Analytics for Zachman's Enterprise Ontology – Solving Executive Management Problems

Some Background on the Zachman Framework

John A. Zachman's, the "*Framework for Enterprise Architecture: the Enterprise Ontology*[1]" provides an excellent basis for understanding and critically examining the enterprise. The "Enterprise Perspective" is the actual execution of the enterprise's business model. It is critical for success of its strategic direction which we stated in last month's article. The value of the framework is it keeps items simple to categorize, understand, and relate in assessing change, risk, complexity, and alternative views needed to evaluate opportunities and problem areas in the business.

By using the interrogatives that the Framework advocates: *What, How, When, Who, Where, and Why*, the integration of "primitive single-variable" descriptive representations of the business provides answers that most executives seek. The absence of one or more answers to these questions keeps executives up at night! If the architect uses enterprise business analysis methods and analytics associated with these interrogatives, the analyst is able to identify, rank, assess impact, and decide on the execution, knowledge, and performance problems management wants solved with these "primitives". This provides instant creditability!

The framework also addresses the reification (the transformation of an idea into a practical thing) classifications of: *Identification, Definition, Representation, Specification, Configuration, and Instantiation*. The reification requires some method that articulates the artifacts needed for conclusions, the categories of analysis to use, and the traceable linkage between architectures. Each perspective produces different artifacts. For example, *Identification* in Executive (Row 1) can produce lists of products, processes, decisions, locations, etc., *Definition* in Business Management (i.e., many items packaged in a business plan), *Representation* in the Architect (i.e., a specific operational design) are business-oriented while the *Specification, Configuration, and Instantiation* are implementation-oriented.

The intersection of the columns (interrogatives) and the various rows (reifications or audience perspectives) result in a matrix of 36 unique cells. Given that these "primitive single-variable" descriptions are available, phrase analytics coupled with quantitative methods provide the insight needed for effective restructuring of its execution [along with the knowledge and performance of the enterprise whether major or minor].

Let's examine the practicality and analytics of the enterprise ontology from an "Executive" perspective. The most common starting point for this perspective is row one (1) of the framework. A key point about the Executive perspective is that each column represents the identification of some list associated with the particular interrogative.

[1] John A. Zachman, "The Zachman Enterprise Framework: an Enterprise Ontology", Version 3, www.zachman.com.

1. In the "***What***" column, one would collect information about those things that your enterprise would maintain an inventory. Those items that the executives would want to maintain counts.
2. In the "***How***" column, there would be the various process flows that enterprise uses. From the "executive" perspective, these flows might represent the organization's value chain.
3. The "***Where***" column would contain the various distribution networks that are critical to the organizations operation. The distribution networks that might be identified might include physical locations, computer networks, etc. that are relevant to the organizations operation.
4. The "***Who***" column provides a list of the organizational roles that are responsible for the delivery of the organization's processes.
5. In the "***When***" column, the executive's provide some context of the various cycles associated with the timing to perform the organization's activities.
6. The "***Why***" column is the reason and motivations used to support the enterprise's activities. It is the executive's rationale for existing of processes, distribution networks, responsibilities, timing, and inventories in the organization.

Having "executive" perspectives in these lists in and of themselves is really a valuable resource. Unfortunately, in most enterprise situations, these items are not even listed. Therefore, some of the relationships are not really understood leaving a significant gap in understanding since "people" make assumptions about associations where a gap in understanding exists. This leads to incorrect decision-making that affects other interrogative relationships.

That's why it is critically important to examine each situation and to use some form of analytics to assess the relationships that exist across these interrogatives.

Applying Analytics to this Architectural Framework

The situation – Start with the executive and management interest in direction and strategy from the business perspectives

It is one thing to document architecture; it is another to derive value from the architecture. Of all the frameworks out there of which there are many, few have as well-defined ontology as the Zachman Framework. Because of this clarity of components, such as: "single-variable primitives" and their associated composites, it provides a straight forward way to apply phrase analytics to the framework artifacts. Taking advantage of this ontological structure and the application of analytics, it is one of the best ways to convert artifacts from other frameworks into the Zachman Framework. There are specific techniques for doing this type of conversion. Of course, there is some human intervention to ensure a useful mapping occurs. Why? The purpose of other frameworks is not the same as that of the Zachman Framework.

Organizing the Executive Perspective of the Zachman Framework

There are various ways to acquire the material for the top 3 rows including management interviews, extracting content from strategic plans or corporate reporting requirements from quarterly or annual reports, deconstructing management disciplines like balanced scorecard, value based management, value chain and even inferring the list from operation models, such as:

process flows. The gathered material is sorted into each interrogative. Creating Composite Models of Executive Perspective (Row 1) columns

Typical Composites require choosing an anchor or focal point for the analysis, for example:

- How and What (Process to Data, such as: documents, databases, sensor data etc.)
- How and Who (who does the work)
- How and Why (why are you doing it)
- How and Where (where is it done)
- How and When(when do you do it and what triggers it)

Value Proposition for Executive Perspective – Using Analytics on the top 3 rows

Often, organizations are engaged in a number of strategic changes that have dramatic impact on their organizations. Executives seek solutions that have a higher probability of being a good fit for the organization. Typical question executives need answers to are…What can we do that has value for the business? How does it impact change, risk, complexity, agility? So here are a few examples of situations that are typically examined:

Typical Problem: Do the two or more alternatives fit with the enterprise 75% of Mergers and Acquisitions fail due to operational and cultural differences.

A comparison is desired (*Comparative Analysis*) for:

- Mergers
- Acquisitions
- Consolidations

Typical Problem: What parts of the enterprise does a government regulation change? What is the impact of a policy change in terms of rules, goals and risk? What if we add new products, what is impacted?

An assessment of the Strategic Impact (*Strategic Impact Analysis*) on the organization for:

- Changes in strategic direction
- Impact of government legislations
- Policy changes

Typical Problem: Which process should we fix first? What package fits our business best? How can we assure completeness so we finish on time and avoid last minute changes we did not anticipate when deploying changes to the enterprise?

A way to rank (*Ranking Analytics*) various competing initiatives to allocate resources, such as:

- TQM programs

- Benchmarking efforts
- Package Selection
- Transformation
- Process Improvement

Management decision-making is best done when you see the forest and the trees. A complete management perspective from a single starting point dealing with management issues such as: change, risk, complexity, and regulatory compliance provides the value capability that exists in various views of the business. The pieces are there, they just need to be integrated into one place - the Zachman Framework provides the opportunity!