



**Build for Change through Enterprise Architecture**

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[✉ dominique.vauquier@praxeme.org](mailto:dominique.vauquier@praxeme.org)  
<http://www.praxeme.org>  
<http://dvau.praxeme.org>  
<http://dvau-en.praxeme.org>

 Thought  
Leader  
Global

*"Theory without practice is useless;  
practice without theory is blind."  
Immanuel Kant*

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What contribution could Enterprise Architecture (EA) make to the transformation of the enterprise?

Certainly, not all practices or styles of EA live up to the promise of providing significant added-value, especially from a business perspective.

What are the conditions for success when implementing an EA approach?

This is the main question addressed by this lecture.

This paper is made up of comments added to a presentation delivered at the Thought Leader Global conference, which took place in Amsterdam, October 2011.

Author: Dominique VAUQUIER

Reviewed by: Joanne TOWARD

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## Presentation objective

- **Objective**
  - Illustrate the use of the enterprise methodology
- **Topics**
  - “Enterprise Architecture as a change facilitator”
  - “Building unified knowledge through Enterprise Architecture”
  - “The process of clarifying the Enterprise Architecture”
  - “Communication is key”



Praxeme is an enterprise methodology, resulting from an open initiative that involves many companies from various activity sectors and that is backed by the French government. We will show how it can contribute to enterprise transformation.

The “Topics” listed here are taken from the conference program and serve as “requirements”, structuring the lecture.

Some examples used for illustration purposes have been selected from the EA practices in the context of AXA Group.



## Content

### 1. What are we talking about?

- Ambiguity around “Enterprise Architecture”
- Need for clarification

### 2. Why are we stuck in gloom and doom?

- Action is not so easy
- The more we herald change, the more the obstacles arise
- We have to change first!

### 3. How do we build a unified knowledge of the enterprise?

- Practical illustrations
- Tactics
- What does “Build for change” mean?

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The first step when discussing EA and – more importantly – when setting up an EA activity consists in dissolving the confusion that hinders this field.

Once we have a good-enough definition and concept of Architecture and Enterprise Architecture, we can observe and assess the practices. There, we realize that the enthusiastic definition and claim have, most of the time, nothing in common with real-life practices, at a grass-roots level. If we are to move forward, we absolutely need to examine this situation very carefully. If not, we will not be able to escape from the gloom and doom that characterize many large companies and that prevent them from taking advantage of Enterprise Architecture.

EA tends to be assimilated to IT Architecture. This is the reason why this lecture will focus on the business side. The proper business representation must be the starting point for any change in the enterprise, including organizational changes, process or IT changes. But, where do we find such representations? Are we even able to develop them? The third part will address these questions and will examine the motto “Build for change”.



## What are we talking about?

- **In theory, “Enterprise Architecture” is about... the enterprise**
  - Connecting every aspect of the enterprise
  - Organizing the synergy between all disciplines and expertise
- **In practice, most of the Enterprise Architects are positioned in IT**
  - Position in the organization
  - Background
  - Activity
- **And now, Business Architecture comes into play!**
  - Position in the organization, role



We face ambiguity in the phrase “Enterprise Architecture”. Part of the literature adopts a simple definition that complies with the common language:

EA is about the enterprise (as opposed to one of its components, namely the IT system).

Most of the Enterprise Architects will tell you they adopt such a definition or assumption. However, most of the Enterprise Architects are positioned in an IT department and have an IT background. A close look at their day-to-day activities reveals that their work mainly pertains to IT and everyone expects them to demonstrate a high-level of mastery in information and communication technology.

As a conclusion, there is an obvious discrepancy between the EA practices and its theoretical definition.

Nowadays, with the surge of Business Architecture, we can observe a sort of paradox: Enterprise Architects are positioned in IT while Business Architects report to the COO.

Transition: we definitely need to link the various disciplines together . This must be the role of Enterprise Architecture, especially with a view to transformation.



## An aspirational definition



### Enterprise Architecture

- Enterprise Architecture is the discipline that analyzes the strategy and determines the main decisions for transforming the Enterprise System.

