of these building blocks and (b) include these building blocks in their EAM initiative are more likely to succeed than others. We have compiled these building blocks in the form of a navigator that will guide you through the book. The navigator will also help you to identify the content relevant to you.*

## 2.1 Introduction and motivation

Enterprise Architecture Management (EAM) is an instrument to address a multi-dimensional fields of action and decision. A pure modelling approach, a followed by many organisations with limited EAM maturity, is inappropriate. Equally, focussing exclusively on EA implementation processes or governance will not yield sustainable results. The opposite is true: Our field experience and case analysis clearly indicate that many different facets, including EAM integration in existing processes, organisational structures and governance regimes as well as specific cultural aspects determine EAM's success. This is not surprising. After all, EAM is not an end in itself. It is a means to ensure realistic strategic decision-making, to set clear and focussed project scopes and monitor the firm's development. EAM is a social phenomenon, it needs to be integrated into existing processes and affects numerous elements of an organisation. For example:

- EAM requires a proper institutionalisation with people who have the power to make decisions and enforce their implementation. ⇒ **EAM is an organisation and governance issue.**
- EAM requires integration into existing processes, such as strategy development, project prioritisation, budgeting and project implementation, because these are influenced by EAM practices. ⇒ **EAM is a process issue.**
- EAM introduces specific management methods for the modelling, analysis and design of the enterprise architecture. ⇒ **EAM is a methodological issue.**
- EAM requires executives to rethink the (architectural) consequences of their decisions and to create a shared vision. It affects the way people perceive their enterprise and perform joint decision-making. ⇒ **EAM is a cultural issue.**

Although one would think that this expansive notion of EAM is the norm, many organisations focus on modelling or planning activities but lack the power, skills, or enthusiasm to face the real-world problems of developing and optimising their enterprise architecture. Our case research shows that many organisations also don't get it right the first time: Several attempts are needed to establish EAM before it becomes a living management practice.

*EAM as a multi-dimensional decision domain*

*One-sided EAM initiatives are likely to fail*

In an attempt to tackle challenges of deploying EAM in your organisation, this chapter has a twofold objective: Firstly, we want to help you to understand what is important when you implement EAM. Secondly, we want to give you an overview of the structure of this book. We do so by:

*Objectives of this chapter: Present the success factors and offer a guide through the book*

- presenting important building blocks of successful EAM,
- relating the building blocks to one another in the form of a navigator, and
- explaining how the navigator guides you through the book.

In the next section, we will introduce the navigator, then discuss its building blocks. In Section 3, we will elaborate on how the navigator may be used to design an EAM initiative, as well as to describe how to assess this initiative for viability and completeness.

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## 2.2 Building blocks of successful EAM

During our case research, top executives and enterprise architects repeatedly raised certain issues regarding successful EAM. We found that there is a uniform set of challenges that must be addressed when an organisation decides to implement EAM. From our cases, we also learned that ignoring these issues will significantly decrease the likelihood of EAM success and will ultimately lead to EAM project failure or to EAM having a low impact on an enterprise's performance.

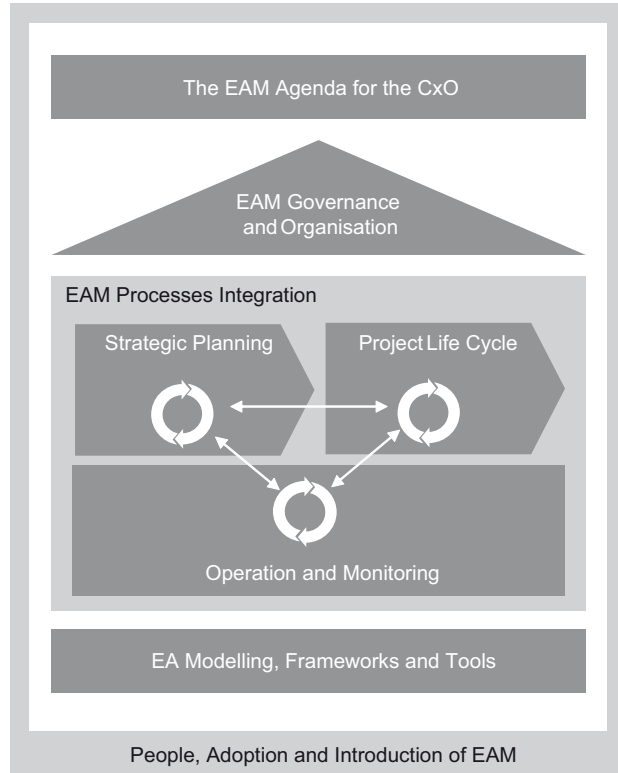
As these practical success factors are very relevant, we collected them, transformed them into separate fields of action and compiled them into a compact and easy-to-understand frame of reference for successful EAM. To avoid confusion, we refrain from using the term 'framework', since there are many EA frameworks available, each with a different purpose (see Chapter 8). Instead, we decided to use the term 'navigator' for this frame of reference, because it has been designed to guide you through this book as well as to guide your EAM initiative.

