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IT Governance Practices For Improving Strategic And Operational Business-IT Alignment

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IT GOVERNANCE PRACTICES FOR IMPROVING STRATEGIC AND OPERATIONAL BUSINESS-IT ALIGNMENT

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Heinz-Theo Wagner, German Graduate School of Management & Law, Germany, heinz-theo.wagner@ggs.de

Abstract

The literature suggests that business-IT alignment is an important antecedent of IS success, business process performance, and competitive advantage. Additionally, IT governance practices are highlighted as being instrumental to fostering business-IT alignment. In this paper, we derive various IT governance practices (in terms of structures, processes, relational mechanisms, and enterprise architecture characteristics) from literature and expert interviews. While prior investigations only considered the effect of such practices on strategic business-IT alignment, we also incorporate alignment at operational level. Using results from a case study in the IT services division of a large multi-national, multi-divisional company acting in diverse industries we highlight the effect of various IT governance practices and offer new insights by showing which mechanisms are effective in facilitating strategic or operational business-IT alignment. Our results indicate the most important practices for both strategic and operational alignment.

Keywords: IT Governance, Business-IT Alignment, Governance Mechanisms, Case Study.
1 INTRODUCTION

From the business-IT alignment (or simply alignment) literature it is known that alignment is necessary to strategically exploit IT potentials (Henderson & Venkatraman 1993). Empirical studies mostly demonstrate a positive impact of business-IT alignment on performance (Avison et al. 2004; Tallon & Kraemer 2003). More concretely, alignment was found to improve IS effectiveness (Chan et al. 1997), increase business profitability (Luftman & Brier 1999), lead to IT strategy support for business strategy (Avison et al. 2004), enhance perceived levels of IT business value (Tallon et al. 2000), support IT use for competitive advantage (Kearns & Lederer 2004), and positively affect organizational performance (Zajac et al. 2000).

Consequently, it is widely accepted in theory and practice that aligning IT and business strategies is important for achieving high performance levels. Following an early perspective of Venkatraman (1989) most of the current research largely focuses on the strategic alignment of business and IT, while widely neglecting alignment at operational level. Only little work has been done on the relationship between IT and the business units. “But this research stopped at the strategy-structure interface and did not look further to the interface between the IT function and the business unit” (Gordon & Gordon 2000, p. 9). However, it has been discussed that “strategies are only effective when they are translated into actions readily” (Feurer et al. 2000, p. 23). This implies that alignment mechanisms at the operational level also have to be considered and investigated in order to being able to achieve the expected benefits from business-IT alignment. The importance of this issue has been demonstrated by a study of Gordon and Gordon (2000) who showed that the key determinant of success (or failure) is the interaction of the IT function with the organization’s business units. Therefore, we propose to cover both strategic and operational level alignment.

Business-IT alignment is also an integral part of IT governance, thus creating business value (De Haes & Van Grembergen 2004). Prior findings show that IT governance influences business-IT alignment (Van Grembergen 2003) which is in line with one of the goals of IT governance: improving alignment (ITGI 2003). The dominant perspective on the relationship between IT governance and alignment views IT governance as an enabler of alignment (Van Grembergen & De Haes 2009). The underlying rationale is that IT governance practices in terms of structures, processes, and relational mechanisms provide the foundation for improving alignment. A mature knowledge and understanding of such practices provides opportunities to implement particular action items for facilitating or stabilizing the alignment level. Accordingly, Chan and Reich (2007a) highlighted the need for more and better examinations of alignment antecedents. Recently, De Haes and Van Grembergen (2009) investigated the relationship between IT governance practices and strategic alignment, and ranked the importance of different IT governance practices in the financial services sector.

This research, carried out between 11/2008 and 02/2009, builds on the perspective of IT governance as an alignment enabler and scrutinizes IT governance practices to identify which mechanisms improve alignment at both the strategic and the operational level. Our research question thus is:

Which IT governance practices help to improve strategic and operational business-IT alignment?

