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Architecture Blueprint in Strategic Alignment

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Abstract
Increasingly, IT architecture is seen as the obvious instrument for decision making in the strategic alignment between the business domain and the technology domain. However field experiences show we are far from the point that the business domain broadly uses architecture, while strategic alignment is high on the agenda of many CIOâ s. It looks like there is a fundamental disconnect in the communication process between the worlds of business and IT. This paper discusses which form aspects an architecture blueprint must have in the communication process with strategic alignment to overcome this disconnection. For this purpose, a couple principles are proposed for architecture blueprints to contribute to a successful alignment between the business domain and the technology domain.

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1. Introduction

Unmistakably architecture is receiving a lot of attention in the IT world. We have seen many developments on the definition of architecture as shown by the many existing architecture frameworks for IT as described by Zachman (1987)[i], Rechtin & Maier (1996)[ii], Gartner Group and many others. However the focus is changing towards the way we have to practice architecture. Cook (1996)[iii] and Spewak (1993)[iv] are good examples as they focus on the usage of architecture as a management tool for the IT decision process. This is why we increasingly see architecture as a process instead of a product. Too slowly, IT architecture is becoming part of the managerial agenda in the enterprise. The vision of Zachman (1999)[v] is that breakthrough in this is soon to happen, because the shift from the industrial age towards the information age will accelerate the changes occurring in the enterprise. This is the driver to use architecture as a survival strategy to overcome these changes. As we can expect new breakthroughs with respect to theory on the architecture subject, there are no obstacles to do architecture today.

I argue that in 2002 the breakthrough Zachman is pointing at hasn't occurred yet. Rens (ex CIO KLM) (2002)[vi] made a typical remark in an interview: *"for many years I have done lectures on the alignment of IT to the business. Again and again I had to explain how corporate management has its task in this. When after three years I was still asked for that very same subject, I was wondering if there was any development at the management level of Dutch enterprises"*. Is there a connection here? Maybe as colleagues in architecture we must look to ourselves for the cause, when a frequently praised instrument as architecture is not used in the enterprise. If we do architecture as a process where we create a coherent whole with stakeholders along different perspectives, why is the result seldom used to realize strategic goals and objectives of the enterprise? The fundamental disconnect between the business domain and the IT domain is becoming cliché. The buzzwords of the nineties were strategic alignment and are still high on the agenda of many CIO's. However, field experience shows that architecture doesn't (yet) contribute to that. It looks like IT architects speak a different language that managers of enterprises do not understand.

2. Styling characteristics of architecture work

We could ask ourselves what the styling characteristics of the explicit result of architecture work must be, before management of the enterprise will start using it. This question will move us into the technical part of architecture. Zachman is pointing with his technical obstacles mainly to the tools used to do architecture work. A lot of attention has been given to this in the literature on IT architecture. All sorts of modeling tools are appearing to create the most fantastic architectural models. It is doubtful

whether those tools are a solution for the problem we raised. Eventually it is the goal to use architecture as a management instrument to create alignment between the businesses; the information systems and the technology providing business solutions with IT that are feasible. A well-constructed and formally defined architecture provides an instrument for consistent decision making for IT, so an organization can be helped to reduce the complexity arising through the fast changing business, information systems and technology. Changes in this field often lead to initiatives within the organization or enterprise. When Foroozesh (2001)[vii] remarks: *"an enterprise architecture is about change"*, then the big question is, what will call us to action to actually use architecture strategically in the enterprise to develop those initiatives? All together this argues to get more insight in the styling characteristics of architecture work needed to actually create change.

