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# THE IMPACT OF BUSINESS-IT ALIGNMENT ON ORGANIZATIONAL CULTURE

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## Abstract

*Organizational culture continues to be cited as one of the most important factors for organizations' success in an increasingly competitive and IT-driven global environment. Given the fact that organizational culture has an influence all over the organization, the complexity of its nature is increased when considering the relationship between business and IT. As a result, different factors that have influence on changing organizational culture were highlighted in literature. These factors are found in the research literature distributed in three main group; micro-environment factors, macro-environment factors and leader's impact. One of the factors that have not been yet well investigated in researches is concerning business-IT alignment (BITA). Therefore the purpose of this paper is to investigate the impact of BITA maturity on organizational culture. The research process that we have followed is a literature survey followed by an in-depth case study. The result of this research shows a clear interrelation in theories of both BITA and organizational culture, and clear indications of BITA impact on organizational culture and its change. The findings may support both practitioners and researchers in order to understand the insights of the relationships between BITA and organizational culture components and provide a roadmap for improvements or desired changes in organizational culture with highlighted target business area.*

*Keywords: Business-IT Alignment, Organizational Culture, Strategic Alignment Maturity, Organizational Culture Assessment Instrument*

# 1 INTRODUCTION

In its wider concept, organizational culture can be perfectly defined as ‘how organizations do things’ (Ngwenyama & Nielsen, 2003). In this context, it is consistent and observable patterns of behaviour or habits in organizations that deemphasizes what people feel, think or believe. In addition to that, it has a focus on the forces that shape structure, processes, and incentives of the organization (Davison & Martinsons, 2003). Organizational culture is one of the most important factors for organizations’ success in an increasingly competitive and IT-driven global environment (Cameron & Quinn, 2011).

Given the fact that organizational culture is extended all over the organization, the complexity of its nature is increased when considering the relationship between business and IT (Choo et al., 2006; 2008). As a result, different factors that have influence on changing organizational culture were highlighted in literature (Kulvinskienė & Šeimienė, 2009). The factors are mainly classified in three groups. The first group of factors is the *micro-environment factors*. It includes factors such as consumers, customers, partners and other organizations. These factors were identified in studies such as Driskill & Brenton (2005) and Schabracq (2007) as having direct influence on organizational culture. Another type of factors was identified in studies such as Burton & Obel (2004) and Schein (2004) as related to the *macro-environment*. Such factors consist of business-external factors that cannot be controlled such as economic, social-cultural, political-legal, scientific-technological, natural environment and international events. They have strong, however, indirect influence on organizational culture. The third type of factors was found to be more related to the *leader’s impact* and how they drive the organization in studies such as Ogbonna (2000), Schein (2004) and Driskill & Brenton (2005). They include the impact of using primary (establishment of culture) and secondary (expression and reinforcement of culture) mechanisms, methods of the change for the organizational culture such as beliefs, values, attitudes and their building techniques.

As Kulvinskienė & Šeimienė (2009) explain, the first group of factors (*micro-environment*) and the third group (*leader’s impact*) have been examined in a large number of studies and researches. They resulted in different methods, frameworks or guidelines for how to deal with these challenges or develop knowledge on how to consider them. The second group has, however, received less attention from researchers. One of the central factors in the second group is the different views of IT perception in organisations and how to utilize them in regard to business objectives and their achievement (Smaczny 2001; Chan & Reich, 2007b). This is referred to the relationships between business and IT as business-IT alignment (BITA). In addition to that, the factors in the concepts of *micro-environment factors* have been extensively studied in relation to IT for finding harmonization with views of customers and partners with clear overlook for BITA (Luftman, 2004; Luftman et al., 2011).

With the increase of organizations’ dependency on IT for facilitating business processes and networking, more focused view on BITA and its impact on organizational culture is required. Following these arguments, and considering the scientific contribution, the paper’s objective is set to investigate the impact of BITA on organizational culture. The research question is then highlighted as “*How business-IT alignment maturity impacts the organizational culture*”. For answering this question, and to draw on the impact of BITA on organizational culture, two research processes are included in the research method. At first, the impact of BITA criteria on the organizational culture components is hypothesized through indications and analytical reasoning that are found from literature. For BITA, Strategic Alignment maturity model (SAM) developed by Luftman (2000) is used, and for the organizational culture, the Organizational Culture Assessment Instrument (OCAI) is used. At second, an in-depth case study is performed in multinational organization acting in Sweden for evaluating the inceptions of organizational culture based on BITA components.

The remainder of the paper is structured as follows: after the introduction, we have presented an overview of organizational culture followed by implications of BITA. Then the research method is then presented in Section 4. Next, indicated impact of BITA on organizational culture is explored. Next, results and analyses of the case study are presented in followed by conclusions in Section 8.

## 2 ORGANISATIONAL CULTURE OVERVIEW

Culture as a concept has many definitions found in literature. Kroeber & Kluckhohn (1952) collected in their book over 150 different definitions. According to Hofstede & Hofstede (2005) culture consists of shared language, belief systems such as religion and political beliefs, ethnic heritage and history. In addition to that, culture has been defined in many contexts and at different levels. It ranges in literatures from national, regional, societal and organizational culture (Deresky, 2010).

While the focus in studying culture has been on its national level led by studies of Hofstede (1980) for almost two decades, a clear criticism has been brought up to highlight other levels of culture. It is claimed that national culture creates a stereotyping without a real picture of a nation that may have many subcultures (Ailon, 2008). Organizational culture is however viewed as a subset of national culture as organizations operate within a given national context with employees from the same national culture (Ralston et al., 1997).

Organizational culture is comprehensively explained by Cameron & Quinn (1999) as referring to the taken for granted values, underlying assumptions, expectations and definitions present in organization. Therefore, it is considered to strongly comprise values and behaviours that contribute to unique social and psychological environment of an organization (Deresky, 2010). It is divided into three levels: a) values at strategic level including mission and objectives, b) believes and norms of employees at tactical level, and c) aspects of organizational life at operational level (Nicklas & Janz, 2010).