In answering this question we add to prior research (De Haes & Van Grembergen 2009; Luftman & Kempaih 2007) by further extending our understanding of alignment antecedents, and also including operational alignment into the analysis. To address our research question we conducted a case study in a large multi-national, multi-divisional company exploring which IT governance practices exist and how they impact strategic and operational alignment. In doing so, we derived a list of IT governance practices from prior literature, complemented it by some first interviews with practitioners, and had the extended list validated by 8 consultants who are experts in the field of IT strategy and change, and alignment. Having done many projects in various firms across different industries, they provide rich insights into alignment practices, allowing us for a greater generalizability.
Our paper is structured as follows: First, we look into the relevant literature on business-IT alignment and IT governance. Second, we describe our data collection process and the case study approach. Third, a list consisting of the identified and assessed IT governance practices is presented, complemented by some statements from the interviews. Fourth, we discuss findings and limitations.

2 RELATED LITERATURE

2.1 Business-IT Alignment

Literature on business-IT alignment is generally engaged in explaining (parts of) IT business value by focusing on the relationship and congruence between the business and the IT domain. The basic premise is that firms are able to reap benefits from IT and to strengthen their competitiveness and performance only if IT and business strategies are aligned (Avison et al. 2004). Conversely, if IT and business strategies are not sufficiently aligned, then value cannot be generated from IT investments (Henderson & Venkatraman 1993). Thus, economic performance is directly related to the ability of a firm’s management to create a fit between the position of an organization in the competitive product-market arena and the design of an appropriate IT structure to support its execution.

Alignment is predominantly viewed from a strategic perspective. Strategic alignment reflects functional integration at the strategic level and represents the link between business and IT goals, strategy, and plans. “It deals with the capability of IT functionality to both shape and support business strategy” (Henderson & Venkatraman 1993, p. 9). Strategic alignment can be interpreted as an organizational learning process that combines business and IT knowledge to support business objectives (Reich & Benbasat 1996), and can positively affect organizational profitability by creating superior strategies that bring an organization in a position to achieve a competitive advantage (Kearns & Lederer 2001). However, the interaction between the business and the IT domain is not restricted to the strategic level, since strategy has to be transformed into daily business to achieve positive effects (Gordon & Gordon 2000). Therefore, we also incorporate operational alignment. Operational alignment reflects the functional integration at structural level and represents the link between business and IT structure, highlighting the importance of ensuring internal coherence between the organizational requirements and the delivery capability of the IT domain (Henderson & Venkatraman 1993). In particular, alignment at operational level and interpreted under a social perspective is concerned with aspects like interaction, mutual understanding, and knowledge sharing within project teams and between the IT and business personnel involved in an organization’s business processes (Preston & Karahanna 2009; Reich & Benbasat 2000; Tiwana et al. 2003).

2.2 IT Governance

Given the considerable role IT plays for the creation of business value, it is important to understand how the IT can be effectively governed. Weill and Ross (2004) found that “effective IT governance is the single most important predictor of the value an organization generates from IT” (pp. 3-4). In general, IT Governance deals with the distribution of decision authority (Sambamurthy & Zmud 1999; Tavakolian 1989) and with processes at different levels “to set priorities and to allocate IT resources” (Luftman & Kempaiah 2007, p. 166), and “also involves managing external partners and ensuring regulatory compliance” (Luftman & Kempaiah 2007, p. 171). A topical definition postulates that “enterprise governance of IT addresses the definition and implementation of processes, structures, and relational mechanisms that enable both business and IT people to execute their responsibilities in support of business/IT alignment and the creation of value from IT-enabled business investments” (Van Grembergen & De Haes 2009, p. 1). IT governance structures are about “structural (formal) devices and mechanisms for connecting and enabling horizontal, or liaison, contacts between business and IT management (decision-making) functions”. IT governance processes deal with the “formalization and institutionalization of strategic IT decision making or IT monitoring procedures”.

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IT governance relational mechanisms refer to “the active participation of, and collaborative relationship among, corporate executives, IT management, and business management” (Peterson 2003). We argue that these structures, processes, and relational mechanisms are equally important at non-strategic levels in order to create business value and facilitate alignment.

