

On Architecture.

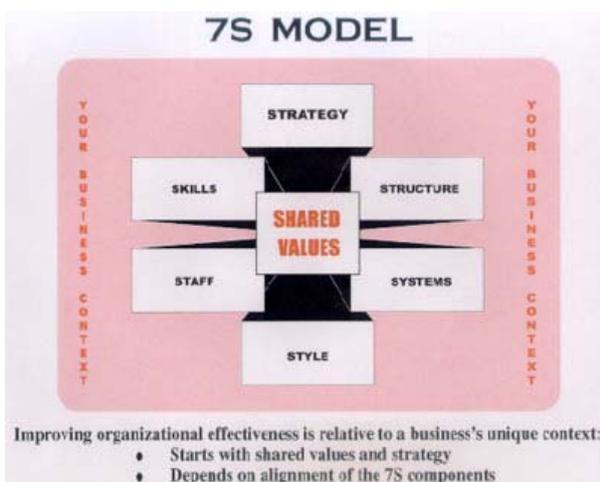
And on restoring the missing amplitude in it.

Call me old-fashioned or even a fundamentalist, but I do not automatically think of ICT first when the subject of architecture arises. I rather think of ancient buildings in beautiful scenery and of Vitruvius' take on architecture, describing it as "a structure exhibiting the three qualities of *firmitas*, *utilitas*, and *venustas*.", that is, it must be strong or durable, useful, and beautiful. Frankly, I have not observed these qualities in any so-called architecture within the digital realm of modern ICT yet.



Arguably Vitruvius' definition as such may be discarded as 'too vague' for our modern minds, which does not say we have to abandon these *hallmarks of architecture* all together. In fact, IEEE provided us with a clear, modern day definition of architecture which is little short of a perfect *addition* to Vitruvius' description: "The fundamental organization of a system, embodied in its components, their relationships to each other and to the environment and the principles guiding its design and evolution."

I have found that over the last few decades too many have fallen into the trap of overzealous converging by applying 'architecture' as a phenomenon solely and rigidly to but one specific field of expertise, say ICT for example, and thus diluting the essence of architecture by trimming it to fit. In my fundamentalist mind the term 'ICT Architecture' is, indeed, a *contradictio in terminus*. Many of those ICT Architects even limit the **environment** (mentioned in the IEEE definition) as pertaining to 'just' the ICT-environment, or even to subsets within ICT... In their defense it should however be mentioned that the 20th century 'business'-paradigm hugely contributed to the established isolationism of ICT. Even *time*, investment of which was a quality aspect in the old days, had been flattened and reduced to a money-aspect. The paradox is that these businesses are now literally paying the price for that.



However, fast and expanding capabilities of technology push ICT to rapidly evolve from a separate but facilitating world-on-its-own to a high potential enabler of entrepreneurial business initiatives, and new bridges are being built between the ICT-island and the mainland of businesses, enterprises and organizations. We see ICT being hooked up with 'business', we see SOA, we see EA. We see that the 'business' is the main driver for these developments. So, bridges indeed, but the essence of a bridge is not so much that it connects, but mostly that it reconfirms the (illusionary) separateness of the entities it

aims to connect. The true concept of Architecture always was, and should remain, holistic. Organizations themselves are relearning the profound truth in Darwin's scientific conclusion that not strength, not intelligence, but adaptability is the most essential attribute for the survival of organizations. In fact this means that organizations have begun to realize that not 'just' the ICT hardware and -software function as a brake on evolution, but that in fact the

whole ICT domain can be considered 'legacy' due to ICT's paradigm of their own separateness, and therefore function as brakes on the establishment of holistic adaptability of organizations, endangering their very survival in the process.

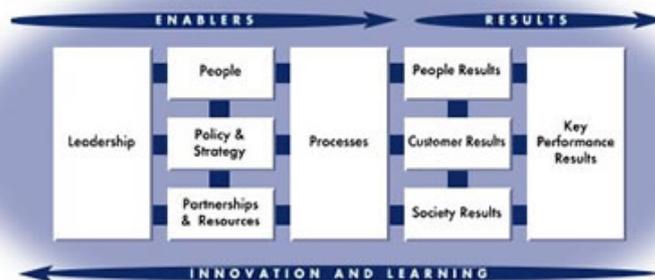
Meanwhile many from ICT maintain that the core activity of an architect is *designing, building* even '*architecting*': vague if not confusing. The broadly accepted IEEE definition makes the work of the architect, indeed, crystal clear: he/she '*organizes (fundamentally)*'.

The additional '*fundamentally*' may best be grasped when viewed in the context of the *behavioral value-chain*. How a 'system', an entity, is perceived and or behaves, is an outcome of the chain *Principles* → *Insights* → *Rules* → *Behavior*. Each step is determined by its preceding step, except of course the first one. *Principles* provide the '*fundament*' for all consecutive steps. It then follows that Architecture is *prescriptive* at the highest, *fundamental* level of *principles*. Everything after that is not architecture, but *the implementation of it*.

IEEE's definition is also very clear on *what* it is that an architect *organizes*: '*components, their relationships to each other and to the environment*'. The *environment* includes everything that has, in any way, form or measure, any connection with the '*components*' being organized. Yes, even if by chance the subset of components happens to solely belong to the ICT domain, they will influence, and be influenced by, '*the environment*': business, processes, people, politics, stakeholder issues,

exposure and relevance to society are but some potential *environmental* issues. The pictures in this article of McKinsey's 7S-Model and of the EFQM's model (to the right) provide extra clues to the aspects constituting *environment* from an organizations perspective. Aligning these

issues to that one coherent 'entity' that can be separately identified within its environment is *organizational* and has an *organization* as a resulting entity. Back to IEEE: the *fundamental organization* of all components, related to all relevant *environmental* issues and to the (explicit) *principles that guide the design and evolution* of the 'entity' is called Architecture. Any result from such endeavor is *an organization under architecture*.



So let me raise the standard of what constitutes architecture to a level at which both the complete range of attributes is clear and at a level at which the Devine art of architecture is reaffirmed. Here is my attempt to restore the missing amplitude in present-day so-called architecture to (true) Architecture, by suggesting the following definition:

The fundamental organization of a strong, useful and beautiful system, embodied in its components, their relationships to each other and to the environment and the principles guiding its design, evolution and durable adaptability.

N.B. While the next years will see a dramatic blending of the physical and digital worlds, this definition of architecture may apply to either or both worlds.