- **The Enterprise Transformation Manifesto**

- “The golden principles for improving enterprises while respecting society's fundamental values and interests”
- Meant for decision-makers
- [www.enterprisetransformationmanifesto.org](http://www.enterprisetransformationmanifesto.org)

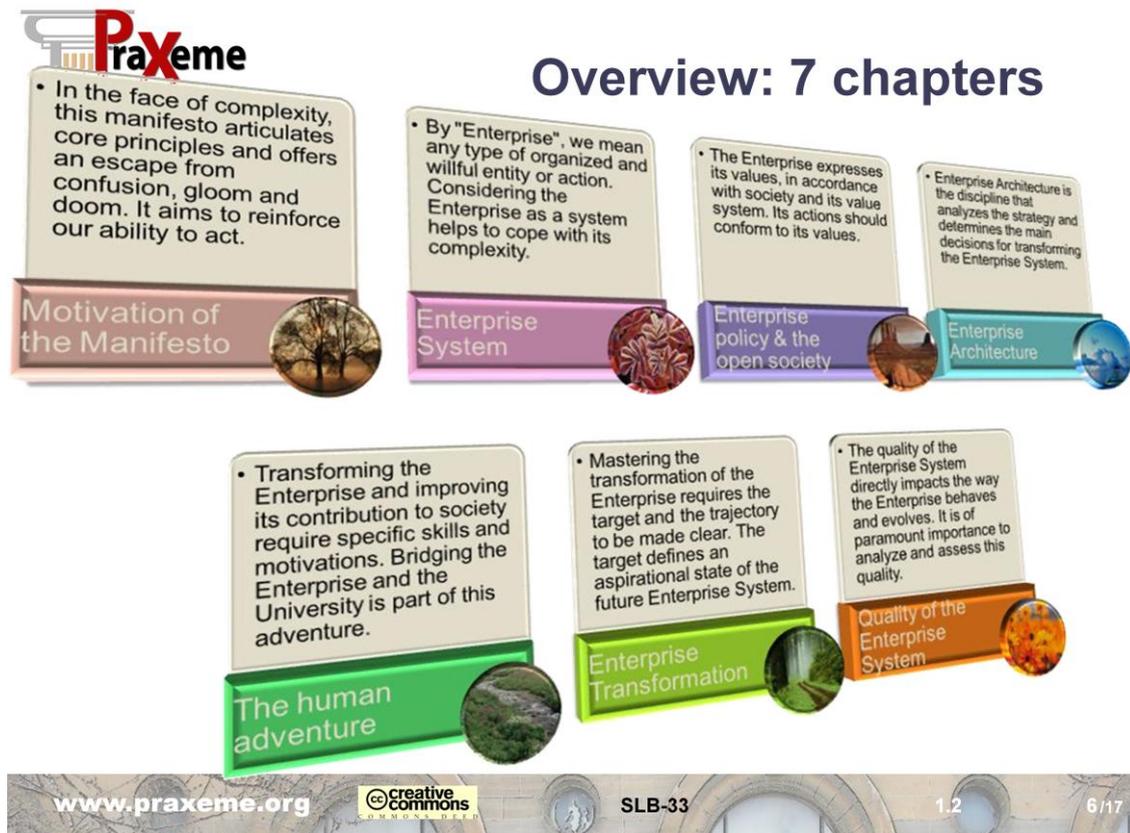


The Enterprise Transformation Manifesto is a brief text, aimed at decision-makers, and which summarizes commonplace ideas and principles that are recognized by the most advanced companies.

The Manifesto places the values of corporate responsibility at its core. It promotes Enterprise Architecture in its plainest meaning and outlines its major content.

It also calls for a strengthening of the relationships between business and Academia.

In this paper, Enterprise Architecture is seen as the discipline that covers every aspect of the enterprise. Therefore, it should encompass business aspects as well as IT, despite what we observe in practice.



The picture summarizes the content of the Enterprise Transformation Manifesto (ETM).