Several frameworks provide overviews of IT governance mechanisms, e.g., Luftman and Kempaiah (2007) discuss governance practices such as business strategic planning, IT strategic planning, organization structure, budgetary control, investment management, steering committee, and prioritization process. In an earlier work, Luftman et al. (1999) investigated enablers and inhibitors of alignment. In general, research has started to shift its focus from merely investigating characteristics of good or bad IT governance and alignment implementations to concrete mechanisms which can be implemented for becoming more successful. However, as Chan and Reich (2007b) pointed out recently, there is still a lack of research into the means and antecedents of alignment. Chan (2002) points to the importance of informal processes, Kearns and Sabherwal (2006) discuss the influence of mutual participation of business and IT managers in business or IT planning, respectively.

The IT Governance Institute (ITGI - http://www.itgi.org) (ITGI 2003) provides guidelines for developing IT governance which, e.g., highlight the use of IT governance processes such as IT performance measurement, service level agreements, and benefits management and reporting (De Haes & Van Grembergen 2009). Among these guidelines are also some for building enterprise architectures to support the business. “The architecture that removes the barriers of system incompatibilities and makes it possible to build a corporate platform for launching business applications is clearly not a commodity” (Bharadwaj 2000, p. 172). Aerts et al. (2004) propose an architecture concept that is closely linked to the functional integration of the Strategic Alignment Model (SAM). They differentiate into three architecture forms: information and communication technologies (ICT) platform layer, application layer, and business layer. We refer to them together as the overall enterprise architecture. They discuss which functionalities should be provided by this architecture in order to support new business use cases, upgrading and reuse, but also stability and performance. All these factors are said to facilitate and support alignment.

Nevertheless, besides the fact of missing research into the relationship between IT governance practices and alignment, there is also a lack of studies considering the operational level. Our goal thus is to extend prior investigations by explicitly including IT governance practices to be implemented for leveraging a non-strategic alignment level, and to evaluate their relative importance for facilitating alignment, respectively. Consequently, we investigate a variety of strategic and operational IT governance practices and their importance for strategic and operational alignment.

3 RESEARCH METHODOLOGY

Our research approach consisted of three steps. First, a literature review was conducted to identify existing IT governance practices. Second, the list of IT governance practices resulting from the literature search was discussed with two experienced senior consultants from our case study firm to validate the practices and provide additional suggestions. Third, an updated list of IT governance practices has been evaluated by 8 persons with regard to completeness, validity, and importance and effects regarding alignment. We describe these main steps more detailed in the following.

3.1 Literature Review on IT Governance Practices

As introduced we propose that IT governance practices influence alignment. As a first step we conducted a literature search in Elsevier, JSTOR, and EBSCO in order to find articles published within the past twenty years dealing with our research issue. We searched for enablers and success factors for alignment to cover a broad range of papers. All search terms consisted of the word “alignment” (which we used in its various established forms like, e.g., “IS alignment”, “IT/business
alignment”, “IT alignment”) and one or more other keywords (e.g. “enabler”, “driver”, “success factor”). In total we found 108 papers which have been analyzed regarding their relevance for our topic. This procedure reduced the number of relevant papers down to 38. Papers not indicating any content useful for our work have been excluded. One of the main reasons was that alignment has been investigated as a factor influencing other variables, thus excluding antecedents of alignment from the analysis, which are of particular interest for our study.

These 38 papers have been reviewed in regard to alignment enablers included in the analysis, respectively. The review revealed 26 different variables which have been mentioned as alignment enablers. Many of these practices were derived from Luftman and Kempaiah (2007), but also from other papers of leading IS journals and conference proceedings like, e. g., MIS Quarterly (Executive), or Journal of Management Information Systems.

3.2 Case Study

According to De Haes and Van Grembergen (2009), research dealing with “IT governance implementations and its relationship with business/IT alignment is in its early stages and theoretical models are scarcely available” (p. 125), leading to more exploratory research instead of hypothesis testing. Thus, we conducted a case study rather than following a quantitative research approach. Case studies are one form of empirical studies often employed in IS research in order to investigate a phenomenon within its real-life context (Yin 2003). In the following, a case study carried out in a multi-national firm is presented, focusing on the interplay between IT governance practices and alignment. Case studies have to be prepared and carried out thoroughly in order to achieve the necessary rigor. During design and preparation it is important to make explicit the research question, propositions and unit of analysis (Dubé & Paré 2003; Yin 2003).

