

Looking for Effective Ways of Achieving and Sustaining Business-IT Alignment

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Abstract— **Aligning Business and Information Technologies strategies has been a subject studied for a long time. Despite all the efforts, achieving and sustaining Business-IT alignment remains a challenge requiring even more agility nowadays to keep up with the competition in a turbulent organizational environment. Past contributions are uncovered in this paper calling particular attention to the development of Enterprise Architecture as a way of addressing this challenge. However, this should be a process to be carried out in the most effective ways looking especially at time and costs. Having proposed frameworks as a point of departure to reflect on the ways they may or may not work in practice, a dialogical action research is proposed for this work involving a close interaction with consultant companies. The resulting improved expertise both from the researcher and practitioners involved should allow for the identification of the most effective ways of achieving and sustaining Business-IT alignment.**

Keywords— *component; Alignment, business, Information Technology, Enterprise Architecture, process*

I. INTRODUCTION

IT and Business alignment has been a key concern for IT executives, ranking number one, except for 2007, from 2003 to 2008 [1]. Many authors have identified this type of alignment as a major issue [2] [3]. Not only is hard to achieve it, but also to maintain it [4]. Thus, looking for effective ways of achieving and maintaining alignment remains a challenge calling for more research to address what is still a major concern for IT executives [5] [6] [7] [8].

A. How to define alignment and what to align?

As a first key concern, Business and IT strategies alignment is particularly significant. Market challenges as alliances between large and small companies, globalization of the enterprise, the increasing workforce of knowledge workers, the changes in leadership roles and skills from controlling to coaching, serving the widest range of customer needs and the

rate at which new technology is introduced make this challenge even more difficult to face [9]. Alignment can be looked as "... applying IT in an appropriate and timely way, in harmony with business strategies, goals and needs..." [4]. It isn't an isolated management action: "... no single activity will enable a firm to attain and sustain alignment." [10]. Important is also the training and education of IT professionals in business and leadership to achieve strategic alignment [11].

Alignment is also "... a continuous and dynamic synchronization of the capabilities inherent in the information infrastructure and the demands of strategy" [12].

Thus, if looked as a continuous process, adaptation and change are crucial issues that deserve particular attention. Henderson and Venkatraman, pointed out two characteristics for this process [2]:

- a direct relation among economic performance and the ability of managers to create a "strategic fit" between "... the position of an organization in the competitive product-market arena and the design of an appropriate administrative structure to support its execution.";
- a "strategic fit" that is inherently dynamic.

So alignment "...evolves into a relationship where the function of IT and other business functions adapt their strategies together." [12]. Other words as harmony, linkage, fusion or integration are used to refer to this relationship usually known as alignment [13]. These words highlight a particular concern: to ensure that the organizational strategies must adapt to each other in a harmonious way.

However, this is a relationship that grows exhibiting different maturity levels. Therefore, a Business-IT maturity model, namely, the Luftman's [13] one, may help in looking at effective ways of achieving and sustaining Business-IT alignment, a top ranked concern for IT executives [14].

B. Many perspectives on alignment

So, how to achieve and sustain Business-IT alignment in effective ways? Past works [15] [16] [17] have built upon the well-known Strategic Alignment Model (SAM) of Henderson and Venkatraman [2].

Looking at the strategic integration between Business and IT strategies, SAM also highlights the functional integration between organizational infrastructure and the business processes to be supported by information systems and technology infrastructure.

SAM model has been a reference in the alignment strategies research, sometimes identified as the model of alignment [18]. Traditional approaches may have been successful in the past: however, a changing environment like the one we live nowadays requires agility and flexibility in meeting business expectations: "...different alignment models are necessary for organizations with different types of organizational structures in order for those organizations to achieve success in attaining and sustaining alignment."

Other researchers have been working on the alignment domain especially regarding two perspectives: the impact on organizational performance and the antecedents and dimensions that better explain it. In the impact on organizational performance, the identification of a positive relation between investments in IT and the organizational performance [19], or in assuming that are strategic, informational and transactional benefits from the alignment of strategies [20] and even in obtaining competitive advantages [21], or better relations with the clients [22], or even in better positioning to integrate a organization network [23]. For the alignment antecedents and dimensions, intellectual and social dimensions were identified [24] [25], better use of best practices in the knowledge management and decision centralization, giving to Information Systems and Technologies (IST) managers a better participation in the construction of the strategic plans with the board [26]. More recently, IT Governance, shared domain knowledge, relationships management [27], stakeholders influence [28], as antecedents and mutual understanding and shared knowledge as alignment dimensions [29], keep research going on.