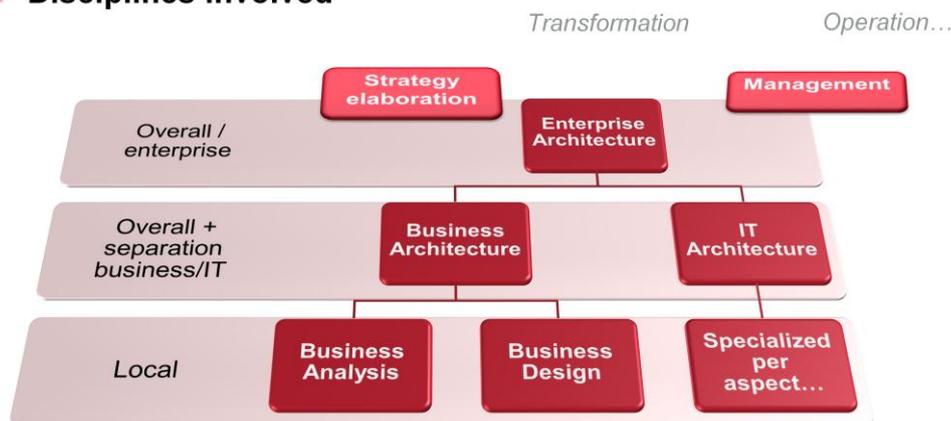
The ETM is a means to raise awareness among decision-makers, regarding the rational and interdisciplinary approach to the enterprise.

1. The purpose of the ETM is to articulate definitions and notions that could help the enterprise transformation.
2. The phrase "Enterprise System" reveals that the Reason and its tools (like the theory of systems) are mobilized in order to better understand the enterprise, as a complex object.
3. In the scope of enterprise methodology, we find culture and values: at both corporate and individual levels.
4. Enterprise Architecture plays a specific role in this landscape, providing that it adopts a daring definition (as opposed to one that reduces it to IT activity alone).
5. In order to make Enterprise Architecture more professional and efficient, it is useful to address the question of the quality of the Enterprise System.
6. Enterprise transformation implies certain notions and deliverables. The most obvious of these are the target and the roadmap.
7. The manifesto calls for an effective bridge between enterprises and academics, so as to better align research with the business needs and to bring scientific content and discoveries more easily into the enterprise.



## Enterprise transformation

### ■ Disciplines involved



According to the previous definition that reinstates Enterprise Architecture to its full meaning and potential, this discipline covers and coordinates both Business Architecture and IT Architecture. Its main responsibility consists in linking together all aspects of the enterprise. This role is critical when it comes to genuinely transforming the enterprise and improving it in-depth.

This picture first distinguishes:

- the operations, which constitute the usual running of the enterprise;
- the transformation, whether it is a local change or a deep overhaul of the enterprise.

It focuses on the transformational disciplines.

Management overlaps on both fields. This means that operational management ought to constantly scrutinize the way things are going, in order to detect malfunctions as well as opportunities for improvement.

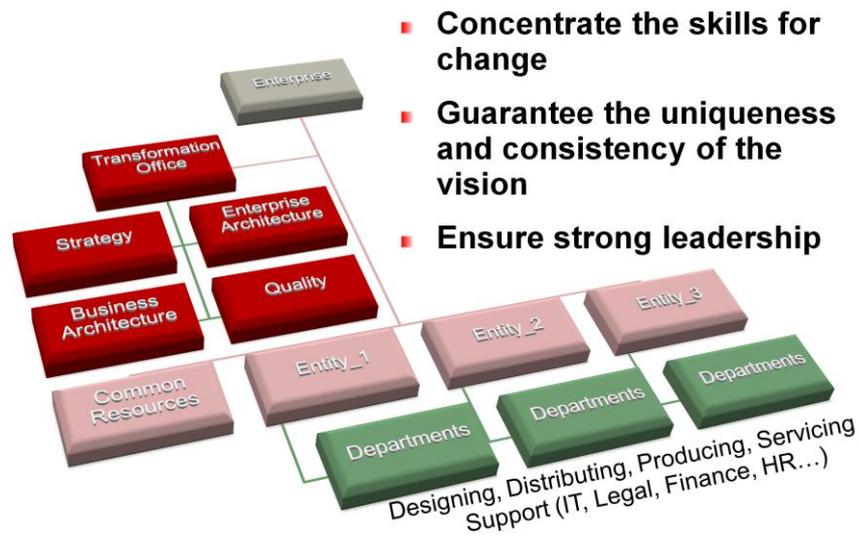
Strategy elaboration leads up to the design of the Enterprise System by the architects. The link is bidirectional: the Enterprise Architect could be in a position to propose new ideas that could have strategic implications. More often, Enterprise Architecture reformulates the strategy and deduces its impacts to every aspect of the Enterprise System: its culture and values, its semantics (the core business knowledge), the organization and processes, the logistics and the IT solutions.