Despite its orientation towards success, the navigator (see its building blocks in [Figure 2.1](#)) does not describe an ideal EAM scenario. We believe that EAM implementations depend on situational factors, and there is no 'one size fits all' solution. Nevertheless, the navigator may draw your attention to those constituents of EAM that make a difference.

The navigator consists of seven building blocks. Properly implemented, these building blocks strongly influence EAM success. In the following section, we will describe the navigator's building blocks by (1) explaining what they are, (2) motivating their importance, and (3) outlining their relationships and interdependencies. Additional information can be found in the rest of the book: Each building block is described in a separate chapter.

*The navigator as  
an aggregation  
of EAM success  
factors*

*Seven building  
blocks that  
influence EAM  
success*



**Figure 2.1:** EAM building blocks

## The EAM agenda for the chief executive officer

### What is this?

*EAM objectives are always enterprise-specific*

If organisations are not convinced that EAM will yield benefits, they certainly will not invest money in it. Firms need to believe that EAM can help them to stay competitive in an ever-changing global market space. But even if there are typical EAM-related benefits, for example, better alignment or increased flexibility, most companies need an ‘urgent pain’: A business case and a project sponsor to start an EAM initiative or extend an existing one. Top-level executives (CxOs) must invest time, money and resources in EAM. They therefore need to understand what EAM is and how it helps to improve enterprise performance. Based on this understanding, CxOs can define clear EAM-related objectives and create an environment in which EAM can achieve its full potential. Such objectives and the

environment necessary to reach them are always enterprise-specific and depend on the EAM context.

### **Why is this important?**

For successful EAM, top management needs to be involved; it needs to define the EAM objectives and create a corresponding environment with the help of a management agenda. Only senior management can provide the budget and resources necessary to make EAM successful. Furthermore, senior management members need to be available when problems require escalation, because their power can help to overcome conflicts and resistance that may emerge when people have to change their behaviour or – in some cases – lose some of their power.

*Senior executives are crucial*

There is some truth in the statement ‘what gets measured gets done’. It is hard to plan and control an initiative without clear objectives. Both the project sponsor and the EAM team need objectives, because they help to set priorities when it is simply impossible to achieve everything at once. Because EAM is a broad field of action, staggered achievements and benefits can be expected. Objectives also help to direct staff, measure success and define corrective actions, when necessary. Furthermore, clear objectives may allow the stakeholders to better grasp the concept and logic of EAM and to identify with EAM.

*What gets measured gets done*

### **How is it related to other building blocks?**

We consider a clear top management agenda for EAM an important precondition for an effective EAM. Furthermore, EAM initiatives are best driven by top management. For these reasons, we place this building block at the top of our navigator. The best way to initiate EAM is top-down. Besides defining high-level objectives, one of the first things top executives should think about is how to empower the EAM team. For this reason, this building block is closely linked to the next one: EAM governance and organisation. Top management must ensure that the organisational setting and the governance mechanisms in place really enable and serve the EAM team.

*Think about organisation and governance first*

More information on EAM objectives and the CxO agenda can be found in Chapter 3.