A number of models and theories such as Hofstede (1980), Deal & Kennedy (1982), Cameron & Quinn (1999), House et al. (2001; 2004) and Smit et al. (2008) have been presented as reference frameworks for understanding national and organizational culture and their components. However, in this study the Organizational Culture Assessment Instrument (OCAI) proposed by Cameron & Quinn (2006) is used. The OCAI was developed by Cameron & Quinn (2006) based on the Competing Values Framework initiated by Quinn & Rorbaugh (1983) and further developed by Kimberly & Quinn (1984) and Cameron & Quinn (1999). The selection of the OCAI framework is motivated by the following reasons: a) the instrument is a validated research method to examine organizational cultural and was originally empirically derived, b) it has shown both theoretical and empirical validation that integrate many of the dimensions derived from organizational culture research, and c) the results of OCAI provide a means by which organizations can navigate organizational change successfully. The framework was developed based on 39 effectiveness criteria identified and analysed by Quinn & Rohrbaugh (1983). Those 39 indicators of effectiveness were statistically analysed and two major dimensions emerged that organized the indicators into four main clusters (Cameron & Quinn, 2011). On the one dimension, the effectiveness criteria that stress flexibility, discretion, and agility are differentiated from criteria that stress stability, order, and control. On the second dimension, the criteria that emphasize an internal orientation, integration, and unity are differentiated from criteria that emphasize an external orientation, differentiation, and competition. Thus, "each dimension as a continuum highlights a core value that is opposite from the value on the other end of the continuum flexibility versus stability, internal versus external."(Cameron & Quinn, 2011). Together these two dimensions form four quadrants (Hierarchy, Market, Clan, and Adhocracy) that represent a type of organization each with a distinct set of organizational effectiveness attributes (Figure 1).

In *Hierarchy* culture, the shared assumption is that formalised structures and processes increase efficiency and consistency, and therefore effectiveness. Norms and behaviours thus emphasize control, reliability, and the following of rules or procedures. The organization is internally focused on its operations, seeking a high degree of integration and predictability

In *Clan* culture, the shared assumption is that committed, satisfied employees produce effectiveness. Norms and behaviours thus emphasize open communication, collaboration, and participation. The organization is internally focused on its people, creating a friendly environment that is flexible and empowering.

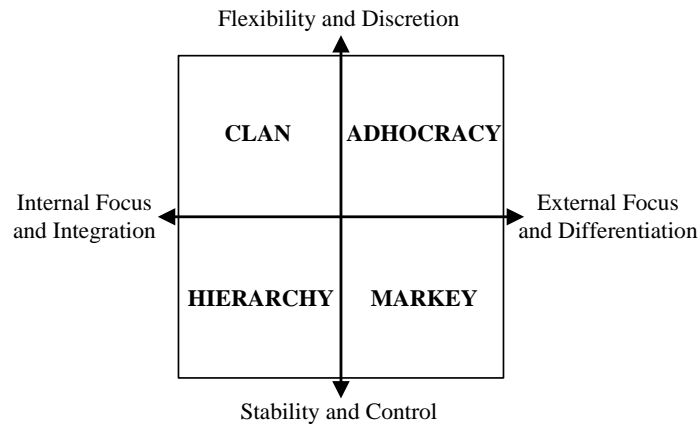


Figure 1. Organizational Culture Profiles (adapted from Cameron & Quinn, 2006)

In *Market* culture, the shared assumption is that striving for goals and market success are the drivers of organizational effectiveness. Norms and behaviours thus emphasize focusing on results, attaining or exceeding goals, and productivity. The organization is externally focused on customers and the market, and pursues the kind of stability that supports goal achievement.

In *Adhocracy* culture, the shared assumption is that innovation and new ideas lead to effectiveness by creating new markets, customers, and opportunities. Norms and behaviours emphasize creativity, risk-taking, and entrepreneurship. The organization is externally focused on its environment, and encourages agility and individual discretion.

### 3 IMPLICATIONS OF BUSINESS-IT ALIGNMENT

In literature, BITA is related to different scopes, and it is therefore defined differently. While some definitions focus more on the outcomes from IT for producing business value, others have focused on harmonizing business and IT domains with their objectives, strategies and decision-making processes (Sabherwal et al., 2001). These two views have affected the way in which BITA is expressed in publications. Publications that have studied the benefits of IT for business look at leveraging/linking (Henderson and Venkatraman, 1993), enabling (Chan et al., 1997), transforming (Luftman et al., 2000) and optimizing (Sabherwal et al., 2001) business processes. Other studies focus on the relationship between the two business and IT domains and refer to BITA as fitting (Benbya & McKelvey, 2006), linking (Reich & Benbasat, 2000), matching (Chan et al., 1997), bridging (Van Der Zee and De Jong, 1999), fusion (Smaczny, 2001) and harmonizing (Chan, 2002).

‘*Why alignment is important*’ is not the real concern for organizations today. The focus of business executives today is instead on ‘*how it can be achieved and matured*’ (Leonard & Seddon, 2012). Achieving BITA has traditionally been seen as a part of Chief Information Officer’s (CIOs) duties. That typically involved communication and strategy translation at executive levels (Sabherwal et al., 2001). Today, successful BITA, however, entails much more at tactical and operational levels in organizations, and focuses on management activities that help in achieving cohesive goals across IT and business operations (Tarafdar and Qrunfleh, 2009). Therefore, it requires strong senior manager’s support, appropriate prioritizations, trustful relationships and effective communications between different levels in the organization (Avison et al., 2004). In addition to that, Gutierrez and Serrano (2008) points out that current alignment approaches are mainly focused at the strategic level but provide little insight at tactical and operational level. Tarafdar and Qrunfleh (2009) argues that alignment at operational and tactical level is necessary to ensure that applications are successfully implemented, maintained and used, in accordance to the business’ needs.