Discipline-wise, we have to take into account psychological and cultural factors. In practice, skills are separated into specific domains of knowledge. Each time we use the term “architecture”, we mean that we want to deal with and to grasp the whole of the system being studied, whatever its nature.

At a local level (a function, a project...), disciplines branch out into specialties, according to the Enterprise System Topology that fixes the aspects of the enterprise. Another criterion that comes into play is the attitude or posture to be adopted, whether the practitioner “passively” describes the reality (analysis) or he/she elaborates new ways and solutions (design). As a consequence, there should be a discipline such as Business Design to echo that of Business Analysis...



## The transformation office



The idea of a Transformation Office consists in bringing together all the disciplines, skills and responsibilities that contribute to the transformation of the enterprise. This naturally covers:

- Strategy, both the analysis of the environment and the elaboration of the future target;
- Quality approach, which brings its assessment techniques as well as inspiration for improvement;
- the intertwined approaches of Business Architecture, organizational design and process design;
- Enterprise Architecture, whose critical role resides in coordinating the various approaches to the enterprise in order to prevent any waste of energy and opportunities.

Ideally, the IT resources should be part of this Transformation Office. Such a measure could claim the essential contribution made by an imaginative software design to the improvement of the business activity. Due to organizational habits and preconceived ideas deeply engraved in culture, such a measure is rarely implemented.

The enterprise methodology struggles against the status quo culture and calls for a genuine analysis of the situation in order to reveal the deadlocks that prevent the enterprise transformation.



## Why are we stuck in gloom and doom?

- **Situation**
  - The difficulty of designing, nowadays
  - The irreducible complexity
- **Too much focus on the relational dimension of the enterprise to the detriment of content**
  - Processes, roles, governance...
  - Relations versus content
- **We need to refocus on the “product”**
  - Need for a comprehensive framework
  - Need to embrace the content




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We can characterize the current situation in most of the complex and large organizations in terms of:

- Failure of imagination (for example, software design has dramatically regressed over the last few decades);
- Lack of willingness (the complication and weight of our systems discourage initiative).

In addition, we are facing an imbalance in the dichotomy: relations versus content. Globalization has led to huge capitalistic empires. As a result, the main job and focus of top-management consists in keeping the pieces together. This means they act solely on relations, relegating content to second place. This directly translates into the manager's profile. After a while, the phenomenon generalizes and amplifies due to the mimetic factor: managers tend to favor people that look like them and disregard competencies and topics that they can no longer handle. I will let you be the judge of whether or not this theory applies to Enterprise Architecture.

We can see proof of this tendency in the vocabulary and behaviors. For example, the overuse and abuse of terms such as “strategy” and “governance” are meaningful clues.

Here, let me use a metaphor. The relation-oriented manager (or function) is like a harrow: it's wide and shallow; it scratches the surface. It is not without its use, as it brings homogeneity. But, if the soil has not been correctly plowed, the harvest will not be good. It also requires the soil to be properly prepared. This is where the plowshare is necessary. It digs in-depth. This is the role of the content-oriented resources. Of course, their role can be tedious and unrewarding: they work deeply, thus slowly. Sometimes, they hit the rocks underneath and have to remove them.

For the sake of the harvest, both tools – the plowshare and the harrow – are equally necessary. Similarly, for a proper transformation of the enterprise, both dimensions have to be handled: content and relations (plowing and harrowing). Nevertheless, we observe an imbalance and a potential conflict between these attitudes and abilities (or moments).

A symptom of the imbalance (and a sign of the decline of civilization) is the ratio of PowerPoint presentations we produce against documents and serious models. We can compare this ratio through the decades. This thought can be related to the studies that lead to the conclusion: the more complex the enterprise, the more simplistic the decision-making process tends to be.