## **EAM governance and organisation**

### **What is it?**

EAM governance and organisation deal with the manner in which EAM is institutionalised in an organisation. In this context, manage-

*Decision rights are crucial*



ment must define the organisational components, roles, and committees to perform EAM-related tasks. Therefore, these organisational elements, as well as their tasks, responsibilities and decision rights must be specified. Especially the latter are important, since there is a close relationship between staff members' EAM decision rights and an EAM initiative's effectiveness. In decentralised and distributed organisations, the institutionalisation of EAM is a particular challenge, since management must choose an appropriate EAM organisation and governance model that balances local autonomy and global coordination.

### **Why is it important?**

EAM is about decision-making in the interest of the organisation as a whole. One must ensure that the right people are empowered to make EA-relevant decisions, and that the implementation of these decisions is not hindered by an adverse organisational structure. A clear accountability framework along with transparent escalation processes and well-documented decisions can significantly leverage EAM's effectiveness. These factors are of particular relevance for larger organisations, which frequently struggle to align local interests and global strategic objectives.

### **How is it related to other building blocks?**

An effective organisation and governance structure is a necessary precondition for functioning strategic planning and strategy implementation processes. In fact, they are closely linked to each other, since the organisation and governance structure defines who carries out what tasks during a process, whereas the process defines how all these different tasks are carried out in a logical and temporal sequence to achieve the desired outcome. These processes are described in Chapters 5 and 6.

More information on EAM organisation and governance can be found in Chapter 4.

## **Embedding EAM into strategic planning**

### **What is this?**

The development of an enterprise's architecture is mostly a long-term and incremental activity. It requires investments in technology and reorganisation projects. Conversely, most projects carried out in an organisation either directly alter, or are at least affected by, the

*Organisation and processes are two sides of the same coin*

*Strategic initiatives almost always affect the EA*

enterprise architecture. Consequently, EAM is closely linked to the following strategic planning activities (Figure 2.2):

- situation analysis,
- elaborate strategic options,
- develop an architecture vision,
- roadmapping and migration planning,
- project portfolio planning, and
- evaluating the architecture evolution.

These planning activities link to EAM in two ways: Firstly, strategic planning can bring about dedicated architecture initiatives for the EA’s structured development. Secondly, all other strategic initiatives must be documented in the EA model and analysed in terms of their impact on the EA. As a result, the EA team may initiate EA-related objectives and investments, and may also review and assess all the other objectives and investments with regard to their EA impact. The existing strategic planning processes therefore need to be complemented by EAM practices, such as EA analysis or EA documentation, so that a long-term EA development can be ensured (see Figure 2.2).

