Business capability meta model an effective conceptual illustration

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ABSTRACT

This article explains how to describe a business using modeling concept to achieve strategic perspective value proposition which would benefit aligning related business disciplines such as case management, BPM, requirement analysis, information management and more importantly helping organization transformation definition and solution deployment.

Keywords— Conceptual model, Business capability modeling, Business architecture, Enterprise architecture, Technology architecture

1. INTRODUCTION

This paper covers the modeling considerations when designing business solutions around technology services. It tries to present a logical view of business architecture supported by business capabilities. A conceptualization meta-model context highlighting key business concepts and interactions between the key components.

2. CONCEPTUALIZATION

Today’s businesses are complex. The system that implements their business processes is equally complex. But people have a hard time agreeing on how to define the complexity. Typically, a complex business consisting of a hierarchical organization of departments and their functions. Some of these functions, however, are not restricted to one department; they cross horizontally across several departments not only within the organization but also include their partners, vendors, and suppliers.

The traditional method for documenting a business is to draw an organization chart, which divides the business into several departments or sections (e.g., research and development, marketing, sales, manufacturing, etc.), represented vertically. This documentation method is limited to how the business is built and organized. It does not document the business processes that flow horizontally and affect all the vertical departments (e.g., the development of a new product will affect all divisions). The intent is to have a successful marriage between business and technology stakeholders and bring a consensus around the business-need that can be simplified through a generic model.

Other structures in the business can be, such as service-oriented driven business processes, are workflow-centric resources that participate-in or used in the process, rules that govern the execution of the business, the goals, and addresses the problems that hinder the achievement of those process-centric goals, primarily those that cannot be captured in the traditional organizational view. Over the past several years modelers and experts have presented business model contains all this information. Capturing and documenting this information can be the basis for making better decisions that result in a business that runs more smoothly, and better documentation for specifying the requirements of the information system.

But modern days where business need comes with exponential scaling, geographical distributions, cloud-driven lightning speed, hundreds of independently deployed microservices with prerequisites requirements such as elasticity and resilience to failure. And these cannot be addressed in the existing process modeling constituents, this means model would well fall short to communicate and address the new requirement expectations. Unless there is a transparency to the business ecosystem such as capability, value, information & organization mapping, the model would not be beneficial to the value proposition. We would still be modeling the business which would describe activities scenarios within the business ecosystem such as capability, value, information & organization mapping, the model would not be beneficial to the value proposition. We would still be modeling the business which would describe activities scenarios within the business and how they relate to and interact with the resources in the business to achieve a goal for the process.

Many different theories strive to explain and improve how to structure and run a business. Very few standards, or even methods, exist in this area, and most of the literature concentrates on how to describe a business rather than on the well-defined techniques for running a modern day’s business. How to describe a business to achieve strategic perspective value proposition which would benefit aligning related business disciplines such as case management, BPM, requirement analysis them and more importantly helping organization transformation definition and solution deployment.
Obviously, we need a good technique or language to define the architecture of a business. Although there are several reference architectures (ISO Reference Model, CIMOSA, PERA, DoDAF, eTOM etc.) that use different techniques to describe a business, a common factor runs through all of them: the use of models. If the models are to be effective, they must be expressed in a common language. I have presented my model using process and object-oriented modeling with the Unified Modelling Language (UML) to build the generic model that can be used in business architectures. As stated, UML has already been established as the standard modeling language for modeling information systems.

The views and diagram types presented the structure of and interactions between the different aspects of the business. The contents of the views and their internal relationships are not defined here.

