

White Paper

The Art of Judgment: Reality Judgment

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Ceri has thirty years in the IT industry, originally delivering complex control systems and subsequently broadening focus to Enterprise Architecture, Governance and transformation of the IT function. Working as a chief architect, consultant and coach, he enables FTSE 250 organizations to make medium and long term decisions on the shape of the Enterprise Architecture and positioning of the IT function.

He advocates putting people at the heart of technology and business change with focus on the human enablers and constraints. His work deals with the way in which rigorous engineering and architecture disciplines are integrated with the cognitive and behavioural capabilities of the people who practice them.

This white paper is the first in a series that explores the role of judgment in Enterprise Architecture. In particular, it focuses on the relationship between Enterprise Architect, the information, and the stakeholders that enable successful execution of that role.

Enterprise Architecture is more Art than Science

The title is taken from a seminal book by Sir Geoffrey Vickers - *The Art of Judgment (Ref [1])* - focusing on the types of judgment involved in perceiving the situation and decision making in the shaping of public policy.

Sir Geoffrey Vickers was ahead of his time in the use of systems thinking to examine the nature of regulation in human societies. He studied the continuous emergence of values and how they work through the processes by which we understand 'reality' and respond to it on large and small scales. He gave this framework a name: The Appreciative System.

This series of White Papers takes these ideas as their core point of reference and explores their implications in the field of Enterprise Architecture. EA may appear at first sight to be a field that has little to do with public policy making. However, they both share some common characteristics:

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- They operate on a large scale, over the long term
- They deal with ‘wicked’ problems (*Ref [2]*) where the understanding of the problem shifts with every attempt to solve it (*see Ref [2]*)
- They routinely challenge the Status Quo
- They rely on other (i.e. executive) organizations to implement change.

Architecture and design are decision-centric, human processes that apply human values to information within the context of defined objectives. Conscious and unconscious decisions are made constantly by individuals and groups. The way in which the information is acquired, managed and presented, whether through specialized tools or the back of an envelope, place critical constraints on the nature and quality of decisions possible. For the purpose of this White Paper, analysis of judgment considers three key dimensions: the **type** of judgment, why people **differ** in their judgment, and **qualities** of a good decision.

Vickers proposes that as part of an overall Appreciative System, there are three distinct types of judgment:

1. **Reality judgment:** concerning what is or is not the case;
2. **Value judgment:** concerning what ought or ought not be;
3. **Instrumental judgment:** concerning the best means available to reduce the mismatch between *is* and *ought*.

For each of these, where there is disagreement between individuals, it is generally for one or more of the following reasons:

1. They hold different values and objectives
2. They have different information available to them, and in different forms
3. They possess different skills in decision making

Good decisions have a number of key features. They are: inclusive (they have been made with the right information and the right people), persistent (they stand the test of time), authoritative (they are recognized as direction and implemented), optimizing (they balance tradeoffs across time and space).

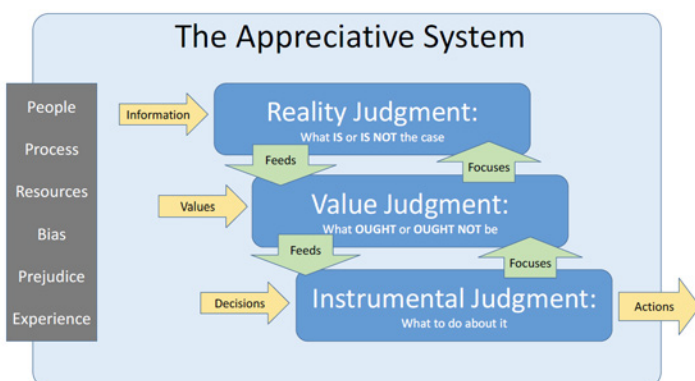


Figure 1. Types of Judgement within the Appreciative System

Together, these dimensions provide a complete framework for structuring the decision making processes in Enterprise Architecture. First, we take a close look at Reality Judgment.