Undeniably, to align strategies was, is and will continue to be a key concern process. This is something that needs to be monitored, for example taking advantage of Balanced Scorecard (BSC) approaches [30]. This is also something that requires a single vision [31], shared by business and IT managers, in a process called "fusion" [32] and defined as "... the key to aligning the organization's information systems (IS) strategy with its business strategy."

C. Frameworks to be considered

The question on how to achieve and sustain business-IT alignment in effective ways, may be answered by looking into several frameworks and the ways they work out in practice; When talking about frameworks, we are essentially talking about enterprise architecture frameworks; it is important to know not only the frameworks that are being used but particularly how they are being used.

How to develop Architecture has been a major issue for IS managers, both from a technological point of view and from an organizational way [33] [34]. The issue is even more complex when it comes to Enterprise architecture (EA) that "...includes business strategies and processes, besides IS models that support them." [35].

From a theoretical point of view, looking to frameworks, as the Zachman's one centered on the Information Systems Architecture (ISA) [36] our attention goes to the organizational architecture concept and specifications rationalization, especially in what concerns internal communication, better use and integration of methodologies and tools, as well as reliability and confidence in information system resources.

Zachman's framework, Architecture of Integrated Information Systems (ARIS), Meta Group Enterprise Architecture (MGEA) and Computer Integrated Manufacture-Open Systems Architecture (CIM-OSA) have already been used to compare "... enterprise architecture frameworks and methods in terms of their description, creation and potential contribution to strategy-IS alignment. Taking in consideration previous studies such as Henderson and Venkatraman [2], Reich and Benbasat [24] [25], Chan et al. [16] among others. The results show that "... The value of these various architectural tools lays in their capacity to 'integrate and align' organizational elements." [37].

Among several frameworks, the Open Group Architectural Framework (TOGAF) is acknowledged as one of the best [37] and the one that "... suggests a set of principles from specific viewpoints for certain architecture-related activities ..." [38]. Nevertheless, Zachman's ISA is still, as a reference model, an important contribution for alignment; it is possible to obtain a correct balancing between innovation and technological efficiency with demands and needs of business [39].

The Bernard's EA Cube Framework is another reference model, originally defined as a "... a framework to predict user productivity with database information retrieval." [40]. Called the three-dimensional cube, proposes an architecture that relates company's Strategic Initiatives, Business Process, Information Flows, Systems and Services, and Technology Infrastructure with existing security, standards and workforce, in all lines of business leading to a data documentation blueprint and a high level functional description of the company [41].

Adding to these frameworks, we have reference industry models to look into: Information Technology Infrastructure Library (ITIL) [42], Control Objectives for Information and related Technology (COBIT) [43], Supply-Chain Operations Reference-Model (SCOR) [44], the enhanced Telecom Operations Map (e-TOM) [45], are among the ones to be examined. Other models emerge from consultants' practices: Federal Enterprise Architecture (FEA) [46], Microsoft [47] and IBM [48] provide some examples on trying to align resources with business, business processes and IT, business priorities and IT investments.

On top of this, it is worth to consider different approaches on the realm of the Business Process Management and Service

Oriented Architectures to more easily achieve and sustain alignment [49].

Among all these proposals, knowing which ones are more likely to provide an easier and quicker way of achieving Business-IT alignment and in what circumstances is not an easy task but it is something IT executives would be very interested in and organizations would take great advantage of.

II. METHODOLOGICAL APPROACH

Finding the answers that we are looking for is something that we cannot do in a lab. This is something that has to be done in an organizational setting. Action Research [50] provides a well-defined process of doing it:

- first, the diagnostic stage that uses collaborative analysis of the social situation by the researcher and the subjects of the research: theories are constructed depending of the nature of the research domain;
- then, the therapeutic stage that introduces collaborative change: changes are introduced and the effects are studied.

Action Research, under its pragmatism premise, must be conducted with four premises: a purpose for action, an action in the problem to deal, a contribution to the theory and a researcher participation and observation of the situation.

This means the existence of a collaborative team that defines why to act, how to act and to act [50]. Given the nature of the problem and the diversity of proposals coming from theory and practice, a collaborative team should involve both the researcher and the practitioner perspectives. One way of doing it is through a dialog.