After the definition phase we chose the case according to Eisenhardt (1989) by selecting one large multi-national, multi-divisional company to constrain the variation regarding context factors and to account for the use of a variety of IT governance practices. The reason for choosing such a company is that large and complex organizations typically exhibit more and differentiated practices than smaller companies, and that they also consult external customers. In 2009 the investigated company had more than 12 billion $ net income, >95 billion $ total revenue and more than 300,000 employees. The company is represented in ca. 100 countries and operates in several divisions covering services, consulting, hardware and software.

In order to carry out the case study we developed case and interview protocols prior to the actual interviews. Afterwards, the adapted documents were used for the case studies (Eisenhardt 1989; Yin 2003). Interviews were carried out in two parts and lasted approximately one hour each. In a first step, a semi-structured questionnaire was used to cover a wide variety of contextual variables. Two experienced consultants working in the area of IT strategy and change, and IT strategy implementation for years were asked in several (formal and informal) meetings to check if variables were missing or should be deleted from the list. No deletion occurred but seven additional variables could be included:

- Joint definition of roles and responsibilities
- Consideration of business requirements for strategic service management
- Consideration of business requirements in operational service management
- Mutual process knowledge
- Effectiveness of strategic meetings between IT and business
- Effectiveness of operational meetings between IT and business
- Perception of IT

With this information, we prepared an updated list for step two, which was conducted in form of a structured questionnaire. The interviews have been conducted in the IT services division which accounts for ca. 20% of the firm’s annual revenues. The IT services division provides consulting services for a large number of internal and external clients from different industries including design
and implementation of governance structures and processes. Thus, this environment represents a considerable variety of practical experiences with regard to the subject. Consequently, experienced interviewees have been chosen. Eight interviewees who all are competent in the field of alignment and working in the IT consulting sector for an average of ten years served as key informants: one Executive Partner; one Associate Partner; five Senior Managing Consultants; one Managing Consultant. These interviewees had the task to evaluate the now 33 variables in terms of their effect on alignment. Furthermore, the interviewees were asked to rank and evaluate all variables according to their respective importance for improving alignment.

Each interviewee received the list of IT governance practices together with a first explanation of goal and purpose of the case study. The interviews were conducted independently from each other, and the interviewees were not informed about the other participants. At the beginning of each interview, we asked the candidate if there is any lack of clarity or ambiguity concerning concepts, terms, and/or approach. In doing so, we ensured that all relevant facts have been understood and the task was clear. During the interview, we asked the following questions:

1. In your opinion, which IT governance practices or enterprise architecture characteristics are dispensable? (interviewees were asked to explain each nomination)
2. In your opinion, which IT governance practices or enterprise architecture characteristics are ambiguous? (interviewees were asked to explain each nomination)
3. Which IT governance practices or enterprise architecture characteristics are missing and should, in your opinion, be incorporated? (interviewees were asked to explain each nomination)
4. Please indicate for each IT governance practice and enterprise architecture characteristic, if and how it helps to increase strategic or operational business-IT alignment. (in case of indecision interviewees were asked to explain their doubts)
5. Please rate the importance of each IT governance practice and enterprise architecture characteristic for influencing alignment (scale: 1 = very low importance, ..., 5 = very high importance).
6. Please share, from your own experience, concrete suggestions on how to improve business-IT alignment in firms.

Data was complemented by reports, other documentation like process documentation and academic literature. The interviewees validated the collected data as well as the results. This procedure is in accordance with the literature on case study methodology (Eisenhardt 1989; Lee 1989; Yin 2003).