3. Architecture and blueprint

Many times we use blueprints as terminology to make architecture work explicit. It is at least remarkable that in all the effort extending the body-of-knowledge of architecture ZIFA, Popkin and many others in the discussions on architecture frameworks never use the word blueprint. Remarkable indeed, because a blueprint is the only tangible artifact from architecture related work, that can create a momentum for change. Boar (1999a)[viii] is one of the first seriously using blueprints in the domain of IT architecture. His remark: "*What most organizations call an architecture is really a mess of indecipherable diagrams*" is the start of a plea for formalizing and standardizing the blueprint as an instrument for IT architecture. His book (Boar 1999b)[ix] is a must read for every architect making his way into the business of Enterprise IT Architecture. He describes, quite technically, standards for the constructions of blueprints and models for grounding them in the enterprise. The models Boar provides are very valuable and must be the ambition of many enterprises. The question is how many enterprises take architecture that seriously and really implement the structures as Boar describes to get architecture operational. From a technocratic view it is very attractive to standardize things, but it is questionable how far one must go in standardizing blueprints. Will every attempt to standardize a blueprint result in behavior that forces us to classify architectural elements into standards? Do we not believe that making blueprints is the result for and from humans, constructed from many considerations in connection with the right stakeholders in the right context? The people concerned in architecture work making a blueprint are not all architects, but they do have the objective of becoming 'owners' of their blueprint. So the language used in a blueprint is of uppermost importance for the communicative value, hence indirectly for the power of change! Striking in the models for change control, Boar describes, is the change agent who drives architectural change with a business initiative. Who is this change agent? Is this the one who stands at the center of this whole strategic alignment

issue? So back we are at the beginning: *how can we induce change where two worlds fundamentally do not understand each other?* With the blueprints from Boar alone we will not find an answer. The big question which still stands is how to bring two worlds together, start talking the same language and eventually have a blueprint for change that strategically aligns the IT domain to the business domain and visa versa.

Altogether enough reasons to extend the body-of-knowledge of IT architecture with knowledge on the way we express things in architecture work and to suggest a number of principles that can contribute in the process of communication between the IT domain and the business domain.

4. Principles for an architecture blueprint

In the IT world ‘architecture’ is often used as a standalone wording. The use of this jargon without giving a context is probably not more than just an empty slogan, which possibly refers to connection. We must always give a context if we want to indicate what kind of architecture we mean in relation to the IT domain. There are many examples: information architecture, network architecture, business architecture, technical architecture, enterprise architecture, et cetera. The same applies to the usage of the concept of blueprinting. Everywhere we use the word blueprint so we must be very careful that it doesn’t become diluted with the underlying concepts. On the architectural level the wording ‘architecture blueprint’ would fit best. A practical example of this can be ‘blueprint for information architecture’. If we compare the word blueprint with specification and zoning plan, we get the impression that a blueprint is some sort of container concept containing a couple of elements.

Specification	a detailed precise presentation of something or of a plan or proposal for something -- usually used in plural
Zoning plan	to arrange in or mark off into zones; *specifically* **:** to partition (a city, borough, or township)
(zoning)	by ordinance into sections reserved for different purposes (as residence or business)
Blueprint	*A contact print of a drawing or other image rendered as white lines on a blue background, especially such a print of an architectural plan or technical drawing. Also called* ***cyanotype****.*
	A mechanical drawing produced by any of various similar photographic processes, such as one that creates blue or black lines on a white background.
	A detailed plan of action. See Synonyms at plan*.*
	A model or prototype

Source: Marriam-Webster OnLine

These elements have to do with content and with execution. From a technocratic perspective often arises the need to be very detailed which is also shown in the explanations above. The art of architecture is to carefully watch the borderline between engineering and architecture, preferably on such a level that this stimulates communication between all stake-holding parties. What most appeals to our imagination is zoning plan: *to partition by ordinance.* This calls for attention and compliancy and would fit very well to use an architecture blueprint as a momentum for change. According to the above we can state that an architecture blueprint in our context must outline content and execution in a changing relationship between the business domain and IT domain.

Principle 1 An architecture blueprint outlines content and execution of change in the Business-IT relation.

In the Business-IT relation a (potential) change is taking place, initiated from either the business domain or the IT domain. On the one side, this is about building a case, that must lead to decision for a public/private contract by the sponsor of the architecture work, on the other side this is about guidelines to come to an implementation of the architecture blueprint. An architecture blueprint must serve both goals with rational based choices based on the architectural elements. All too frequently the focus here is on the IT domain, while these choices even so do apply to the business domain. Therefore describing the old and new situation (IST and SOLL), with the business advantages that can be achieved with the new situation, must be done on such a conceptual level that an architecture blueprint has a high communicative value.

