



Universiteit Leiden

M.Sc. ICT in Business

Characterization and Establishment of
Business-IT Alignment

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Abstract

Since the early 90s, when the continuous increase in the acceleration of technological progress forced organizations to start considering IT's role not only as supporting, but also as a possible enabler of competitive advantage, Business-IT alignment (BITA) has become a major topic of discussion. Its importance seems to have grown over the years, and today it is considered one of the top enterprise executive concerns globally. Top management seems to increasingly recognize the strategic importance of IT and its potential influence and benefits, however relevant studies have shown that Strategic Business-IT Alignment still remains an unresolved issue.

Firstly, there doesn't seem to be general consensus as to what Business-IT Alignment actually represents. Definitions differ among organizations, managers and researchers, and the lack of such a consensus leads to increased confusion. Despite the fact that there has been a lot of academic research on Business-IT Alignment in the past 25 years, the progress that has been made doesn't appear to be proportional. This research investigates the practices of alignment in real world organizations, in order to both understand how practitioners perceive and apply it, and also to examine if and how existing theory has been utilized by organizations facing the Business-IT Alignment challenge. The findings of the research are compiled and interpreted, in order to present key issues concerning real-world practice of Business-IT alignment. Finally, this Thesis proposes a solid characterization of Business-IT alignment and the establishment of an independent Business-IT alignment body, with an aim to further improve and consolidate Business-IT alignment practice in the real world.

Keywords: Alignment, Business-IT alignment, Alignment Dimensions, IT Strategy, Competitive Role of IT, Strategic Fit, Functional Integration, IT Governance

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Chapter 1 - Introduction

The main idea behind this Thesis research is to investigate how real world organizations perceive and apply Business-IT Alignment in practice, and to what extent they utilize existing theory concepts and tools. Moreover, this study aims to attempt to provide a solid characterization of what Business-IT Alignment represents, in order to promote further establishment of its practice.

Business-IT Alignment has been receiving growing attention in the past 25 years, both from an academic and a practical perspective, and it is considered as one of the biggest challenges for the modern business world. From an academic perspective, this topic has its foundations on the works of Henderson & Venkatraman in the beginning of the 1990s. Noticing that the advancements in technology were bringing IT in the forefront, they began researching how technology can provide benefits to an organization strategically, apart from functionally, which was the status quo at that time. The researchers promoted the competitive role of IT, which extends IT's scope beyond that of a supporting and functional resource. They proposed that organizations should consider four different alignment perspectives before establishing their strategies, in order to understand the internal and external factors of each situation, and decide which method is best to proceed with. These perspectives put either the Business or the IT strategy in the driver's position, taking also into account the possible impact on organizational infrastructure and processes. Henderson and Venkatraman emphasized that they don't argue that one of the four proposed perspectives is the dominant one, instead they urged top management to examine them all and make their decisions based on the circumstances.

Since that time, a lot of researchers have contributed to this initiative, creating a solid theoretical foundation for Business-IT Alignment. The most important and influential theoretical work will be presented as the basis of this Thesis, starting from Henderson's and Venkatraman's Strategic Alignment Model, and continuing with follow-up research, such as Luftman's Strategic Alignment Maturity Model, Maes' Unified Framework and the Baets' model. Moreover, important academic counter-arguments and critiques on existing alignment research will be presented, as well as the different dimensions of alignment identified by the academic world.

After establishing the literature basis, the research approach followed to collect the primary data for this Thesis is presented. An exploratory, unstructured interview approach was selected, in order to allow for more room for elaboration and explanation of the experts' views and opinions. The interviews aimed to obtain information about the participants' personal perceptions and understanding regarding Business-IT alignment, what it represents, how it is applied in practice, and what structures are in place to ensure its success.

The interviews were all partially transcribed, analyzed and compiled with the information obtained from the literature review. The key findings of the interview process are presented in this paper, and are followed by the recommendations and conclusions of this Thesis research.