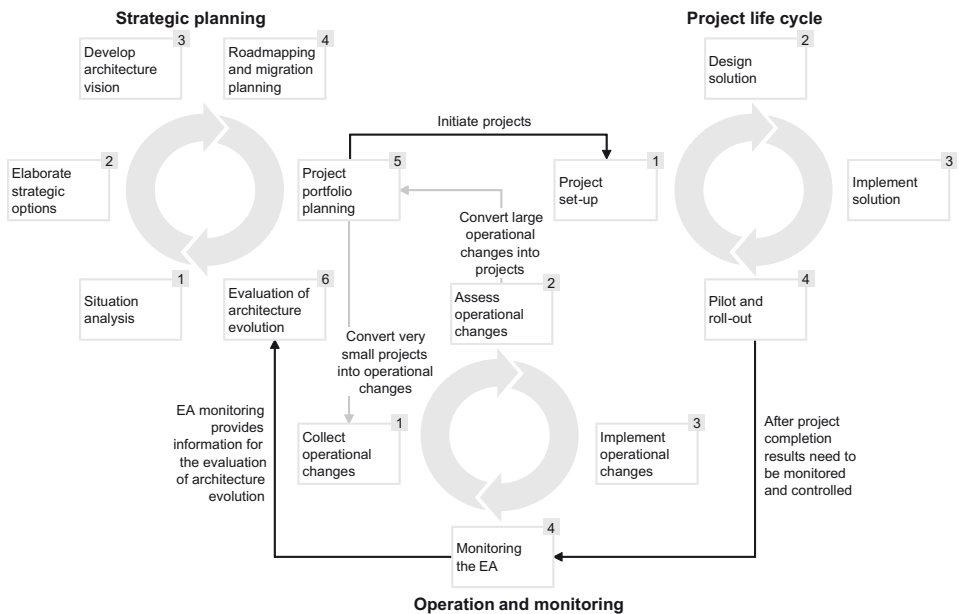


Figure 2.2: EAM process integration

*Strategic EA planning prevents a chaotic and arbitrary EA development*

**Why is this important?**

First of all, EAM is a powerful management approach that improves strategic decision-making and the organisation's structured development. It not only assists in mastering real-world complexity by analysing the existing capabilities, but also in defining smart and feasible strategies and migration paths. Secondly, if strategic initiatives that guide an organisation's future development do not align with the architecture vision and principles, they jeopardise long-term strategic EA objectives by creating facts. In such cases, EAM will barely have an impact, because the development of the architecture will remain arbitrary and chaotic. Thirdly, by creating a shared understanding of complex, multi-dimensional dependencies, EAM can also become a communication tool to spread strategic visions and goals in the organisation.

**How is this building block related to other building blocks?**

Strategic planning naturally precedes the project life cycle, as outlined in the navigator (Figure 2.2). EA operation and monitoring result in secondary relationships when the strategic objectives not implemented in the form of projects are realised as small(er) operational changes, or are simply translated into targets for the organisation (departmental targets).

More information on the embedding of EAM into strategic planning can be found in Chapter 5.

## Embedding EAM into the project life cycle

*Projects are the instrument for implementing EA change*

**What is this?**

Strategic objectives are mostly realised in the form of projects and project programmes. Organisations normally choose to implement architectural change in project form because projects are temporary endeavours with a clear target and dedicated resources. Therefore, they allow for an efficient development of architectural components, such as infrastructure, information systems and business processes. From an EAM perspective, the project life cycle may be subdivided into the following subsequent phases (as outlined in Figure 2.2):

- project set-up,
- design solution,
- implement solution, and
- piloting and roll-out.

**Why is this important?**

In most cases, projects do not go as planned. Environmental changes can never be anticipated fully and a project's course can never be predicted precisely. Furthermore, the project team often only has a rough understanding of the project results, which makes it even harder to plan every project execution detail. Requirements volatility is another major challenge for contemporary projects: During project execution, project sponsors sometimes change their minds about project objectives. If a project's scope changes, its impact on the EA will probably also change. If there is no constant monitoring of projects and EA-relevant decision-making during project execution, the project's outcome might not align with the intended target architecture.

*Projects almost always influence the EA in unintended ways*

**How is this building block related to other building blocks?**

Strategic planning initiates the above-mentioned projects. Beyond this, sub-processes of EA operation and monitoring (see next section) may support project execution by providing relevant data about the EA components of interest, such as service requests and key performance indicators (KPIs).

More information on embedding EAM into the project life cycle can be found in Chapter 6.

**Embedding EAM into operations and monitoring****What is this?**

Sometimes, projects are the vehicle for large EA changes, but most changes are small. Owing to their minor impact, these operational changes do not require large projects for their implementation. Organisations often have several dozen projects in their portfolio, but several thousand potential change requests in their incident or change request management system. These changes are handled during routine EA operation. There is always the risk that small changes might affect the functionality of applications, the topology of the network infrastructure, or the control flow of a business process. Although mostly useful, these changes might be implemented in ways that conflict with EA guidelines or cause unforeseen side effects. Furthermore, they may not be documented properly, and future decision-making might therefore not be based upon complete information. Operations and monitoring need to establish pragmatic procedures for the efficient handling of smaller changes in the EA in order to counter these risks (as outlined in [Figure 2.2](#)):

*Small changes have risks too*

- collect demands and changes,
- assess changes,
- implement changes, and
- monitor the EA.