4 RESULTS

An overview of the validated and ranked IT governance practices is shown in Table 1, complemented by the validated and ranked enterprise architecture characteristics in Table 2 that additionally showed to be important. Both tables are structured as follows: In accordance with prior research (e.g. De Haes & Van Grembergen 2009) and as described in section 2, we distinguish between structures, processes, and relational mechanisms, and also account for enterprise architecture characteristics. For each practice and characteristic, the tables give (1) a brief description (including at least one reference for those practices and characteristics derived from literature; however, many practices and characteristics occurred in multiple articles, so the presented references mostly are only examples); (2) the mean value of the practice’s/characteristic’s importance for business-IT alignment (coming from the 8 interviewees who rated on a scale of 1-5 with 5 indicating very high importance); (3) the number of interviewees who generally agreed with having the practice/characteristic in the list; (4) and the organizational level the practice/characteristic is linked to. All practices written in italic did not come from the literature, but were identified within the first step (initial interviews) of our case study. The meaning of the listed practices is well-known to our interviewees. This is plausible, because these practices are frequently used in firms (although to different extent) and our interviewees all are experienced experts in the respective domain.
As can be seen, the general agreement with the IT governance practices is very high, with only two practices (mutual understanding and mutual trust) where “only” five out of the eight interviewees reported some issues for further discussion. Regarding the importance for business-IT alignment, all values indicate a considerable impact of the practices. Only one of the 33 practices’ mean importance is below 3, which is the perception of IT at operational level showing a value of 2.63.

The most important IT governance *structure* to effect strategic alignment is a steering committee consisting of business and IT people (4.88). Almost comparably important is a liaison unit or manager to improve operational level alignment (4.75). Looking at the IT governance *processes*, it turns out that a joint coordination of IT and business goals and a joint coordination of investment planning are equally important for strategic alignment (4.75). With regard to operational alignment, the consideration of business requirements for application development is clearly the most important process (4.75). From the IT governance *relational mechanisms*, strategic business/IT meetings (in terms of frequency and effectiveness) show to be the most important mechanism to foster strategic alignment (4.38). Congruently, operational business/IT meetings are considered to be the most important mechanism for operational alignment (4.25). Turning to the enterprise architecture characteristics which have all been identified to leverage operational alignment, flexibility is ranked to be the most important one (4.38), followed by transparency of enterprise architecture (3.75).