We Construct our Reality

What key elements are involved in Reality Judgment?

1. **Breadth** - this defines the boundary of the System of Interest (Sol) within which value and instrumental judgments are to be made. The Sol will include or exclude information in each architecture layer (e.g. Business, Application, Infrastructure) as well as more contextual and less structured items (e.g. the current project portfolio, the corporate 'weather', the uncertainty of funding). The scope may be defined by a particular vertical area of the business (e.g. if the automation of business processes is of interest) or a specific type of horizontal service (e.g. network, if rationalization and convergence are of interest).

Making Breadth choices requires knowledge of the purpose for which the Architecture is being used and recognition of jurisdictional boundaries. The System of Interest works best when it is aligned with the system in which instrumental decisions can be made, and it reflects the domain within which optimization and trade-off decisions can be made and implemented. Or, in other words - there's no point in trying to understand someone else's problem, at the expense of your own. The exception to this rule lies at the edge of the system of interest, where the external systems impose constraints or may need to be influenced (e.g. interfaces between business applications, or the need for an application to 'fit' on standard infrastructure).

2. **Depth** - concerns how much detail and precision is required. It is unlikely that the System of Interest needs to be understood at a consistent level of detail across the entire system. Some areas will be more subject to scrutiny than others. For example, if there is an underlying strategy to adopt off-the-shelf (OTS) solutions (business or technical), then the depth required is only that which is needed either to: a) differentiate between competing solutions; or b) integrate the solution into its environment. There is little value in unpacking the OTS black box to understand its internal organization. Depth may also be needed where there is already an intuitive sense that there are problems or opportunities, and in areas where there are known to be contentious views.
3. **Scope** - refers to the type of information concerned and the attributes involved. For example, if the purpose is to understand the extent of system duplication, it is only necessary to identify and itemize the systems involved and the capabilities they provide. If the

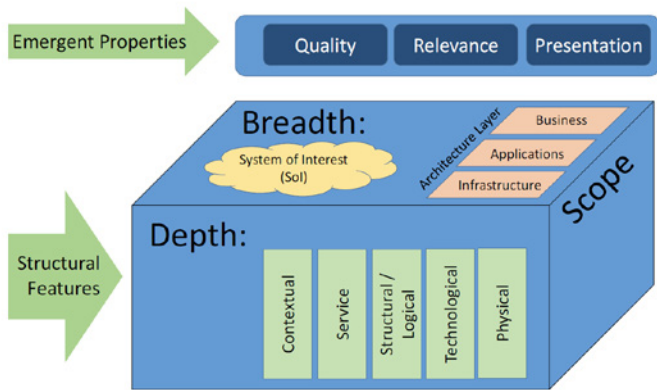


Figure 2. Key Dimensions of Architecture Reality

purpose is to understand whether or not the duplication is actually a problem, additional attributes such as cost, quality of service, and extent of process variation will be needed. If the purpose is to do a stock-take of systems to feed an outsourcing arrangement, then cataloguing the systems may be enough. If the purpose is to inform process & system standardization initiatives, a greater sense of what the systems are doing and how they are doing it is needed.

4. **Quality** - concerns how accurate and reliable the information is. The drivers for quality are similar to those for Depth with one key addition - understanding what's at stake. Without understanding what rests on the decisions, it is not possible to tune the quality (or, in fact any of the other Reality Judgment elements). At one extreme, a business may be trying to make a 'bet your business' decision about an acquisition; at another, it may just need an inventory of applications to estimate service management costs.

A key driver of quality is the organization's appetite for risk. One organization may be comfortable making a less-than-perfect decision quickly (and potentially reversing it later) based on 80% intuition, 20% evidence. Another may need 80% evidence and 20% intuition. These are cultural characteristics that are hard to quantify and have to be based on a 'feel' for the environment.