BITA is a preferred condition in which the relation between business and IT is optimized in order to maximize the business value of IT. Results from BITA research have shown that organizations that successfully align their business strategy with their IT strategy can increase their business performance (Chan et al., 1997; Irani, 2002; Kearns & Lederer, 2003). BITA can also support analysis

of the potential role of IT in an organization. For example, BITA can support identification of emergent IT solutions in the IT marketplace that can be an opportunity for an organization to change its business strategy and business infrastructure (Henderson & Venkatraman. 1993). Not only researchers, but business and IT practitioners have also emphasized the importance of BITA. For example, in the annual survey of the Society for Information Management, BITA was first on the top management concern from 2003-2009 with the exception of 2007 and 2009 when it was the second top concern (Luftman & Ben-Zvi, 2010). Therefore, practitioners should place a special attention on BITA models and particularly on the way it can be used for achieving, assessing and maintaining BITA in their organizations.

Dynamic multidimensional set of alignment components is visible in every organization when going from business strategy to IT-Governance (Hu & Huang, 2006). Different efforts have been oriented towards assessing BITA by proposing theoretical models that can be applied as supportive tools for addressing different BITA components. An extensive study by El-Mekawy et al. (2013) collected these models with their components in a comparative framework. Although Henderson and Venkatraman are seen as the founding fathers of BITA modelling (Avison et al., 2004), Luftman's strategic alignment maturity model (2000) (SAM) has gained more popularity in practice (Chan & Reich, 2007).

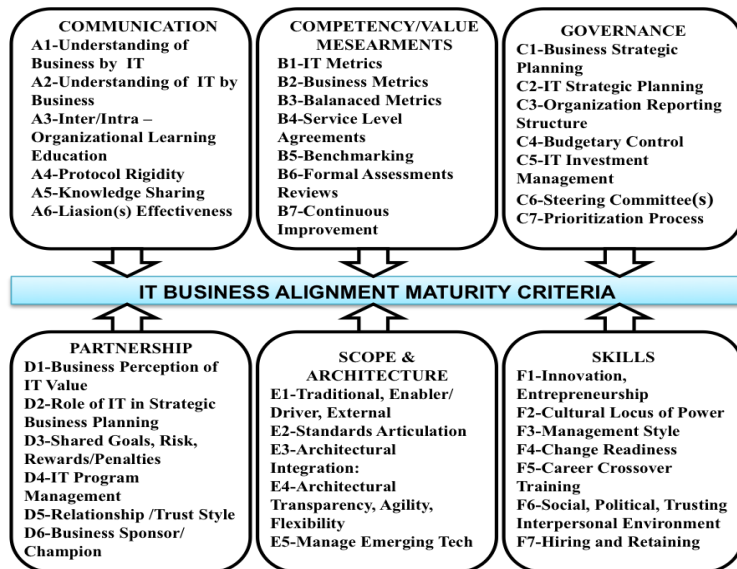


Figure 2. Luftman's Strategic Alignment Maturity (SAM) (adapted from Luftman. 2000)

BITA Criterion	Definition and Questions Attached
Communications	Refers to clear understanding between business and IT communities with an effective exchange and sharing of each ideas, processes and needs.
Competency/ Value Measurements	Concerns about demonstrating IT values in compatible figures with the business community understanding. Therefore, both business and IT have usually different metrics of values they add.
Governance	Ensures that business and IT communities formally and periodically discuss and review their plans. Different priorities are important to be clearly defined for allocating the needed IT resources.
Partnership	Refers to the relationship between business and IT in having shared vision of the organisation's processes in order to facilitate the IT as an enabler or driver for business transformation in processes and strategies.
Scope and Architecture	Illustrates the involvement of IT in all organisational processes. It defines the IT role in supporting flexible and transparent organisational infrastructure. This, however, facilitates applying technologies effectively and providing customised solutions responding to customer needs.
Skills	Refers to all human resource aspects that influence/(are influenced) by changes. They include factors that enhance organization's cultural and social environment as components of organizational effectiveness.

Table 1. Criteria of SAM (Luftman. 2000)

This gain is due to its following benefits over other BITA models: a) It follows a bottom-up approach by setting goals, understanding linkage between Business and IT, analyzing and prioritizing gaps, choosing and evaluating success criteria, and consequently sustaining alignment by all these

processes, b) It presents strategic alignment as a complete holistic process which encompasses not only establishing alignment but also its maturity by maximizing alignment enablers and minimizing inhibitors (Avison et al., 2004), c) SAM focuses on different areas by modularity of six BITA criteria. It provides an instrument for understanding business-IT relationships, and d) Since its inception, SAM has been used by several researchers and in number of industries for assessing BITA and its components. Therefore, SAM is selected to be used in this study for assessing BITA and analyzing the proposed impact on organizational culture. SAM (Luftman, 2000) classifies BITA in six criteria (Table 1) consisting of 38 attributes (Figure 2) in five maturity levels: Ad Hoc, Committed, Established Focused, Managed, and Optimized Process. This classification gives clear view of alignment and helps to spot particular areas of where an organization needs to improve for maximizing values of IT investments.

## 4 RESEARCH METHODOLOGY

The research process that was followed for this research namely is an in-depth literature survey followed by a case study. The two steps of the research process are explained below.

**Literature Survey.** It aimed to study and analyse theories of BITA and organizational culture in order to hypothesise how their components are interrelated. As motivated above in Section 2 and Section 3, this is based on Strategic Alignment Maturity Model (SAM) by Luftman (2000) and the Organizational Culture Assessment Instrument (OCAI) by Cameron & Quinn (2006).

As a first step towards building the hypotheses, we studied the SAM model i.e. definitions of its criteria and attributes. For instance, consider the criterion *Communications* in SAM refers to ‘clear understanding between business and IT communities with an effective exchange and sharing of each ideas, processes and needs. It has six attributes that are rooted in literature to be related directly to the way of communication between business and IT. These attributes are; *Understanding of Business by IT, Understanding of IT by the Business, Inter/Intra-Organizational Learning, Protocol Rigidity, Knowledge Sharing* and *Liaison Breadth/Effectiveness*.