## Requirements for a proper content framework

### Stakes

- **An inadequate framework will leave hundreds of questions and issues unresolved**
  - These questions will arise thousands of times at project level
  - Resulting in additional costs and feeding heterogeneity

### Rules that a content framework should obey

- **The framework embraces every aspect of the enterprise**
  - To put it in other terms, it includes every type of information to be collected and decision to be made in order to transform the enterprise and its systems
- **Every type of element has a single place inside the framework**
- **The framework puts these elements into order, so as to ease the transformation chain and to clarify roles and responsibilities**
- **The framework is not limited to a static view**
  - It specifies the dependencies between its elements and explains how the elements relate to each other.
- **The framework is based upon a metamodel that contains the definitions and relations of the types of elements**

See more at: <http://dvau-en.praxeme.info>



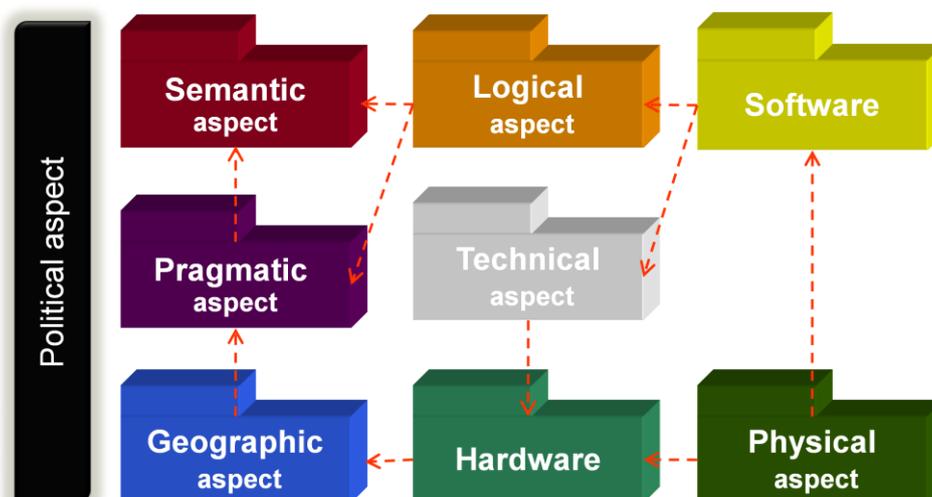
The topic of methodological framework appears to be a good illustration of the tendency denounced in the previous page.

While this question is of paramount importance, the IT community tends to adopt more and more simplistic solutions. A lot of so-called frameworks are limited to one picture, without many comments.

At stake is project efficiency and control.

Therefore, when adopting a methodological framework, we ought to check several basic rules that have been part of the tradition of software engineering for decades.

 **The Enterprise System Topology**



For a short overview and justification, see SLB-29 at <http://www.praxeme.org>



When it comes to frameworks, some famous examples come to mind: Zachman's framework, TOGAF 8, the content framework in TOGAF 9...

They are subject to criticism. To give an example, when Zachman answers the question "What" in terms of data, he relies on a "paradigm" that is marked by an IT background and that is now obsolete. Instead of data, we should now answer in terms of business objects. Another flaw of Zachman's framework lies in the fact that some elements are situated in more than one place. Moreover, this framework does not rely on a real metamodel. Thus, it cannot guarantee the development of tooling and the specification of practices.

Worse are the in-house frameworks, developed internally without any feedback from the community and, often, without any knowledge of the literature and tradition in methodology.

In this field, the starting point is – or should be – a clear understanding of the "separation of concerns" principle. Another principle that must apply to a framework is Ockham's razor (or the parsimony principle).

For criticism of frameworks: see <http://dvau-praxeme.info>

For an introduction to the Enterprise System Topology: see the General Guide (available on the website).



## How do we build a unified knowledge of the enterprise?

### ■ Technically speaking, method-wise

- Business Architecture
  - Starting with the beginning
    - Architectural analysis of the corporate strategy
    - Formally expressing the core business knowledge
  - Sharing best practices and techniques
    - For instance, the "Performance Tree" approach
    - Modeling techniques

### ■ Tactically speaking, organization-wise

- Situation
  - No dedicated budget
  - Primacy of the project mode
    - Imbalance architecture/projects, long-/short-term, global/local...
- Solution
  - Proceed by stealth!
    - Continuity of vision
    - Use of repositories
  - Refer to standards (ACORD)



How do we build a unified knowledge of the enterprise? We interpret this question as focusing on the business aspects of the enterprise, to the exclusion of logistics and IT.