<table>
<thead>
<tr>
<th>IT governance structures</th>
<th>Practice (references)</th>
<th>Description</th>
<th>Importance (from 1-5; mean)</th>
<th>Agreements with practice</th>
<th>Impacted alignment level</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 Joint steering committee (Luftman &amp; Kempaiah 2007)</td>
<td>Committee at top level to prepare and make decisions, and to ensure transparent communication</td>
<td>4.88</td>
<td>8</td>
<td>Strategic</td>
<td></td>
</tr>
<tr>
<td>S2 Organizational structure (Luftman &amp; Kempaiah 2007)</td>
<td>General structure (hierarchy, degree of specialization, standardization, …)</td>
<td>4.25</td>
<td>8</td>
<td>Strategic</td>
<td></td>
</tr>
<tr>
<td>S3 Role of IT within the organization (Tallon et al. 2000)</td>
<td>Strategic role of IT within the organization</td>
<td>3.75</td>
<td>7</td>
<td>Strategic</td>
<td></td>
</tr>
<tr>
<td>S4 Liaison unit (Luftman &amp; Kempaiah 2007)</td>
<td>Organizational unit for improving collaboration and interaction effectiveness (e.g. IT demand manager)</td>
<td>4.75</td>
<td>8</td>
<td>Operational</td>
<td></td>
</tr>
<tr>
<td>S5 Business sponsor for IT projects (Luftman &amp; Kempaiah 2007)</td>
<td>Dedicated business person to support running and forthcoming IT projects</td>
<td>4.63</td>
<td>8</td>
<td>Operational</td>
<td></td>
</tr>
<tr>
<td>S6 Joint boards (De Haes &amp; Van Grembergen 2009)</td>
<td>Units at operational level to prepare and make decisions (e.g. project board)</td>
<td>4.38</td>
<td>8</td>
<td>Operational</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IT governance processes</th>
<th>Practice (references)</th>
<th>Description</th>
<th>Importance (from 1-5; mean)</th>
<th>Agreements with practice</th>
<th>Impacted alignment level</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 Joint coordination of IT and business goals (Reich &amp; Benbasat 1996)</td>
<td>Process to align business and IT goals</td>
<td>4.75</td>
<td>8</td>
<td>Strategic</td>
<td></td>
</tr>
<tr>
<td>P2 Joint coordination of investment planning (Luftman &amp; Kempaiah 2007)</td>
<td>Process to transparently evaluate and prioritize IT investments</td>
<td>4.75</td>
<td>8</td>
<td>Strategic</td>
<td></td>
</tr>
<tr>
<td>P3 Joint coordination of IT and business plans (Chan 2002)</td>
<td>Process to formulate strategy in cooperation of business and IT</td>
<td>4.50</td>
<td>8</td>
<td>Strategic</td>
<td></td>
</tr>
<tr>
<td>ID</td>
<td>Practice (references)</td>
<td>Description</td>
<td>Importance (from 1-5; mean)</td>
<td>Agreements with practice</td>
<td>Impacted alignment level</td>
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<tr>
<td>P4</td>
<td>Reporting between IT and business (Luftman &amp; Kempaiah 2007)</td>
<td>Process to regularly report relevant IT issues to the business</td>
<td>3.75</td>
<td>8</td>
<td>Strategic</td>
</tr>
<tr>
<td>P5</td>
<td>Joint financial controlling and budget responsibility in IT projects (Künkele 2007)</td>
<td>Process to control IT budgets in all project/product/service phases</td>
<td>3.63</td>
<td>8</td>
<td>Strategic</td>
</tr>
<tr>
<td>P6</td>
<td>Joint definition of roles and responsibilities</td>
<td>Process to ensure that business and IT jointly take responsibility for decisions, actions, and risks</td>
<td>3.38</td>
<td>8</td>
<td>Strategic</td>
</tr>
<tr>
<td>P7</td>
<td>Consideration of business requirements for strategic service management</td>
<td>Process to define service catalogues and service level agreements</td>
<td>3.13</td>
<td>7</td>
<td>Strategic</td>
</tr>
<tr>
<td>P8</td>
<td>Consideration of business requirements for application development (Kearns &amp; Sabherwal 2006)</td>
<td>Process to design and implement IT products and services according to business requirements</td>
<td>4.75</td>
<td>8</td>
<td>Operational</td>
</tr>
<tr>
<td>P9</td>
<td>Mutual process knowledge</td>
<td>Process to ensure an effective and efficient exchange of business process related knowledge between business and IT</td>
<td>3.63</td>
<td>8</td>
<td>Operational</td>
</tr>
<tr>
<td>P10</td>
<td>Consideration of business requirements in operational service management</td>
<td>Process to continuously control the IT services and update service catalogues and service level agreements</td>
<td>3.25</td>
<td>6</td>
<td>Operational</td>
</tr>
<tr>
<td>P11</td>
<td>Joint process documentation (Martin et al. 2008)</td>
<td>Process to jointly (business and IT) generate and update business process documentation</td>
<td>3.13</td>
<td>8</td>
<td>Operational</td>
</tr>
</tbody>
</table>