It was observed that there is no clear understanding of what Business-IT alignment represents among real world practitioners. Many of the participants claimed that alignment is about IT best supporting and

serving the Business, while most of them also added that successful alignment requires IT proving itself as a strategic resource as well. It was noted that organizations do not view IT or the CIO as a de facto strategic resource, and IT needs to push and prove its worth, in order to be strategically recognized and appreciated. Moreover, practitioners seemed to be unfamiliar and unaware of existing alignment literature, something that is observed to be a big inhibitor towards optimal Business-IT alignment. Organizations tend to look for practical, ready-to-use solutions instead of concepts, and theory is considered as a largely conceptual and abstract resource.

Moreover, another key finding of the interview process was that Business-IT alignment is not viewed as a single entity, instead it is considered to be part of something bigger. That points to the observation that there is not enough recognition and attention on the alignment challenge, and that separating it from other structures and functions is a crucial step. It was noted that usually alignment is placed on either the IT or the Business side, creating mistrust and tension, since the other side does not recognize the alignment function as impartial and mutually beneficial. This results in informal alignment structures being created in both sides, in essence damaging the whole setup and creating distance. In addition, it was identified that there is usually no specific and dedicated Business-IT alignment process in the real world. When asked to describe such a process within their organization, participants mostly referred to the strategy and business planning processes, which are not entirely in place to ensure alignment.

Furthermore, a lack of Business-IT alignment assessment was observed, with organizations tending to limit assessment to business satisfaction from IT. This assessment method is argued to be insufficient, since it does not capture either the strategic value-add of IT to the organization as a whole or the complete essence of Business-IT alignment.

This research identified that, when referring to Business-IT alignment, researchers and practitioners usually approach the strategic dimension of it. However, both from past academic literature and the interview process, it was concluded that a key factor for alignment is the people themselves. Only focusing on processes and structures is argued to be insufficient, since it always comes down to the people to carry them out. Moreover, limiting IT's value-add to enabling and supporting the various business strategies is argued to result to sub-optimal alignment, since it misses the bigger picture. Strategies are the means to achieving goals, therefore it is argued that Business-IT alignment needs to aim to add value to the organization's goals, not the various business strategies created to reach them. Based on the above, an alternative characterization of Business-IT alignment is proposed as a recommendation of this Thesis.

Finally, the introduction of an independent alignment function, dedicated to facilitating and ensuring alignment, is proposed in the recommendations section. It is argued that the roles and responsibilities of the independent Business-IT alignment body are required to be only about enforcing alignment, and not mixed with other line responsibilities and activities that would result in loss of focus. The recommended key activities and responsibilities of such an independent function are also presented, in order to act as guidelines towards establishing an independent Business-IT alignment process.

Problem Statement

Since the early 1990s, when the continuous increase in the acceleration of technological progress forced organizations to start considering IT's role not only as supporting, but also as a possible enabler of competitive advantage, Business-IT alignment has been a major topic of discussion.

Its importance seems to have grown over the years, and today it is considered one of the top enterprise executive concerns globally, as shown in a survey conducted by Serena Software at Gartner's recent Application Architecture, Development and Integration (AADI) Summit (December 2013).

Despite its increasing importance and prioritization, however, another recent study conducted by Cisco (Cisco Global IT Impact Survey, 2013) shows that even though it is perceived that collaboration between Business and IT has improved, and confidence in IT's ability to respond to business needs is rising, the reality is different. In addition, as stated by [DeLisi and Danielson, 2007], there seems to be no generally agreed-upon definition of Business-IT alignment both in the academic and the real world.

These contradictions lead into considering that there is a gap here that needs to be bridged. Even though alignment is a real problem of utmost importance, no consensus has yet been found on what alignment really means, how it should be achieved and assessed in practice, or what means should be employed to maintain and improve it. It is not really known whether organizations are actually aware and make use of the proposed concepts from theory. Moreover, the fact that there is a misperception regarding BITA points to the issue that alignment is not being adequately assessed, or possibly in some cases not even being assessed at all.