In the second step, we went back to the original sources of all criteria as cited by Luftman (2000) and updated in Luftman (2004) and Luftman & Kempaiah (2007). Primarily based on these sources and other BITA literature, we collected reflections over organizational culture’s four quadrants of the framework OCAI. For example, *Communications* is defined in terms of social dimension of strategic alignment in terms of ‘the state in which business and IT executives within an organizational unit understand and are committed to the business and IT mission, objectives, and plans’ by Reich & Benbasat (2000). In other definitions, *Communications* is defined in terms of tools and platforms that support the knowledge sharing and knowledge transfer (Campbell, 2005). These findings indicate ample evidences that *Communication* and its attributes have implications on organizational culture, specifically on the *Clan* profile (a quadrant in OCAI framework).

The collected reflections, in the third step, serve as bases for building our hypotheses. The reflections of the case presented above serve as bases for building a hypothesis of ‘A high maturity of *Communication* positively contributes to the *Clan* profile of organizational culture’.

**Case Study.** Following the literature survey, an in-depth case study was conducted in a multinational organization acting in Sweden. A case is usually unique and offers rich details rather than generalizations, and understanding of complex issues rather than explanations. In addition to that, case studies allow the study of difficult issues while retaining the holistic characteristics of real-life events (Yin, 2009). Case research allows for the study of information systems in their natural settings and makes it possible to comprehend contextual complexities (Dubé & Paré, 2003). The aim of the case was to investigate the impact of BITA on organizational culture. Therefore, four sets of interviews were conducted to assess both BITA and organizational culture in two different periods of time. Interviews were unstructured/semi-structured to allow for emergent themes to be explored (Myers, 2009). Following the guidelines of Dubé & Paré (2003), the interviews were also done in two sets, one from the business domain and another from IT domain. This helps to involve and gain insights of both stakeholder groups. In total, eight respondents (four executive business and four IT

managers) were interviewed. Each respondent was asked 38 questions (one for each SAM's attributes) for assessing BITA and 24 questions for assessing the organizational culture using the OCAI framework. Each interview lasted for approximately 60 to 90 minutes. The first round of assessment was conducted in March-June 2011 and the second round was conducted in November 2013 – January 2014. All participants were guaranteed anonymity and all results were presented anonymously

**The organisation** is a medium-sized retail company. The company has grown up from family business to a business with more than 2000 employees. Today, the organization is established as a member of the OMX-Stockholm Medium Cap<sup>1</sup>. The organization is highlighted as one of the most successful organizations in the Swedish market in the last decade especially after the economic crisis in 2008.

From the first day, managers of the organization recognized that it is a non IT-related organization. Therefore they took IT out of their core business and dedicated to an external IT consultant in 2002. The focus, by then, was more on the core business functions and on developing business processes. However, influenced mainly by the business expansion, the need for faster and customised IT functions, and the global economic crisis/recession (started initially in August 2007 and have had its particularly sharp downward turn in September 2008<sup>2</sup>), IT functions was decided to be brought inside the organization. As a result, the relationships between business and IT have witnessed dramatic changes in nature and how they are built and practiced. Therefore, alike changes in BITA components have also been witnessed. Moreover, both business and IT managers recognized the need for changing how things are designed, performed and managed in relation to the organizational culture. It took two-three years, as a transition period, for the organization to prepare and change the organizational culture profile. The changing process started approximately, according to respondents, Sep-2010. Today all respondents claim that they have a totally different organizational culture. In the following sections of the paper, **phase-A** is used to refer to the phase before the change (with external IT consultant) and **phase-B** to the phase after the change (bringing IT to the organization).

## 5 BITA IMPACT ON ORGANIZATIONAL CULTURE

In this section, the theoretical indications of BITA impact on organizational cultural are analysed. Therefore we briefly describe each criterion in SAM model and how it reflects indications in influencing the organizational culture profiles in the OCAI framework. Hypothetically, we expect to find at least one existing reflection of each BITA criterion on each organizational culture profile. With the help of SAM's attributes in each criterion, more various relations have been explored as well.

**Communications:** Based on the findings of (Kaplan and Norton, 2004), it can concluded that understanding between business and IT and the organizational learning gives more confidence and controlled process on adapting new changes in the organization. This can be also reflected on adapting flexibility of policies, regulations and beliefs for learning and changing (Reich and Benbasat, 2000). In addition to that, Luftman (2000) and Parise & Henderson (2001) emphasises the importance of knowledge sharing across the organization for effective management of dynamic environment which most of organizations find themselves in today. Following that, the rigid control and effectiveness conditions of communication liaisons in an organization have direct impact on dynamic and flexibility controls in the organization. It can then be expected that high maturity of *Communications* is attached to the *Clan* profile of organizational culture. However, the strong protocol rigidity imposed by leaders and liaison effectiveness might move the organization from the *Clan* corner to the *Adhocracy* with extending communications to the customer and suppliers. On the contrary, for the *Hierarchy* and *Market* cultures, they can be indicated to have lower maturity of Communications.

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<sup>1</sup> Organizations with a market capitalization of over EUR 150 million and under EUR one billion (accessed on 30 December 2013 from: <http://www.nasdaqomxnordic.com/shares>).

<sup>2</sup> See Gore (2010) for more information and details on the global economic and financial crisis.