**IT governance relational mechanisms**

<table>
<thead>
<tr>
<th>ID</th>
<th>Practice (references)</th>
<th>Description</th>
<th>Importance (from 1-5; mean)</th>
<th>Agreements with practice</th>
<th>Impacted alignment level</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Strategic meetings between IT and business (frequency+effectiveness)</td>
<td>Frequency and effectiveness of (formal) strategic business/IT meetings on various issues</td>
<td>4.38</td>
<td>7</td>
<td>Strategic</td>
</tr>
<tr>
<td>R2</td>
<td>IT management participates in business planning (Kearns &amp; Sabherwal 2006)</td>
<td>Frequency and intensity of top IT managers being involved in business planning</td>
<td>3.50</td>
<td>8</td>
<td>Strategic</td>
</tr>
<tr>
<td>R3</td>
<td>Business management participates in IT planning (Kearns &amp; Sabherwal 2006)</td>
<td>Frequency and intensity of top business managers being involved in IT planning</td>
<td>3.50</td>
<td>6</td>
<td>Strategic</td>
</tr>
<tr>
<td>R4</td>
<td>Operative meetings between IT and business (frequency+effectiveness) (Beimborn et al. 2006)</td>
<td>Frequency and effectiveness of (formal) operational business/IT meetings on various issues</td>
<td>4.25</td>
<td>7</td>
<td>Operational</td>
</tr>
<tr>
<td>R5</td>
<td>Management involvement in case of escalation (Thong et al. 1996)</td>
<td>Involvement of top IT and business managers in critical situations</td>
<td>4.00</td>
<td>8</td>
<td>Operational</td>
</tr>
<tr>
<td>R6</td>
<td>Mutual understanding (Reich &amp; Benbasat 2000)</td>
<td>Showing understanding for the other side’s work and behavior</td>
<td>4.00</td>
<td>5</td>
<td>Operational</td>
</tr>
<tr>
<td>R7</td>
<td>Mutual trust (Beimborn &amp; Blumenberg 2007)</td>
<td>Expectance that no party will behave opportunistically</td>
<td>4.00</td>
<td>5</td>
<td>Operational</td>
</tr>
<tr>
<td>R8</td>
<td>Knowledge transfer between IT and business (Luftman &amp; Kempaiah 2007)</td>
<td>Systematic knowledge exchange between IT and business</td>
<td>3.25</td>
<td>8</td>
<td>Operational</td>
</tr>
<tr>
<td>R9</td>
<td>Satisfaction surveys (Chan 2002)</td>
<td>Employee surveys to identify problems within the business/IT relationship</td>
<td>3.00</td>
<td>8</td>
<td>Operational</td>
</tr>
</tbody>
</table>
Table 1: Results (Catalogue of IT Governance Practices)

<table>
<thead>
<tr>
<th>ID</th>
<th>Practice (references)</th>
<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Flexibility of enterprise architecture (Luftman &amp; Kempaiah 2007)</td>
<td>Ability to react to changes effectively and efficiently</td>
<td>4.38</td>
<td>8</td>
<td>Operational</td>
</tr>
<tr>
<td>A2</td>
<td>Transparency of enterprise architecture (Masak 2006)</td>
<td>Transparency on the mapping of business processes, applications, data and infrastructure in terms of IT architecture</td>
<td>3.75</td>
<td>8</td>
<td>Operational</td>
</tr>
<tr>
<td>A3</td>
<td>IT standards within enterprise architecture</td>
<td>Coupling and integration of technical infrastructure components and applications</td>
<td>3.63</td>
<td>8</td>
<td>Operational</td>
</tr>
<tr>
<td>A4</td>
<td>Integration of enterprise architecture (Ross 2003)</td>
<td>Technologies and applications to support the goals and processes of business and IT</td>
<td>3.50</td>
<td>7</td>
<td>Operational</td>
</tr>
</tbody>
</table>

Table 2: Results (Catalogue of Enterprise Architecture Characteristics)

5 DISCUSSION AND IMPLICATIONS

In this section, we discuss our results and provide some implications for research and practice. First of all, we continue by taking into account some issues which limit our findings and need to be considered when interpreting the results. One limitation is due to the applied methodology. We followed a case study approach, thus having only limited data from eight persons in one firm. Thus, statistical generalizability cannot be achieved. However, since research in this field is scarce, an exploratory approach is a good option for gaining insights which can then be used to conduct, e.g., surveys in order to collect richer and more rigorous data. Also, this issue is (at least partly) addressed by the fact that the interviewees have worked in a number of different projects in different industries, so that we can assume a justifiable broad range of experiences and insights. Second, most recent publications like (De Haes & Van Grembergen 2009) have shed light to additional IT governance practices which were not in our catalogue, since the case studies took place in winter 2008/2009. Nonetheless, there are many similarities that allow for comparing the importance of single practices in regard to strategic business-IT alignment within different industry sectors. Third, the differentiation into strategic and operational level alignment might not be sufficient. In particular, mid-size and larger firms often state to have at least a third (often called tactical) level that should be considered. Some of our practices could arguably fit better into that one, thus increasing something like tactical alignment. For example, Senior Managing Consultant 3 said:

*I think the model should be extended by including a tactical layer. This would lead to some changes in the mapping of the practices to the alignment level.*

Since most such statements were only related to single practices, we did not include a third alignment level. However, this aspect should be investigated more thoroughly and extended in future.

