Insight from a comparison of TOGAF ADM and SAM alignment processes

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Abstract: Information systems are cornerstones of modern organizations. They not only support business processes but can also provide a strategic advantage. As a result Business/IT Alignment becomes essential and is generally supported by Enterprise Architecture based approaches. These approaches generally provide top-down “execution strategy” processes whereas the Strategic Alignment Model (SAM) provides alternative processes. Therefore, the objective of this paper is to compare the TOGAF ADM (Architecture Development Method) with alignment processes underlying the SAM. First, the SAM underlying processes are formalized in the form of basic operations. Second, mappings between the SAM and TOGAF ADM are provided in order to compare both alignment processes. On this basis, the limits of the TOGAF ADM are outlined.

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1. INTRODUCTION

Information systems (IS) are cornerstones of modern organizations. They not only support business processes but can also provide a strategic advantage. As a result Business/IT Alignment (BITA) becomes essential. Indeed, executives rank alignment for almost thirty years as a top priority and major concern (Kappelman et al., 2014).

To support BITA Enterprise Architecture (EA) based approaches are the most representative. These propose either new architectures for such as BITA GRAAL (van Eck et al., 2004 ; Wieringa et al., 2003), BITAM (Chen et al., 2005) or SEAM (Wegmann et al., 2007) or complete existing EAs such as Archimate and Business Model Canvas in (Fritscher et al., 2011), SAMM (Strategic Alignment Maturity Model) and TOGAF meta-model in (Kurniawan et al., 2013) or Archimate and TOGAF in (Lankhorst, 2005).

The EA-based approaches for BITA we studied mainly support a top-down coarse alignment process running from business strategy through business processes down to information system architectures defined as “execution strategy” alignment perspective in the Strategic Alignment Model (SAM) (Henderson et al., 1993). However, in the SAM three additional alignment perspectives are detailed showing that alignment processes cannot be reduced only to top-down strategy execution.

Therefore, the objective of this paper is to analyze the TOGAF ADM (Architecture Development Method) (TOGAF, 2009) in regard to the SAM (Henderson et al., 1993). We choose to rely on TOGAF and SAM because they are both acknowledged approaches in the BITA field.

TOGAF is an industry consensus framework and method for EA developed since 1995. It has therefore reached a good maturity stage. Moreover, more than two hundred companies are involved in the Open Group forum demonstrating its effectiveness in practice. Moreover, the SAM is the most referenced model of alignment (Wang et al., 2008).

The paper is structured as follows: section 2 outlines the background of this work with a description of the SAM and TOGAF ADM. In section 3 the processes underlying the use of the SAM are formalized in the form of basic operations. In section 4, the link between SAM and TOGAF ADM is worked out: (i) mapping between SAM components and inputs and outputs of the ADM, (ii) mapping between SAM basic operations and ADM, (iii) mapping between SAM alignment perspectives and the ADM. Section 5 concludes on the limits of the ADM compared to the SAM perspectives and details future work perspectives.

2. BACKGROUND

2.1 Strategic Alignment Model (SAM)

The SAM detailed in (Henderson et al., 1993) is defined in terms of four areas of strategic choices (business internal and external levels; IT internal and external levels). Each area consists of three components: scope, competencies and governance in the external level; infrastructure, skills and processes in the internal level (see Fig. 1).
IS strategic alignment is conceptualized in the SAM in terms of two building blocks: (i) Strategic fit (the interrelationships between external and internal levels of a domain) and (ii) Functional integration (integration between “Business” and "IT" domains). As a result, Henderson et al. (1993) detail alignment perspectives that work on the premise that strategic alignment can only occur when at least three of the four subdomains are in alignment. According to (Luftman et al., 1993), a domain can be classified according to its position in a sequence as anchor subdomain (first subdomain in the perspective), pivot domain (second subdomain in the perspective) or impacted domain (last subdomain in the perspective). They provide four alignment perspectives: strategy execution, technology transformation, competitive potential and service level.

Fig. 1 Strategic Alignment Model (Henderson et al., 1993).

Architecture Capability Framework, Architecture Development Method (ADM), Architecture Content Framework, Enterprise Continuum. Here, we focus on the ADM which provides a ‘way of working’ for architects. The ADM is considered to be the core of TOGAF, and consists of a stepwise cyclic approach for the development of the overall enterprise architecture (see Fig. 2). It will be further described in Section 4.1.

3. SAM FORMALIZATION

Since our objective is to compare the TOGAF and SAM alignment processes, we aim at identifying common alignment “operations” that are performed in each of their respective process. Because we adopt an enterprise architecture viewpoint on BITA, we consider that alignment occurs through the creation and analysis of models. So we aim at identifying modelling operations. For the SAM, we make the hypothesis that models will be created for subdomains, each being considered as a single modelling viewpoint (in terms of TOGAF).

One interesting characteristic of TOGAF, compared to the SAM is that it makes explicit the difference between baseline (representing the currently existing situation) and target models (representing a change to be implemented in the future). In the formalization, we go along this line and introduce an explicit distinction between baseline and target models for subdomains.

3.1 SAM model content

In a modelling based SAM alignment process, the architecture landscape (as it is termed by TOGAF) would be composed of a set of models for the different SAM subdomains. For each of them, one baseline and one target version may exist, so a subdomain model is fully characterized by the subdomain it concerns (itself characterized by its domain and level) and its temporal horizon. In the SAM process, alignment analysis will generate some alignment diagnostics that concern a pair of subdomain models. At some point in time, the alignment status of two subdomain models might also be unknown, thereby calling for further alignment analysis. The resulting architecture landscape information model is shown in Fig. 3.

Fig. 2 The ADM cycle and its iterations (TOGAF, 2009)

2.2 TOGAF

The Open Group Architecture Framework (TOGAF) is an enterprise architecture framework and method. According to (Lankhorst, 2005) TOGAF has different components:
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