**Competency/Values Measurements:** Organizations with high maturity level on *Value Measurement* should be able to demonstrate the IT value in terms that business understands. Following the findings of Luftman (2007) and Love & Irani (2004), it is concluded that the relationships in organizations for aligning espoused values with its actual values is important for demonstrating the IT contribution to business. In addition to that, Service Level Agreements (SLAs) in literature of organizational culture are found to be influenced by different human aspects that are defined by client focus (Gemmell and Pagano, 2003), by flexibility of policies and regulations to facilitate required changes (Kefi, 2002), by collaborative work (Love & Irani, 2004) and by better communication channels (Frisk, 2007). Regarding continuous improvements and benchmarking, Silvius (2008) and Nijland (2004) define a well coordinated organization as the one that has high ability to continuously align its performance with service delivery outputs. Assessing and reviewing organizational performance can be based on the adapted new gained knowledge and in flexible way to be even extended to external partners that are included in the process (Stefanoue, 2001). From the above mentioned characteristics, it can be expected that high maturity of *Competency/Values Measurements* is attached to the *Market* profile of organizational culture and *Hierarchy*, but with less influence in *Clan* and *Adhocracy*.

**Governance:** Following the findings of Van Grembergen & De Haes (2008), the importance of strategies and their planning in organizational culture is related to its ability to create long-term direction and meaning, to concretize vision into tangible goals, to involve and to consult personnel in strategy formulation. For the investment on IT and managing IT process and priorities, it can be concluded from the studies of Weill & Ross (2004) that the way of steering the organization with formal and regular meetings for demonstrating decision-making responsibilities is expected to have high influence on stabilizing and controlling an organizational performance. According to Maes et al. (2000), this is found to be more correlated to the focus on designing well defined strategies, interpreting them into policies at the tactical level and facilitating them to optimized functions at the operational level of an organization. These characteristics are found to be more attached to the *Hierarchy* profile of organizational culture with more internal focus in the organization and integration of all governance levels. However, the maturity of aligning governance in an organization is attached to adaptive culture (in which changes are easily accepted and applied) that has high ability to promote useful changes in structuring, reporting and controlling (Luftman, 2000; Hu & Huang, 2006). This can be done by external views of policies, regulations and rules and beliefs in a way that enables change (Kefi, 2002) as well as by success history of IT performance for service delivery in the marketplace (Nijland, 2004). This can make a potential for *Market* and *Adhocracy* but not the *Clan* culture.

**Partnership:** In this alignment criterion, representing the real fusion of business and IT in one union is the main characteristic. Based on the findings of Luftman (2000) and Wieringa et al. (2005), it is concluded that a more matured partnership reflects giving the IT function the opportunity in an organization to have an equal role in defining business strategies. In such environment, business and IT co-adapt with each other for steering the organization towards desired directions and adapting proposed changes. This can be also reflected on adapting flexibility of policies and regulations for Shared Goals, Risk and Rewards (Kaplan and Norton, 2004). However, increasing the trust between business and IT and the strategic partnership perspective have an important role in integrating business processes at all levels, (strategic, tactical and operational) of business in the organization (Van Lier and Dohmen, 2007; Silvius, 2009). These characteristics reflect indications of the *Clan* and *Adhocracy* profile of organizational culture but not *Hierarchy* or *Market*.

**Scope and Architecture:** the main focus in this criterion is on the role of how IT is organized for supporting, driving and co-adapting with business. Based on the findings of Maes et al. (2000), it is concluded that a matured IT architecture in an organization reflects the ability of IT to be more involved in the organization and going beyond the back office and the front office. Hu & Huang (2006) argues that a well coordinated organization from organizational culture point of view is the one that achieve higher quality at lower costs because internal systems are aligned and standards are applied. This integration and standardization are expected to be matured when they are done in harmonization with aligning organizational structure, system and processes with the needs of clients and external partners (Luftman, 2007). These characteristics are found to be attached to the *Hierarchy*

profile of organizational culture. From a matured IT architecture perspective, architecture transparency and flexibility in managing and adapting emerging technologies are important for enriching the possibilities of building dynamic business (Luftman, 2000). These conditions are indicated for requiring external focus of policies and regulations by Van Grembergen & De Haes (2008) and engagement of different units in the strategic direction (Silvius, 2007). This offers potentials for the *Market* and *Adhocracy* but not the *Clan* organizational culture.

**Skills:** in both BITA as well as organizational culture literature, the focus on people is seen a crucial aspect in an organization's success. Based on the findings of Luftman (2000) and Basselier & Benbasat (2007) a matured *skills* in an organization is attached to an innovative and entrepreneurship working environment. In such environment, the locus of power and management style is more characterized by leadership and relationship style. The leaders are then the source for innovation and taking risks. For internal versus external focus of business, while Morneau (2006) and Silvius & Batenburg (2009) emphasise the integration of employees at all the organizational levels and focus on change readiness and career crossover, Duedahl et al. (2005) focuses on the need for developing customer-oriented employees who are able to drive the organization towards higher levels of customer satisfaction, new channels with suppliers and developing new products and services. The above mentioned characteristics are found to be attached to both *Clan* and *Adhocracy* profiles of organizational culture but not *Hierarchy* and *Market*.

## 6 CHANGES IN BUSINESS-IT ALIGNMENT (BITA)

In this section, the analysis of changes in BITA is represented for the two phases, A and B. The sources for this analysis are the eight interviews done in the case study. 38 questions (one for each SAM's attributes) were asked to each respondent over a likert scale from 1 to 5 to assess each attribute of BITA. As semi-structured interviews, useful discussions were collected around each attribute to ensure the validity and reliability of answers as well as to be used for the organizational culture assessment. The summary of results is represented in form of assessing BITA for the two phases in Figure 3 where the value for each attribute is the average of all the eight values from respondents.

**Communications:** in phase-A, the understanding of business by IT and understanding of IT by business were highlighted less than in phase-B. Bringing IT to the organization has increased understanding and awareness of IT by business. At the same time, it opened more formal and informal channels of communications between business and IT domains which increased the knowledge sharing and protocols between them. This also resulted in decreasing the number of training and education programs between the two domains.