3. Modeling Business Concepts

Business Architecture is gaining recognition as a discipline that enables the business to address major challenges in modern day’s business need in a unique way but the fundamentals of business concepts remain the same. A business, an enterprise, has a specific purpose or goal and has all the functions of the business interact to achieve this goal. The business system can also be interlinked with and affected by the decisions and events that take place in other systems, and so can’t be analyzed in isolation. Because of this, defining the boundaries of the business can be difficult. The resources within the organization can also have separate goals that do not always reflect those of the business. Many of the important elements in a business, such as customers, suppliers, laws, and regulations, are external to the business and are not defined within the business itself. Thus, the business system is an open system whose objects and parts are often also parts of other business systems. As such, it cannot be viewed as a black box system, which is analyzed by looking only at the input to an output from the system, but as a system whose parts are visible, as shown in figure 1.

![Image 1: Business system interlinked with other systems](image1.png)

Individual businesses have different goals and internal structures, but they use similar concepts to describe their structure and operation: the objects that are part of the system, their relationships and structure, and their dynamic interaction with each other in various situations. A model of the business system describes these concepts.

The concepts used to define the business system are:

- **Goals**: The purpose of the business, or the outcome the business is trying to achieve. Goals can be broken down into subgoals or objects. Goals express the desired states of resources and are achieved by processes. Goals can be expressed as one or more rules.

- **Processes**: The activities performed within the business during which the state of business resources changes. Processes describe how the work is done within the business; they are governed by rules.

- **Rules**: Statements that define or constrain some aspect of the business and represent business knowledge. Rules govern how the business should be run (i.e., how the processes should execute) or how resources may be structured and related to each other. Rules can be enforced on the business from the outside by regulations or laws, or they can be defined within the business to achieve the goals of the business. Rules can be categorized as functional, behavioral, and structural.

- **Resources**: The objects within the business, such as people, material, information, and products that are used or produced in the business. The resources are arranged in structures and have relationships with each other. Resources are manipulated (used, consumed, refined, or produced) through processes. Resources can be categorized as physical, abstract, and informational.

Fig. 2: Meta Model
“Business concepts are related to each other: A rule can affect the way some resources are structured; a resource is allocated to a specific process; a goal is associated with the execution of a specific process. The goal of business modeling is to define these concepts and show the relationships and interactions among them.”

A meta-model is a model of the basic business concepts and their relationships. The concepts depicted in this model are used to create other models. Figure 2 is a meta-model that summarizes the concepts used in business modeling and their relationships with each other. This meta-model is a UML class diagram in which each concept is depicted as a class, and the relationships between the concepts are either an association or a specialization. The meta-model also indicates which factors would hinder or prevent the business from achieving its goals.

The meta-model shows how Capabilities attempt to achieve goals. A goal is established to overcome one or more problems and expresses the desired state of one or more resources. Goals can be expressed as rules that control the process. A capability interacts with a process which then interacts resources through an interface and can cause the states of resources to change. The meta-model shows how Capabilities attempt to achieve goals. A goal is established to overcome one or more problems and expresses the desired state of one or more resources. Goals can be expressed as rules that control the process. A capability interacts with a process which then interacts resources through an interface and can cause the states of resources to change.

By diagramming business concepts, it becomes much easier to grasp and remember them than by reading textual descriptions. This meta-model of the basic concepts demonstrates the power of using models to describe complex structures and relationships, such as the classes and relationships are shown in figure 2. The concepts in this meta-model are used in the views and diagrams that describe a business based on the focus and purpose of the diagram.

To a great degree, standard UML symbols and diagrams can be used to create business capability models. For the reader who regularly uses UML to describe the code structure of a program, remember that this topic uses UML to create high-level business models; the concepts described here are not coded specifications and should not be translated, even mentally, to lines of programming code. Information systems will be designed to support these business models at a later point in the development process, but that step is a long way from the business modeling stage. Attempting to capture reality and business thinking and directly translating it into the syntax of a programming language is very dangerous and subverts the focus of business modeling. This topic does not discuss Business Architecture to a Software Architecture.

4. CONCLUSION
By using this metamodel, technology or business architects would be able to define and create smart business architecture that would help to describe capability mapping integration in a common language that you would be able to clearly communicate current state business challenges and articulate a business-centric vision for the future that eventually resulting in IT Architecture transformations.

5. REFERENCES