In other terms, this question delimits the disciplines that take care of the representation and design of the enterprise. At the architecture level – meaning we embrace the enterprise as a whole – it is the realm of Business Architecture.

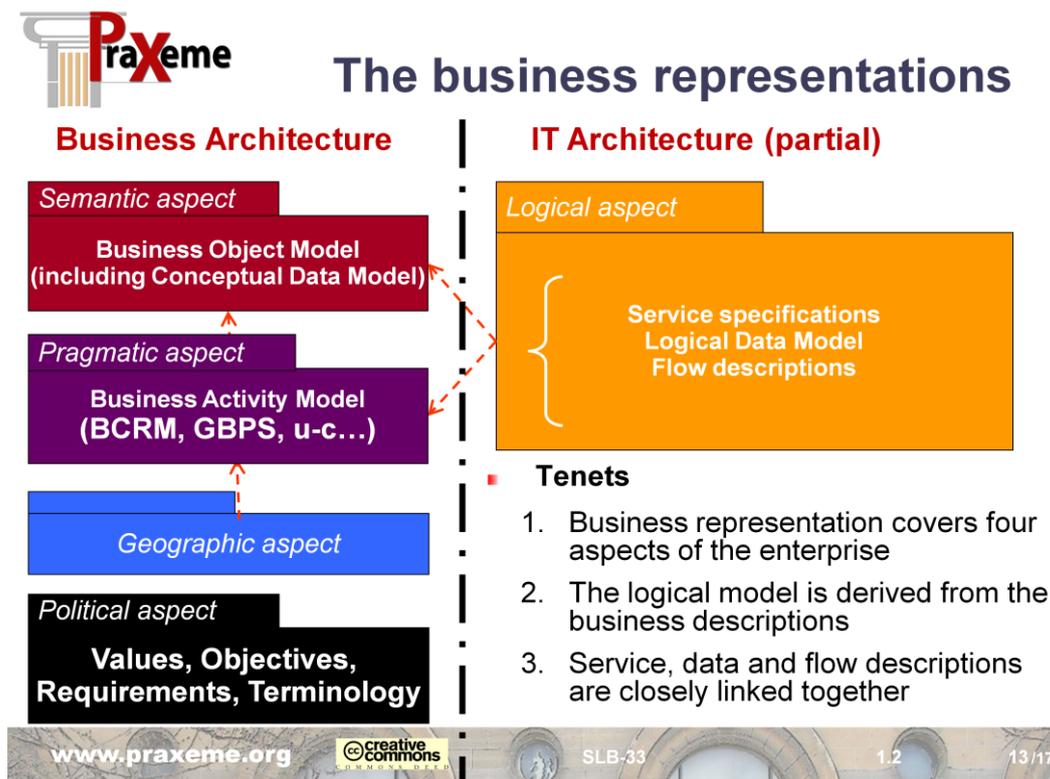
This discipline can rely on well-proven techniques among which we can mention:

- semantic modeling,
- organizational analysis and design,
- representation of the business activity through capability models,
- process assessment,
- process modeling,
- Performance Tree® as a means to rigorously define and architect indicators...

These techniques are available. The issues that the architects encounter are not at this level, even though we have to spread these techniques and to improve the practices. The issues are more in the political environment. Most of the time, the task of architecture is complicated by:

- the weakness or absence of central and long-term vision;
- the consequent lack of budget put on developing the repositories (it is almost impossible to envisage elaborating the proper business representation per se);
- the legitimacy that roots itself more in the day-to-day projects than in the consistency and audacity of the target...

As a consequence, the job of architecture cannot confine itself to content and to... architecture. It must include a great deal of relations. Some architects confess that they can do their job, according to its ethic, only by stealth. This means playing the rules of the game, getting involved in the projects, while keeping to the direction of the targeted architecture and enriching repositories in a clandestine manner.