**Competency/Values Measurements:** having IT managed by an external consultant was attached to difficulties to manage or measure IT. IT operated as a cost centre. IT metrics focused at the functional level, and Service Level Agreements (SLAs) were technical in nature. However, currently IT and business metrics are established to evaluate the extent of service provided to the business functions. These metrics go beyond basic service availability and help desk responsiveness, evaluating such issues as end-user satisfaction and application development effectiveness. However, because no formal feedback mechanisms are in place to react to a metric, the dashboard of the balanced metrics cannot be considered to be managed.

**Governance:** in phase-A, strategic planning was dominated by business domain. IT did little strategic planning because it operated as a cost centre. Therefore, cost reduction was key objective. Priorities were reactive to business needs as business managers request services. At the same time, with less awareness of IT role, the organization relied more on IT for IT responsibilities, invested more on IT projects, and followed the latest technology and what is proposed by IT. In phase-B, by increasing the awareness and understandability of IT by business, the IT strategic planning has become visible but limited because it operates as a cost centre and, therefore, cost reduction is a key objective. Priorities additionally are reactive to business needs as business managers request services. IT investment has become utilized mainly to support business operations and maintenance. Organizational Structure has been changed by introducing new managerial levels, clear policies and reporting systems.

**Partnership:** when IT was managed by an external IT consultant, IT was mainly perceived as an enabler for the organization in achieving competitive advantages. Several meetings between business and IT domains were arranged when needed but clearly there was no seat for the IT at the business table. In the majority of cases, there were no shared risks because only the business would fail. In phase-B, IT has become to be perceived as a cost with placed little value. Strategic meetings and reports are planned but dominated by business without a strategic seat for IT on the business table. Risks and rewards continue to be unshared and mainly dominated by business. There is heightened awareness that IT can be critical enabler to success, but there is minimal acceptance as a partner.

**Scope and Architecture:** this criterion deals more with IT itself and how it is organised. In phase-A, while the IT was separated from the business domain, there were some IT standards applied but they were integrated only at the functional levels. Clearly there was no formal integration across the enterprise. In phase-B, with bringing the IT to the organization, ERP systems have been installed and all projects are monitored at the enterprise level. However, the IT standards are still not integrated at the enterprise level. This is mainly referred to the lack of strategic partnership between business and IT. While the IT architecture has been improved, better structured with modules and integrations among levels and functions, it is influenced by the lower level of investment in IT projects and in following the latest technology. Therefore the organization still has a limited flexibility in IT architecture and its components.

**Skills:** Although it should be expected that bringing IT to the organization would increase the maturity of this criterion, it is remarkable to find lower maturity level in phase-B. It was noticed in phase-A that career crossover was not encouraged if not existed at all. Innovation was relatively high as the communication with IT was not continuously available. The management style was also dependent on the business unit, but is usually command and control. Training was encouraged but left up in one direction to the IT to the catch up with what the IT does for the organisation. In phase-B, career crossover has become possible but at only the top management level. Innovation has become dependent on the business unit and related to the core business functions. Innovation in the IT domain is limited to individuals who want to perform something good to their work but not strategically to the business. Training is becoming, from the interviewees point of view, unneeded as before due to the ease of contact in one physical place and to focus on a single work with higher innovation and performance.

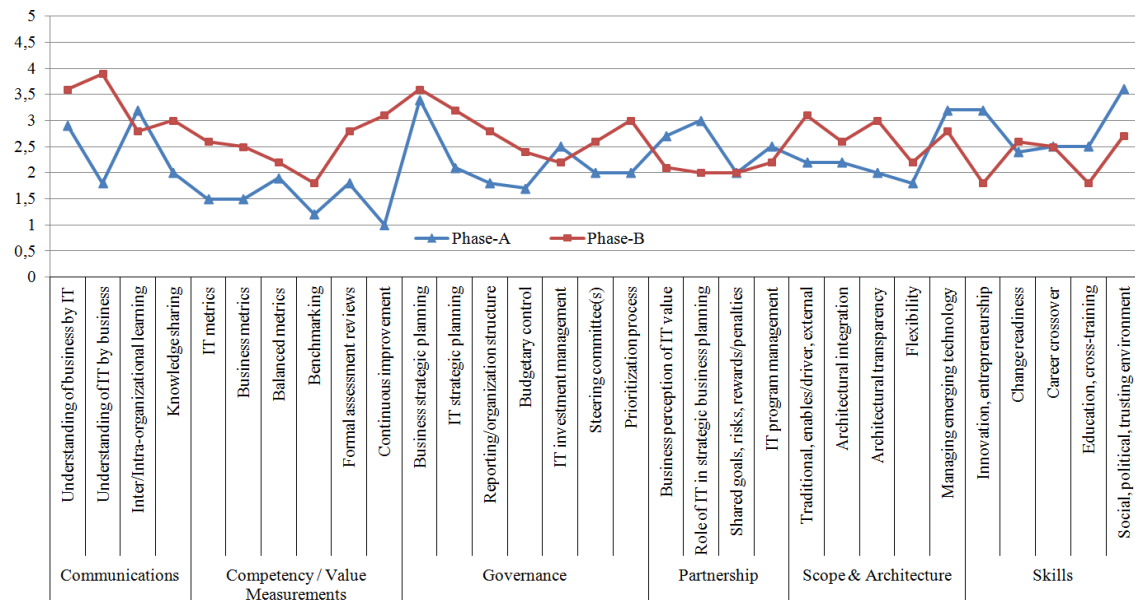


Figure 3. BITA Assessment in Phase-A and Phase-B

## 7 CHANGES IN ORGANIZATIONAL CULTURE

In this section, the changes in organizational culture profiles are discussed. The following three sub-sections presents, respectively, the culture profiles in; phase-A, phase-B and the preferred culture:

**Phase-A:** From (Figure 4) it can be seen that the *Clan* culture was dominating in phase-A with a score of (38.33 %). Managing the IT by an external IT consultant contributed for releasing the pressure on business domain at all levels. At the strategic level, the business executives focused more on their core business functions and took the support from IT consultant in even designing their growth strategies and possibilities. At the tactical level, senior managers focused on facilitating strategies into only business policies without needs for considering the IT. At the operational level, the IT functions were already designed for both business and IT domains with applications, interfaces and tools.