*KPIs are required to systematically control the EA's development*

The structured development of an EA consisting of hundreds or even thousands of components, including infrastructure components, applications and business processes, is impossible with only EA models. Organisations can use metrics and KPIs to measure certain EA characteristics, for example, cost efficiency, service quality, alignment and risk. Optimally, such measurement is a continuous monitoring process.

*Uncontrolled changes may jeopardise your EA*

### **Why is this important?**

Without proper operation and monitoring processes, an organisation will soon lose control over its EA. Uncontrolled modifications of EA components have the potential to derail any EA plans. Furthermore, an EA's structured development requires an up-to-date information base and the timely provision of information to relevant stakeholders. EA operation processes ensure that those changes which impact the EA are systematically tracked and that EA information is up to date. Monitoring processes also provide a good and concise overview of the EA as a basis for early warning and escalation processes.

### **How is this building block related to other building blocks?**

As noted, the processes of EA operation and monitoring deliver valuable information for strategic EA planning and implementation. Metrics and KPIs provide the means to assess the EA and derive strategic objectives; they can also be used to measure whether or not targets are being reached.

More information on embedding EAM into operations and monitoring can be found in Chapter 7.

## **EA frameworks, modelling and tools**

### **What is this?**

A large body of EA frameworks, modelling techniques, and tools is available today (e.g., Zachman's framework). These are useful for defining and developing the detailed description of the architecture, the principles governing its development and the standards applied during the architecture's development. Frameworks comprise guidelines, procedural models and methodologies for the EA's structured

development. Software tools have the potential to lift these activities to a new productivity level.

### **Why is this important?**

The underlying idea of developing all these frameworks, modelling techniques and tools is simple: Organisations can adopt best practices to accelerate EAM implementation, reduce the risk of EAM failure and make EAM more efficient and effective. However, every approach has strengths and weaknesses. Practitioners must be aware of these to make informed decisions when choosing the frameworks, modelling techniques and tools to fit their organisation.

*At best, you can accelerate your project and reduce the risk of failure*

### **How is this building block related to other building blocks?**

Frameworks, modelling techniques and tools play an important role in all EA-related processes. They serve as a toolbox from which architects can choose in order to do their EAM work. Therefore, there is a close relationship between the strategic planning, the project life cycle, operations and monitoring.

More information on EA frameworks, modelling and tools can be found in Chapter 8.

## **People, adoption and introduction of EAM**

### **What is this?**

EA publications are dominated by ‘hard methodologies’ based on EA frameworks, tools and modelling techniques. These components undoubtedly influence EAM success. Despite the undeniable relevance of such ‘hard methodologies’, many practitioners feel that EAM’s impact is also heavily influenced by ‘soft factors’ resulting from the social sphere in which EAM is applied. Individual resistance, incentives and supportive stakeholders therefore all play an important role.

*Do not underestimate the EAM social dimension*

### **Why is this important?**

EAM requires many stakeholders to change their behaviour. Firstly, it is simply not enough to make a strong business case for EAM only at the enterprise level. Stakeholders will maximise their individual benefits, although they probably won’t admit doing so. Secondly, EAM leads to a high degree of transparency about EA-related decision-making and work practices. This results in fear that past management mistakes might come to light and that managers will be criticised for inefficient behaviour and work patterns. Thirdly, people tend to have habits they do not want to change. The introduc-

*Enemies of EAM: Individual interests, fear of transparency and habits*

tion of EAM can therefore be a challenging endeavour and might result in resistance. Proactive management of the social dimension can significantly reduce the risk of failure and increase all involved parties' satisfaction.

**How is this building block related to other building blocks?**

Social factors play an important role with regard to all the navigator's building blocks. For this reason, this building block surrounds all the other components.

More information on people, adoption and EAM introduction can be found in Chapter 9.

