EPRI | ELECTRIC POWER RESEARCH INSTITUTE

EXECUTIVE BRIEFING: BUSINESS CAPABILITY MODELS – STRATEGY AND USE

Abstract: Business Capability Models are not well understood or used in the utility industry. However, business capability models are a powerful tool for aligning investment and making sure that these investments match the desired strategic initiatives. This activity is an important part of developing business architecture which informs all aspects of architecture development and forms a starting place for any road map effort.

Key Takeaways

- Business architecture is a business skill, although architects should have it as well
- Language needs to emphasize and describe business needs, not technology
- In the utility industry there is a significant gap in understanding of the use and value of business capability models

Business Capability Models | Lack of Understanding

EPRI recently held an informal survey and as such, although not definitive, it highlighted the challenge regarding the understanding and use of business capability models. The "tongue in cheek" response available in the survey, "A. A what now?" received 37% of the responses. Only a handful of utilities are starting to use this tool, and even fewer have completed the mapping and used it to determine if their investment dollars match their strategic initiatives. This gap is surprising, especially when one considers that a Corporate Executive Board (CEB) report found in 2013 that, "less than one-fifth of business leaders believe IT's strategic plans effectively prioritize the investments most important to them" [1].

What is a "business capability"? A business capability is the organization of the people, processes, tools, expertise, to provide some business function/service. A business capability model then, is a categorization by capability area of business functionality and the decomposition of those into more detailed functions/services, software applications and technologies, and in this instance, with definitions applicable to utilities.

Figure 1 The Open Group architecture development methodology phase diagram – Adapted from TOGAF 9.1 2011.

Utilities are facing a lot of pressures:

- Changing business models
- Flat/declining billed load services
- Increasing customer options for self-provisioning, self-generation
- Increasing renewable energy options and service provider entities
- Increased O&M cost pressures and a focus on Customer Affordability driving changing IT investment choices.

Just to name a few. Business capability models provide a mechanism to strategically align on investment decisions to address pain points such as these, across the utility, providing a common view that makes sense to a broad array of stakeholders.

EPRI has been tackling this issue on a couple of fronts. First, business architecture is an important facet of an enterprise architecture practice. In the Open Group Architecture (TOGAF) architecture development methodology (ADM) for example, shown in Figure 1, business architecture is supposed to lead the other architecture development phases (regardless if one is using waterfall or more agile approaches). However, enterprise and solution architects tend to be more familiar and comfortable with application, data, and technology architecture. This is due to architecture career paths tending to evolve through the information technology (IT) department and not through a direct business operations background. It is still rare for a person to join an enterprise architecture practice from a non-IT background. To be fair, enterprise architects usually work very well with business relationship managers (BRMs) that work with their line of business (LoB) counterparts, but this does not replace the need for a well-developed business architecture.

Second, there has been a lack of business capability model examples for the utility industry. EPRI had created a single, first level example of a business capability model for a distribution utility (Figure 2 below) but there are several archetypes of utilities, electric, gas, water, distribution, transmission, generation, and combinations thereof. EPRI addressed this with an effort as part of their Enterprise Architecture Collaboration Group, to provide some examples based on some of these archetypes [2]. Additionally, EPRI has also created a business architecture repository that contains hundreds of generic business services [3], but these again, are generic. Although a utility can use this as a starting place sometimes it is not clear what they use, what they modify, and