From all the business and IT interviews, it was concluded that the human resources were crucial to both domains separately as well as to the strategic partnership between them. From the IT perspective, it was important to keep the contract as long as possible. Therefore, the work was characterised by high cooperation in teamwork, employee involvement programs, formal as well as informal communication channels on projects and customer needs, and corporate commitment to employees. Rewards were received on the basis of team not individuals. On the business domain, the main issue was to lower the cost with best service quality. Therefore, teamwork was highly encouraged. For leaders, there was no way for handling problems expect to emphasise human development, high trust, openness, and participation. This can be understood as one reason for having *Adhocracy* culture having a relatively higher score than *Hierarchy* and *Market* cultures. This can be referred to the need for investing on people for having them ready to the dynamic environment in the *Adhocracy* culture.

As a typical Swedish organization, the organization in hand was characterised by high level of avoiding uncertainty supported by the social supportive government rules for hiring and firing people. In such conditions, employees worked in a more static environment without uncertainty in their job conditions. That helps to facilitate very clear strategies and to apply feasible standards for sharing knowledge. The goals and objectives were clear for people in both business and IT separately. However, understanding of business by IT was much higher in order to support achieving objectives.

**Phase-B:** In response to the economic crisis, in addition to the double business expansion in the market, the organization decided to bring the IT back to the organization with more focus on fostering and benefiting from the business-IT relationship. It has been explained in all the interviews that in this phase business domain has taken the full responsibility to lead the organization. Business managers have got more locus of power for monitoring the marketplace development. They started to take more risks as they consider that it is their duty to keep the business going. In addition to that, the focus of the organisation was changed from the internal improvements of doing business to external views of the supply chain components to compete in the marketplace. The shift to external views required more focus on competitiveness, achieving results, and an emphasis on external relationships. These characteristics are found to be more related to *Hierarchy* and *Market* culture profiles. It can be, therefore, seen from (Figure 4) that both profiles have increased while profiles of *Clan* and *Adhocracy* decreased. However, the dominance of the *Hierarchy* culture can be seen with a score of (34.167 %).

One of the business interviewees stated ‘*dealing with IT under the same roof is a big challenge for driving the business differently from what we were used to. We needed to change towards clear organizational structure, standardized rules and procedures, strict control, and well defined responsibilities*’. This makes clear interpretations in creating clear border lines and definite relationships between different hierarchical levels, which surround the environment by more formalized and intensive conditions.

In such environment, individuals are expected to follow superiors and leaders who are efficiency minded and pride themselves on being good coordinators and organizers. New rules and governance levels were added between strategic and operational levels. One of the business managers highlighted the tough management style when achieving a remarkable business expansion in such a period with global economic recession. In response to these conditions, different business projects were introduced based on business units, business activities, business regions and countries. Each project ranging in its scale and budget is led by a business manager who defines with his/her team members required resources including the degree of IT involvement and its relationships. Following that, assessing individuals became extremely important to plan for individuals’ career and rewards. Thus, the shift was clear in focus to individuals’ performance rather than good relations between them which contributed to shift to a hierarchy culture with producing a sense of apprehension, abandoning core values and replacing family feelings with rules and policies and expectations of high quality outputs from individuals.

**Preferred Culture:** By moving to the *Hierarchy* culture, the organization has established a formalised and structured working place. In this regard, a matured level of procedures, rules, clear policy documents and project report has also been achieved. However, all managers have consensus view on the future. All the respondents realised that in order to continue competing and leading in a dynamic global market, more opportunities and new resources should be sought. They have been discussed as suggestions to compromise by relaxing the hierarchical organizational structure (represented in business units) into a matrix organization with flexible and innovative environment. In a technology-related age, other opportunities for the future are discussed to benefit from IT capabilities. More business-IT strategic partnership is seen crucial to the future. These views have been interpreted in the preferred assessment as desired move of the organization to the *Adhocracy* culture.

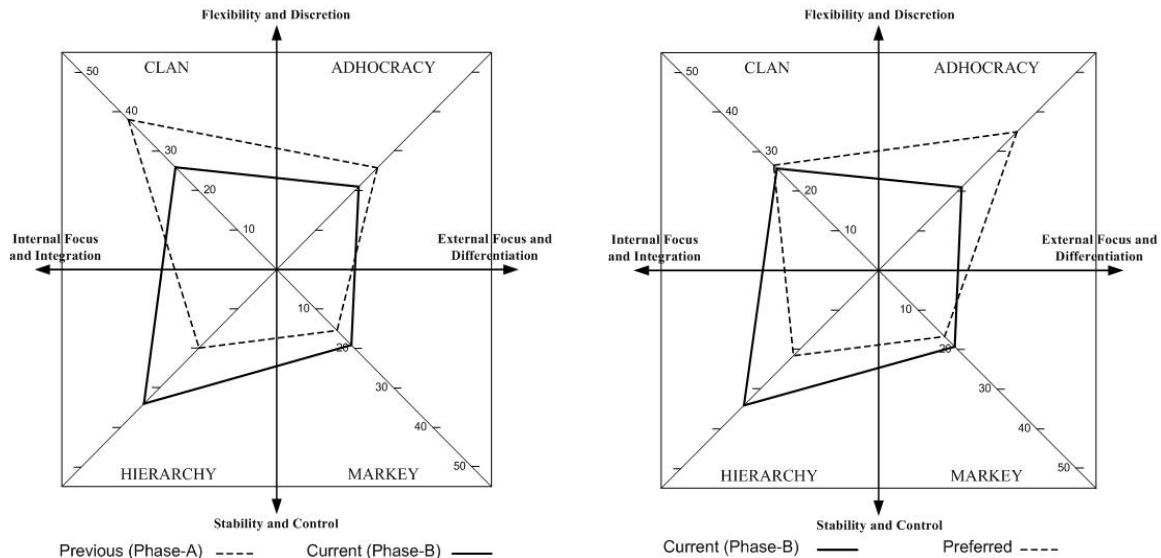


Figure 4. Organizational Culture Assessment in Phase-A and Phase-B

## 8 ANALYSIS OF CHANGE

In this section, we present the analysis of changes in BITA assessment and organizational culture between phase-A and phase-B and how they are related.