5. **Relevance** - concerns focus on information that is likely to be of value, and only that information. It may be tempting to 'harvest' from the Service Management Configuration Management Database (CMDB) or other 'well formed' sources. This temptation should be resisted as it creates an unnecessary overhead, is distracting and leads to duplication and degradation in the quality of information. Again, it is critical here to understand the purpose for which the appreciation is needed i.e. the Value and Instrumental judgment that it will enable. Being clear and ruthless about what to leave out is a key skill for an Enterprise Architect.

6. **Presentation** - concerns how all this information is presented and how the Enterprise Architect and other stakeholders are able to engage with it. The right kind of diagrams may be useful for communicating complex information in a useful, descriptive way, but their inherent ambiguity prevents them from forming a definitive specification that facilitates action. If the purpose is to provide illustrative information that taps into an intuitive or emotional decision-making process, then diagrams and bold assertions are helpful. If the decisions have to be based on quantified information where prioritization is needed between competing ideas, lists are

more flexible. One size never fits all here - stakeholder-specific Architecture Views are valuable tools (Ref [3]: IEEE 1471).

Reality is not ‘out there’ and objective

Reality Judgment ranges from basic cause-and-effect beliefs to subtle and complex ‘facts’. It is important to recognize here, that ‘reality’ is never objective. All reality judgments are facilitated by what Vickers calls the *Appreciative System* - i.e. the explicit and implicit system of beliefs, filters, biases and prejudices that are all part of being human. For the Enterprise Architect, this means being aware of our own ‘confirmation biases’ - or, in other words, our unconscious tendency to see what we want to see that matches our existing beliefs, and exclude evidence that contradicts it.

The only way to effectively counter this influence is to work in teams and establish an environment where challenge and critique is encouraged. The typical configuration of an EA team into specialist areas tends to work against this, as does any significant reliance on dogma and personality. Making the unconscious conscious and stating the unstated assumptions helps to create the kind of transparency in decision making that delivers resilient and persistent decisions rather than brittle and volatile ones. When Value and Instrumental decisions appear at one moment to have been made and at the next unmade, it is often because they were not supported by a Reality judgment and a commonly-held appreciation of the situation. Facilitating this commonly-held appreciation is a major part of the role of an Enterprise Architect.

Conclusion

In common with other decision-making disciplines...

To finish, the following paraphrasing from the centenary edition of *The Art of Judgment* articulates key perceptual capabilities that all Enterprise Architects should aspire to possess:

- 1) The ability to find patterns in complexity and to shift our choice of pattern according to varying criteria. Coupled with this is the ability to suspend the tendency to lock on to a single pattern as the only possible one.
- 2) An artful selectivity in deciding what features of a situation are most important in keeping with shifting interests, values and concerns. What is highlighted and omitted is wholly a product of our appreciative judgments.

- 3) The ability to “read the situation”. This includes judgments about how much to simplify the complexity of the environment, and in what ways.
- 4) The investment of the self in the situation at hand. Unlike the objective detachment emphasized by “scientific” methods, the making of appreciative judgments depends on the presence of a caring bond between the self and others; subject and object.

This last point is quite different to the orthodox view of a traditional analytical approach to decision-making. It speaks of the engagement, commitment and coherence between (in this case) the Enterprise Architect and stakeholders, people and Architecture. Focus on this prevents disembodiment of the Architecture and ensures it is at all times relevant and valuable. It puts it in context and makes it meaningful to stakeholders. Awareness of these capabilities mitigates against some of the problems created by treating Enterprise Architecture as a science, and the Enterprise as a complex object that can be engineered.

The next White Paper in this set explores the relationship of Art and Science further, in the context of the making of *Value Judgments*.

References

- [1] Vickers, G (1995) The Art of Judgment Centenary Edition. ISBN: 0-8039-7362-4
- [2] Wicked Problems:
<http://hbr.org/2008/05/strategy-as-a-wicked-problem/ar/1>
- [3] IEEE Std 1471 2000 ISBN: ISBN 0-7381- 2518-0 SH94869

The author and Orbus welcome your views on this White Paper. If you would like to get in touch please feel free to do so through the following:

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