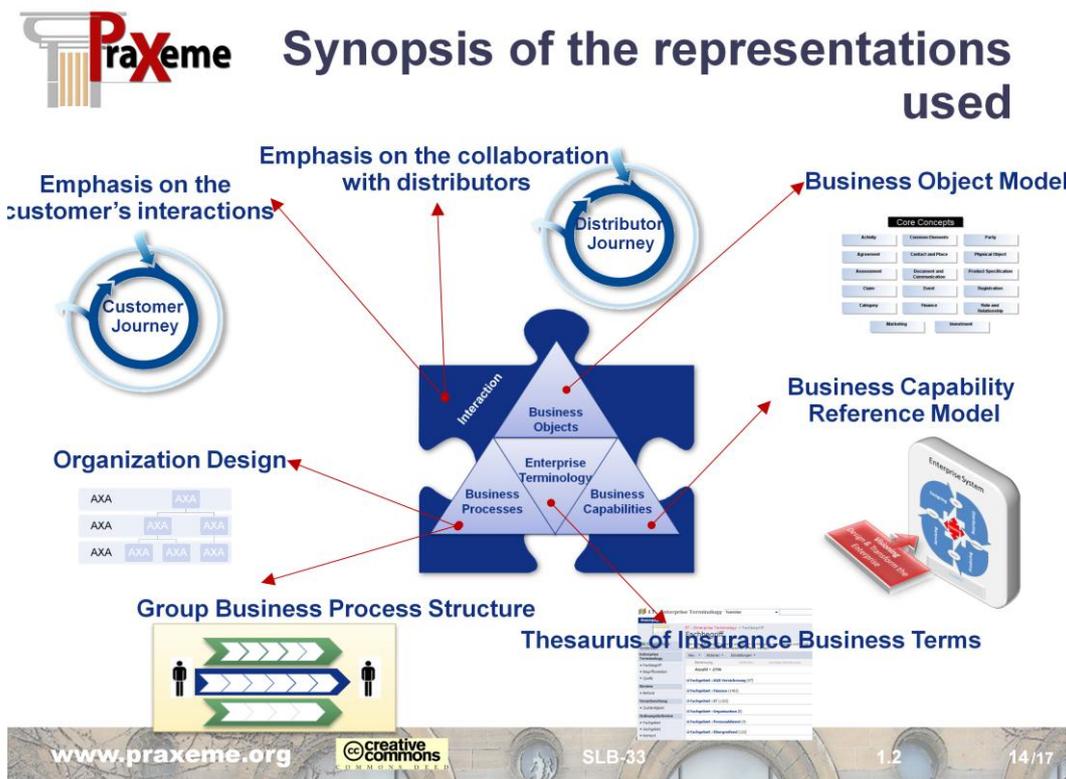
A full business representation requires three categories of models, as Business Architecture covers three aspects of the enterprise:

- A Business Activity Model, the most usual and intuitive (in the shape of a Capability Model or process model or use case model...). Also called “semantic model”.
- A Business Object Model, more abstract, expressing the core business knowledge in terms of business objects and their life cycles.
- A geographical model, to explain how the activities are located (not a priority yet).

In addition to these models, we need a place where other types of expressions can be stored. It is about: requirements, vocabulary, objectives (starting with the strategy), even values. These expressions generally use natural language and are less formal than models. They have to be analyzed in-depth, connected to one another in meaningful structures and eventually linked to modeling elements that respond to them. The framework gathers this material under the “political” aspect.

So, to organize the documentation of the business reality, we need four aspects. The methodological framework prescribes their interrelations.

When it comes to IT, the basic statement says that the best structure of the IT system has to reflect the structure of the business description.



This figure displays the AXA assets or references in their connections to the symbolic representation of a building block.

Not all necessary models are available yet, but this is the landscape the Business Architects intend to cover. These assets may come from different sources. Business Architecture is the impetus for unifying these representations and organizing the endeavors in a single and coordinated vision.

In the process, the notion of **repository** is key. Repositories are central and shared representations of the Enterprise System (here, we focus on the business side).

The first stage of a repository is when an aspect has been endowed with a proper, well-thought, well-described structure. At this point, it can drive the design established locally, at project level.