Fourth, regarding the ranking of the IT governance practices, in order to reduce complexity in this early phase with focus on the single practices, alignment was, besides the differentiation into strategic and operational, addressed as one global construct. A more detailed analysis could have looked into the effects or importance each practice has on different dimensions of alignment. However, the presented catalogue consists of practices which rather consistently show a high level of importance. This builds, in our opinion, an acceptable foundation for looking deeper into the interrelationships between IT governance practices and alignment. At the beginning it is crucial to identify those aspects...
that do play a role and eliminate all the others. Considering the degree of completeness, our catalogue covers many important aspects. This is also reflected by a statement of Senior Managing Consultant 1:

_The list is rather complete. As additional practice I suggest to include transformation management in order to better cover the business side of organizational flexibility._

This is also supported by Senior Managing Consultant 4:

_The catalogue is good and complete. The consideration of various “soft” practices like mutual trust and understanding is one of the major strengths of this concept._

We can derive several implications from this case study for both research and practice. In this rather new field of investigations on the relationship between IT governance practices and alignment, it is important to get an idea of what practices exist, how relevant they are, how they can be categorized appropriately, and what their effects are (in our case particularly on the strategic and operational alignment). Recent studies have explicitly identified IT governance practices and mainly distinguished three types: (1) structures; (2) processes; (3) relational mechanisms (De Haes & Van Grembergen 2004). However, concerning the impact on alignment, existing investigations have merely focused on the strategic level. While we do not challenge the categorization of IT governance practices, we propose to extend the alignment perspective by incorporating the operational level and map each practice to either strategic or operational alignment, or even to the alignment sub-dimensions on both levels. This may help researchers to better investigate the practices and hypothesize effects on the different levels of alignment. Further, when it comes to evaluating the status of each practice within organizations (e.g. in form of a benchmark), this distinction will allow for an easier identification of the “right” person(s) to evaluate the current status, respectively. Furthermore, a more detailed network of interrelationships between IT governance practices and alignment levels can be drawn. Finally, by having collected data in an industry sector where, to the best of our knowledge, no published articles exist on this particular topic, we can contribute to generalize the findings on IT governance practices and their impact on alignment. This can be seen as another step to a (more) complete baseline catalogue of general practices that might be relevant to many organizations in different industries.

For practitioners who work on implementing new IT governance practices or refining existing ones our results show that it is important to be aware of the respective alignment level which is affected, since merely achieving strategic alignment is not sufficient. This is, e.g., interesting for implementing the “right” practices when a lack of alignment has been identified at a particular level. For example, it may not be the best solution to come up with a new steering committee after having noticed that an IT project team works ineffectively together with the respective business people. Consequently, in order to achieve a well-balanced business-IT alignment status on all organizational levels, a variety of IT governance practices should be implemented so that alignment will improve or sustain on all levels. Last but not least the results tables can be used as a small guideline to possibly identify crucial IT governance practices not implemented within an organization, showing which of those practices are the most promising ones, and keeping the balance between the practices directed towards strategic alignment and those directed towards operational alignment.

6 CONCLUSION

In this paper, using a case study approach at a large international firm operating in different industries, we evaluated the importance of various IT governance practices for both strategic and operational alignment. It turned out that most of the 33 practices in the presented catalogue do have considerable effects on alignment, according to the statements of eight interviewees within the IT strategy and transformation consulting unit of the case study firm. From the case study, we could also find out that regarding the importance for achieving strategic or operational alignment there are (more or less) equally important practices in each category. We reason that no one of the alignment levels should be left unmasked by the IT governance structures, processes, and relational mechanisms, as well as by the enterprise architecture characteristics. Complementing other works, we see this study as one step
towards a more complete framework of concrete IT governance practices and their relationship to alignment, where we propose a distinction between a strategic and a operational level. Future studies can build on this and collect more data to further contribute to this field of IS research, so that it can leave its early stage and come up with more mature theoretical models, which should furthermore analyze existing interdependencies of the identified IT governance practices.

References