Principle 2 **An architecture blueprint contains the conceptual description of the new situation and what this contributes to the business domain.**

Earlier on we stated that a blueprint is the result for and from humans and that it is constructed from many considerations in connection with the right stakeholders in the right context. Architecture is expressed as principles, models and standards. Effective communication of architecture is characterized by simplicity. Therefore it is an absolute must that principles, models and standards are not confusing or complex. After all, stakeholders must be able to understand them. Superfluous usage of details will not contribute to the communication effectiveness, certainly if we realize that us humans are transforming our way of transferring information from a text oriented way to an image oriented way. Abstract is our credo here! Practice show that one strong principle, well considered, has more value in the communication process then ten lousy formulated principles.

Principle 3 **An architecture blueprint contains well-considered strong formulated principles, simple models and standards that are not ambiguous, all easy to interpret.**

Principle statements often bring along implications that can play a major role in the decision making process for the tender of the implementation project. If these implications do not origin unanimous from all those concerned with the architecture work, they can lead to unpleasant surprises during the implementation project. Field experience show that not always all conditions are met to fulfill principles; hence being an obstacle prohibiting the start of an implementation project. If we consider that the greater part of IT related projects has problems to come to a successful end, it becomes clear that the use of implications and obstacles is a way to avoid future risks and therefore are very important in the communication process.

Principle 4 **An architecture blueprint contains implications caused by principles and the obstacles that prohibit fulfilling the principles.**

Change begins with stopping and taking distance. When change is required to sprout in organization, architecture work has to take account of the existing. Therefore it is good to familiarize yourself with existing architectures, policy plans, business plans, information plans, project methods, et cetera. Though be cautious and treat them with a common sense, so that the alignment with existing affairs is on a rational basis. They provide the boundaries of the architecture and are presented in requirement

specifications that must be part of the architecture blueprint. The previous principle already proves its value here. As example, changes can have implications on existing policy plans. Also in requirements specifications the golden rule applies that simplicity is the art of communication and complexity works contra-productive

Principle 6 **An architecture blueprint contains a requirements specification that provides the contour wherein the future situation must be constructed.**

Change has everything to do with people and perception plays a major role in this. The alignment process between business and technology takes place in one totally integrated socio-technical network. In this heterogeneous network of actors, institutional provisions, textual descriptions, ways of working and technical artifacts it is very easy to cause different perceptions on what is desirable, possible and feasible. Using an architecture blueprint in passing intentions too the business domain must therefore be accompanied with conditions that depict the acceptance of successful change. Very often this is written in an acceptance document.

Principle 6 **An architecture blueprint describes the conditions that must be met before the business domain will depict a successful implementation.**

The above principles for an architecture blueprint can contribute in the communication process between two worlds that do not understand each other but can be so meaningful for each other. The often called Business-IT alignment is in the dynamics of today's enterprises a continuous process of change. An architecture blueprint herein is not a straight jacket but part of a development process where alignment with all stake-holding parties takes place. Various dimensions are recognizable in this like politics, culture and sense-making, that regular form a part of this kind of development processes. Architecture work is influenced by these dimensions, so making an architecture blueprint will be a mix of aligning interests, sense making, awakening and motivating and sometimes letting things happen in a natural way.

5. Conclusion and summary

Not in the least is the number of principles given here complete. This paper wants to bring to notice how an architecture blueprint can contribute to the communication process so that alignment between two apparently independent worlds, Business and IT, can become reality. The core issue in the communication process is effectiveness by simplicity. Scorecards are hot these days, so perhaps someone feels the need in making the communication quality of an architecture blueprint measurable enabling to find the real contribution in the communication processes mentioned.

This paper addressed the question why architecture related to IT has not yet taken its long expected role in the strategic alignment process that a lot of enterprises pay attention to these days. Concluded was that the way architecture work is made explicit, has styling characteristics that can be contra-productive in the communication between the business domain and the technology domain. To let the architecture blueprint contribute in the communication process that exists with strategic alignment, some principles are proposed that an architecture blueprint must comply with.

Peter Beyer is a senior architect within the HP Services Consulting & Integration organization working in the Public Sector, focusing on information infrastructures. He started in IT with Digital Equipment in 1978 and has been working as specialist, consultant and architect ever since. Peter has been the lead architect for many infrastructure projects over the years and is working now at the enterprise level mainly on the business perspective in engagements bridging the Business-IT gap. He is a research fellow of the PrimaVera Research Program at the University of Amsterdam. Peter received a Master's Degree in Information Management, cum laude, from the University of Amsterdam.

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