Later on, the repository is continuously enriched, fed with the results from the projects. This mechanism supposes that the models delivered by the project obey common rules. The architects formulate these rules at the same time as they establish the blueprint of the targeted system.



## Build for change

- **Spirit**
  - Not only build, then change (once)...
  - ...but build an agile Enterprise System
    - So that it is able to cope with instability and uncertainty of its environment
- **Praxis**
  - Agility in IT
    - The IT system must not be a dead weight and an inhibitor
    - It needs to be reshaped for agility and innovation
  - Agility in business
    - Organizational innovation
    - Business innovation



Semantic modeling has a significant role to play in this renewal.

The models integrate the concern of agility.

To give an example, a semantic model not only resorts to the modeling techniques that encourage genericity and parsimony, but it also assumes that a dedicated mechanism will handle the most significant points of variation. The prospect of a rules engine incorporated in the technical architecture leads to rules and constraints in the semantic model being handled in a specific way. This entails the parameters of the semantic model to be set – in some way. The modeler does not need to know whether such a mechanism will be implemented or not: he/she expresses the business knowledge so that the model is as universal and as stable as possible.



## Yes, communication is key!

- **Internally**
  - Link the specialties together into a comprehensive approach
    - Strategy, Business Architecture, Operational Excellence, IT
    - In spite of the “compartment drift”
- **Externally too**
  - Demonstrate the value, which is recognized outside
  - Resort to the conformist argument
    - Justify through the market, the standards...
  - Maintain openness



Beyond the commonplace statement, we can assert the necessity for the architects to communicate... providing that they are not losing their soul in the process and that they are not confusing communication of content with communication for the sake of communication. They have to harrow because no one will do it for them; but first they have to plow, otherwise their added-value is nil.

The main duty of Enterprise Architecture is precisely to connect the various specialties acting in the enterprise. This can only be done through communication. The first step is to connect people, then to connect ideas or initiatives... In the long run, the function of EA has to gain such a status as to be recognized as a permanent authority to be consulted in any transformation initiative. Enterprise Architects have to build this position, case by case, year after year, adapting the messages and phrasing but steering a steady course towards the targeted Enterprise System.

Communication also includes external communication. It could help to legitimate and enforce the architecture function in-house. Showing that the market is adopting advanced practices can raise the decision-makers' interest in an emergent discipline such as Business Architecture.

This is a benefit one can expect from the initiative for an open method. Not only will one find practical answers in the Praxeme corpus, but also the ability to demonstrate the potential and level of ambition that the enterprise could aspire to from an adequate EA endeavor.



## Conclusion

Topics	Messages
<b>Enterprise Architecture as a change facilitator</b>	<ul style="list-style-type: none"><li>• Stay in line with the original inspiration</li><li>• Enforce the transformation organization</li><li>• Take advantage of the interest in Business Architecture</li></ul>
<b>Building unified knowledge through Enterprise Architecture</b>	<ul style="list-style-type: none"><li>• Adopt a rigorous frame of reference</li><li>• Base your practice on a strong methodology</li><li>• Don't shy away when it comes to formal representations</li></ul>
<b>The process of clarifying the Enterprise Architecture</b>	<ul style="list-style-type: none"><li>• Use the Enterprise Transformation Manifesto to promote Enterprise Architecture</li><li>• Live up to the ambition of Enterprise Architecture</li></ul>
<b>Communication is key</b>	<ul style="list-style-type: none"><li>• Be the harrow and the plowshare!</li><li>• Join the initiative for an open method and use the argument to enforce your position</li></ul>



Enterprise Architecture, just like real architecture, proceeds through a top-down approach, starting with a forceful and unified vision and deriving from it tangibles actions. This move ensures creativity and is the source to real change.

This approach confronts the natural resilience to change. In fact, every organism is change-averse. This puts EA at risk of giving up its aspirational role. To live up to its ambition, EA has to be very technical and to rely on a strong methodology. It has to adopt a serious framework, designed for guiding a comprehensive approach to the enterprise.

The Enterprise Transformation Manifesto expresses the core tenets of this philosophy.

The Praxeme method is an attempt to provide every stakeholder with the techniques required to master the transformation.