**In phase-A,** BITA assessment shows that the organization has an average maturity of (2.3) which is level of (3-). It can be seen from Figure 3 that the maturity of criteria have the highest averages of (2.84), (2.55) and (2.48) for *Skills*, *Partnership* and *Communications* respectively. The maturity of *Scope and Architecture* and *Governance* come after by with relatively close values of (2.28) and (2.21) respectively. They are followed by the relatively lower maturity of *Competency / Value Measurements* with value of (1.48). This reflects higher maturity for the soft components of alignment which are reflected by the more social-related criteria. According to the indications discussed in Section 5, the higher maturity in these criteria should be expected to result in stronger *Clan* culture profile. In the organizational culture assessment, the domination of *Clan* culture (38.33 %) in phase-A can be seen. However, the second higher maturity is *Adhocracy* culture (25.83 %). This can be referred to the small differences in maturity levels of all criteria except *Competency/Value Measurements*, which are considered to be relatively high according to the global perspectives of BITA (see Luftman & Kempaiah, 2007) taken in mind that *Adhocracy* culture is attached to high BITA maturity in all criteria except *Competency/Value Measurements*.

The higher maturity of social-related criteria, contributed to create a working place in which information is managed to encourage communication, participation, and a sense of identity. The environment is surrounded by values and norms which emphasis sharing and the proactive use of information, and promote collaboration, coordination, and willingness to take initiatives for contributing on information. Information and sharing knowledge in two-ways channels are important sources for increasing engagement and commitment. These conditions explain a clear impact and draw on the characteristics of *Clan* culture. Looking again from social perspectives of BITA, these implications conform to the observation of Kaplan

& Norton (2004) for an organization considered as aligned “when all employees have commonality of purpose, a shared vision, and an understanding of how their personal roles support the overall strategy”.

**In phase-B**, by bringing IT to the organization and facing tough conditions in the marketplace, the relationship’s nature between business and IT was dramatically changed. In general, the average of maturity has raised up from (2.3) to (2.7) which is a good indication of BITA improvement. However, the shift was not up for all the criteria. There have been big shifting up in *Communication* (to 3.3) and *Governance* (to 3.3) with one level in the maturity, moderate shifting up in *Competency/Value Measurements* (to 2.5) and *Scope and Architecture* (to 2.74), and moderate shifting down in *Partnership* (to 2.07) *Skills* (to 2.28). With high maturity of *Governance* and *Scope and Architecture*, it can be expected to contribute to *Hierarchy* culture. Nevertheless, the high maturity of *Communications* is found not resulted from the choice of the business and IT managers. Its high value (level 4-) is found related to the need for having continues communication channels between business and IT in this transition phase. Therefore, this criterion is found separated from the other social-related criteria *Partnership* and *Skills* which both have recorded lower maturity than in phase-A. Having high maturity of *Governance* and *Scope and Architecture* are indicated, as in Section 5, contribute to stronger *Hierarchy* culture. In the organizational culture assessment, the highest score was indeed resulted into *Hierarchy* culture with (34.167 %), but with relatively high *Clan* culture (25.83 %).

The higher maturity of *Governance* and *Scope and Architecture* in the organization has contributed to create a working place in which information is managed to control internal operations to reinforce procedures, rules and policies. The environment is surrounded by values and norms which emphasis control and integrity. The information flows in the organization to standardise processes, improve effectiveness, and ensure compliance. These conditions explain a clear impact and draw on the characteristics of *Hierarchy* culture. From governance perspective of BITS, these implications conform to the observation of Van Grembergen and De Haes (2008) for an organization considered as aligned “when the organizational capacity exercised by the board, executive management and IT management to control the formulation and implementation of IT strategy and in this way ensuring the fusion of business and IT”. In addition to that, the implications conform to the findings of Hu & Huang (2006) who suggest that “the highest level of alignment maturity is reached when the scope of IT and its architecture is standardised, integrated and technologically managed in the organisation and its external partners”.

## 9 CONCLUSIONS

In this paper, we have investigated the impact of business-IT alignment (BITA) (based on SAM model) on organizational culture and its change (based on the OCAI framework). As a case study research, the results cannot be generalized. Careful interpretation, therefore, of the result is needed. However, in the background and the literature studies, the paper shows that there is a knowledge gap in how BITA influence organizational culture and how it is influenced or changed in an organization. The knowledge contribution of the paper is seen from both theoretical and practical levels:

At theoretical level:

- The research in organizational culture and its change is an ongoing process. Different factors that have clear impact on it are not well studied and examined yet. Business-IT alignment is proven to be one of the factors that are playing an important role in organizational culture.
- The paper contributes to theories in both domains and to resolving a great part of the complexity that is attached to defining and understanding organizational culture changes. By identifying the relationships between elements of organisational culture and BITA components it would be easy for researchers in both disciplines to find a dependency between related components from one side, and to understand the influences from the other side.
- Complexity in analyzing the impact of BITA maturity on organizational cultural is due to complex relationships between cultural dimensions, and different impacts from same BITA components.

At practical level:

- The paper presents a set of proved indications and has analysed the impact of BITA on organizational culture. The contributions of this research may be argued to be a roadmap for managers and leaders to reach desired changes in organizational culture in regard of support from alignment criteria in BITA as checkpoints. It can also argued that the development of a framework for prioritization of business and IT areas in which improvements should be made or to find a balance among all BITA criteria.

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