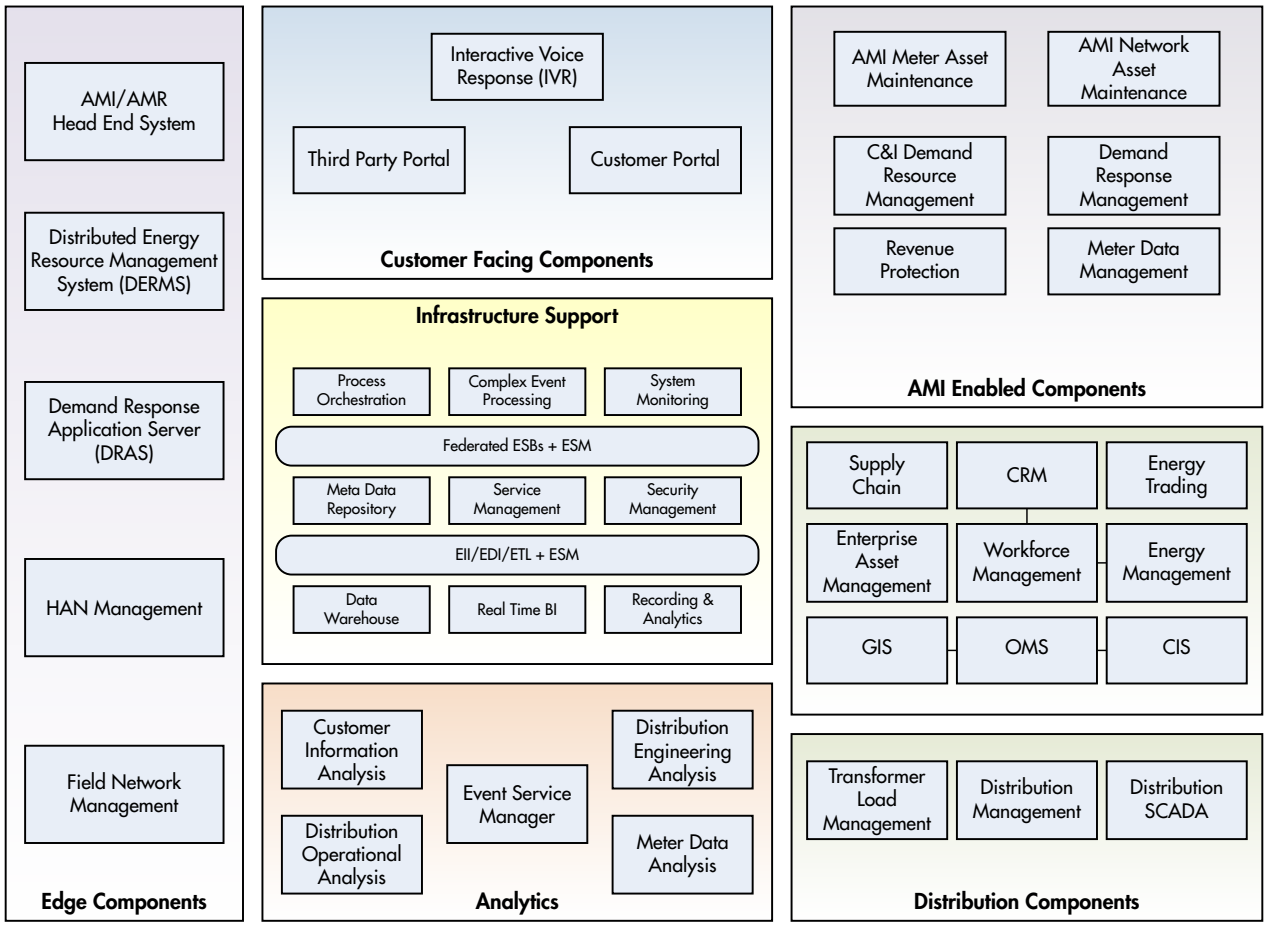

Figure 2. Generic electric distribution utility business capability model, EPRI

where they add the meta data associated with any given business service or capability; the vendors, software, model versions numbers associated with a business capability. Further, there has been some reluctance to provide business capability examples, as this is supposed to reflect a competitive advantage (in industries that are more competitive). For a competitive industry, sharing a business capability model would advertise what an organizations strategy is, which would make it easier to counter. But this situation does not exist in the utility industry in the United States. In the U.S. investor-owned utilities are regulated monopolies. As such, they do not compete in a way that other deregulated industries do. Additionally, they are often encouraged to share leading practices.

Filling the Gap

To continue to address this problem, EPRI has continued to work with utilities developing example business capability models within the Enterprise Architecture Collaboration Group. What has been made clear, is that utilities do not need to start with a blank slate, there are resources available. One such publicly available resource is the American Productivity and Quality Center (APQC) process classification framework [4]. This group provides process classification frameworks, with an example completed for utilities that covers fourteen domains; everything from Human Resources, to IT, to Operating Utility assets. This framework can be used to populate a business capability model, but gaps will remain.

Utilities have expressed a desire to share models and leading practices as noted above. They also want to see how the business capability model is used. One mechanism is to develop "heat maps". These are overlaid upon the model to show where the spending within the utility is going. In this way, utilities can compare those capabilities that they have indicated are important, to where the money is being spent. This quickly, visually highlights where any gaps exist. Another use of the model is to highlight areas where there is a significant amount of architecture debt [5], for example, where systems are out of date, have security issues, or systems are no longer supported by the vendor. This can highlight where some capabilities are underserved.

There would obviously be some differences between utilities. Different utilities have made different investment choices over the years. For example, some engaged in smart meter deployments, while others focused investment in enterprise resource planning (ERP) platforms. If one utility considers ERP investment "done", but has moved on to say, an investment into distribution management systems (DMS), their heat map would look different from a utility that was investing in ERP.

Be that as it may, there would be value in utilities being able to share common models and understanding what vendors "play" in each space to fulfill these capabilities.

EPRI is launching a business capability model development supplemental research project to accelerate the development of utility standard business capabilities models. These models will fill in the gap of knowledge between a process classification framework (such as those provided by APQC), and what utilities find to be useful, for example, understanding how many levels "down" does one go to be useful. What are the leading practices for investment alignment, and what vendors provide these types of capabilities. It is envisioned as a two-part project, one part being the information sharing of models/vendors, with the other part focused on jump starting those utilities that are just getting started with business capabilities, understanding the resulting technology impact assessments, and using a business capability model as a starting place for creating a modernization road map.

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