Using Dialogical Action Research, the researcher "...attempts to speak the language of the practitioner and accepts him as the expert on his organization and its problems ..." [50]; the researcher uses reflective one-on-one dialogues to address both heterogeneity and conceptuality knowledge: suggestions of action to solve organizations problems are made to the practitioner. There is a team that works based in reflective dialogues, defining action/stimulus in the real world problem and hopefully, receiving reaction/responses to be observed and validated (Figure 1).

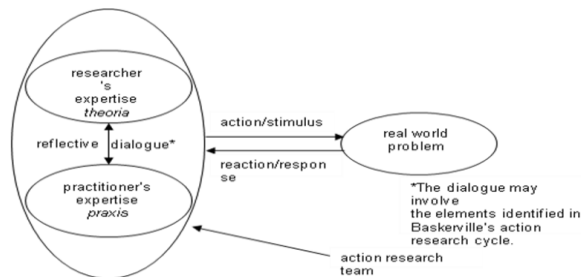


Figure 1. Dialogical Action Research [51]

Dialogical Action Research is "... an iterative research process that capitalizes on learning by both researchers and subjects within the context of the subjects' social system." [50].

From this iterative process, improvements in both researcher's and practitioner's expertise are expected (Figure 2).

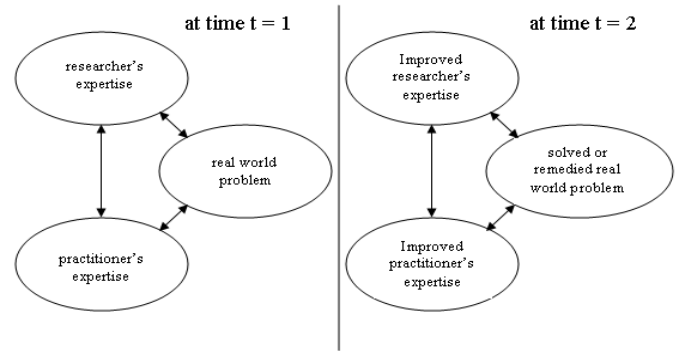


Figure 2. Dialogical Action Research – Improvements over Time [51]

To study effective ways of achieving and sustaining alignment, it is worth to consider the praxis of consulting companies when intervening across different sectors in interaction with the researcher examining several frameworks.

To validate this process, the following criteria will be adopted [51]:

- Criterion I: the practitioner considers the real world problem facing him or her to be solved or satisfactorily remedied;
- Criterion II: there will be an improvement in the practitioner's expertise;
- Criterion III: there will be an improvement in the scientific researcher's expertise.

A. Data collection and analysis

To collect and analyze data, we will adopt the following process according to suggested guidelines [51]:

- Read and annotate documents from the organizations;
- Inquire and interview;
 - Inquiries to get the organization status regarding strategy [52], process orientation [53] and alignment maturity [13] to better understand the alignment process;
 - Interviews: personal or phone-calls interviews with business responsables, first, to make sure the initial and following organizational status as assessed through the inquires are clearly understood; second, to assess the impact of actions taken by consultant companies in solving the alignments problems.
- Interact with practitioners from the consultant companies listening to and suggesting ways of better addressing the challenge of achieving and sustaining Business-IT alignment Gather and analyze data: from interviews annotations together with tape-recording, data will be coded and analyzed using appropriate tools

B. Research present status

Contacts have already been set up with a consulting company with an experience of many years of practice in several activity sectors promoting strategic alignment.

In order to document the consulting company praxis, documents of diverse implementations have been collected on site and are now being analyzed.

Along with the consulting company, a schedule for organization's interventions is being set up having hospital and city local government as first targets.

III. CONCLUSION AND FURTHER WORK

Alignment between business and IT, despite all the studies, remains a challenge. A primary concern for IT executives, "IT and Business Alignment" has been a number one issue since 2003, except for 2007 [14].

The methodological approach adopted will allow consultant companies to improve their praxis while giving the opportunity to researchers to evaluate the usefulness of several frameworks already presented in the literature.

We expect to come up with a list of rules and best practices to achieve and sustain alignment, while developing an Enterprise Architecture. New approaches such as the ones on the realm of process and service orientation should provide the most cost-effective and quicker ways of doing it.

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