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## 2.3 Using the navigator to check your EAM initiative

### How can the navigator help me to develop EAM?

The navigator presented in the previous section can be used to check EAM initiatives for viability and completeness. At best, an EAM strategy should include concepts that relate to each of the navigator's building blocks. Nevertheless, see if you can answer the following seven key questions:

- 1. What are EAM's overall objectives and do we have management support? (⇔Chapter 3)**  
Do you have clear EAM objectives and top management support?  
Does the EAM team have enough resources to do its job?
- 2. Do we have effective EAM governance and organisation? (⇔Chapter 4)**  
This question refers to whether an organisational and governance model has clearly defined EAM-related tasks, responsibilities and decision rights that fit the organisation.
- 3. Do our strategic planning processes leverage EAM? (⇔Chapter 5)**  
This question is about the integration of EAM practices and classical strategic planning processes, such as strategy definition, budgeting and project portfolio planning. If decision-making considers the EA perspective, organisations will gradually develop in line with the enterprise architecture vision and targets.
- 4. Do we have project execution processes in place that are in line with EAM? (⇔Chapter 6)**  
This question refers to the way one enforces EA-compliant project execution. EAM must ensure that projects are always in line with EA-specific rules, principles and objectives, thus avoiding a chaotic and unintended modification of the EA.
- 5. Do we have working processes for enterprise architecture operation and monitoring? (⇔Chapter 7)**  
Furthermore, a continuous monitoring of the EA by means of metrics and KPIs helps to identify weaknesses and optimisation potentials. EAM must identify and keep track of operational changes that cause critical modifications in the enterprise architecture



**6. What are our frameworks, modelling approaches and tools? (⇒ Chapter 8)**

This question refers to a reasonable, pragmatic and decision-oriented approach to modelling the EA with suitable tools and applying suitable frameworks. EAM must be based on a results-oriented approach to modelling in which modelling is not an end in itself.

**7. How do we address EAM's social sphere and introduce EAM in the organisation? (⇒ Chapter 9)**

The introduction of EAM is a complex change process that has a methodological, an organisational and a social dimension. It is necessary to have a clear strategy for introducing EAM that will take diverse stakeholder interests into account.

### **Do I need to have all of this right at the outset?**

*Don't try to achieve everything right at the start, but be aware of what is needed*

Although it would be nice to have all these building blocks already addressed right at the start of your EAM journey, we realise that it is neither reasonable nor feasible to expect this. As a management concept, EAM is too complex to be implemented in a single step. But even if you cannot implement everything right at the outset, we recommend that you make a conscious decision about the order of the activities based on a thorough analysis of your organisation's maturity, capability, the nature of your management support and your vision. You should also develop an EAM roadmap that fits your overall EAM objectives. When developing your EAM roadmap, you should be able to answer the following questions:

- Who are our relevant stakeholders and sponsors?
- When will I address the different EAM aspects?
- In what order will I address them?
- Have I considered the dependencies?
- Have I thought about quick wins?

To give you a taste of how an organisation may approach EAM, we provide an example.

**How a bank introduces EAM and sets priorities**

A large European bank's latest effort to introduce EAM has been a success. Powerful key stakeholders from the IT organisation consider EAM crucial to the bank's long-term transformation. These stakeholders support the EAM initiatives by providing both resources and decision rights. From past experience, the team driving the EAM initiative is also aware that EAM requires a shift in culture, which can only be realised one step at a time. Consequently, a relatively small but empowered team of very experienced enterprise architects with a solid business background generates 'success stories' by following a very pragmatic approach to EAM. Architects are linked to the business departments and are involved in the early strategic planning phases, thus shaping the future domain architectures. They also accompany selected projects that leverage the development of the overall architecture. The architectural projects' measurable and sustainable outcomes, which include reduced costs, increased flexibility and shortened delivery times, are specifically emphasised through the development of a service-oriented architecture. The team does not engage in areas in which EAM awareness is limited and where quick wins would be unlikely. By providing hands-on help and demonstrating obvious impact in areas in which change and success can easily be reached, the team convinces the rest of the organisation step by step.

More information on the topic can be found in Chapter 9. You will also find more examples in the various chapters.



<http://www.springer.com/978-3-642-24222-9>

Strategic Enterprise Architecture Management  
Challenges, Best Practices, and Future Developments  
Ahlemann, F.; Stettiner, E.; Messerschmidt, M.; Legner,  
C. (Eds.)  
2012, XVI, 300 p., Hardcover  
ISBN: 978-3-642-24222-9