This Thesis research will aim to investigate whether a solid characterization of what BITA is can be given, identify how organizations view Business-IT Alignment and the existing theory concepts, to what extent they make use of them and how they actually assess their internal BITA.

Significance of the Research

As stated above, Business-IT alignment is seen a big challenge in the business world that still remains unresolved. This research will try to provide an insight into how the real world perceives and apply it and how it is assessed in practice. Opinions from experts will be obtained, analyzed and compiled with existing literature, in order to provide a solid characterization of what Business-IT alignment actually represents, and how it can be further established in practice.

Chapter 2 - Literature Review

Part 1: The Technology Role Shift –from Functional to Strategic

Since its emergence in the Business world in the 1950s, and for a long period of time, Information Technology (IT) had been viewed as a purely functional resource, existing only to support the rest of the organization and enable other departments' overall strategic contribution. However, towards the end of the 1980's, the acceleration of technological advancements, namely computers and communication technologies, began to create a vast amount of opportunities and IT started emerging as a possible provider of competitive advantage. IT began to shift from its traditional, "back-office and support" role towards being an integral part of an organization's strategy (*Henderson and Venkatraman, 1990*).

King (1978), Rockart and Scott Morton (1984) first differentiated among three major roles for IT – administrative, operational and competitive. The first two represent the traditional view of IT, hence the administrative role interprets IT's scope as "the automation of accounting and control functions". This view restricts IT's contribution to streamlining and controlling financial-related activities, and separates it completely from the strategic management of the organization. The operational role takes a step further and places the development and deployment of an IT Infrastructure that follows and supports a chosen business strategy and enables the automation of business processes within IT's scope (*King, 1978; McLean and Soden, 1981*).

These two views limit IT's scope and place it at the functional level, without any direct connection to strategic management and decision-making. *Grant and King (1978), Hax and Majluf (1984), and Hofer and Schendel (1978)* stated that strategic management can be viewed in terms of a hierarchy of three levels of strategies:

Corporate strategy: concerned with the portfolio of, and interrelationships among, businesses

Business strategy: focus on developing a strategy that maximizes firm-specific comparative advantages to best compete in the marketplace

Functional strategy: reflecting efficient allocation of resources to the particular function.

Within this hierarchy, IT strategy is at the functional level, with the responsibility of efficiently allocating its resources to best support the chosen business strategy. Thus, within these two roles, IT strategy reflects a functional, efficiency orientation (*King, 1978*).

The competitive role of IT, on the other hand, proposes a significantly different viewpoint. Shifting beyond the internal, efficiency focus, this view states that the capability now exists for organizations to deploy new IT applications that leverage information and technological attributes to obtain differential

sources of competitive advantages in the marketplace (*Cash and Konsynski, 1985; Copeland and McKenney, 1988; McFarlan, 1984; Venkatraman and Kambil, 1990*).

The introduction of this viewpoint brought about increased attention to the potential role of IT to influence structural characteristics of markets (*Clemons and Row, 1988*), as well as shape the basis of competition (*Rotemberg and Saloner, 1990; Malone, Yates, and Benjamin, 1986*). However, researchers pointed out that the emergence of this new role could affect organizational transformation significantly. The MIT Research Project “Management in the 1990s” concluded that successful organizations can be distinguished by their ability to leverage IT capabilities to transform their businesses (structures, processes, and roles) to obtain new and powerful sources of competitive advantages in the marketplace (*Scott Kaplan, 1990*). Hence, simply imposing new and powerful IT capabilities on the existing organizational structure and processes was unlikely to yield competitive benefits. Moreover, at the time that the competitive role was on the threshold, it was noted that the existing frameworks were limited in relation to providing fundamental insights and guidance (*Henderson & Venkatraman, 1990*). More specifically, it was pointed out that the administrative role was supported by frameworks such as Critical Success Factors (*Rockart, 1979; Davis, 1979*), while the operational role was supported by frameworks like Business System Planning (*IBM Corporation, 1981*) or Value Chain analysis (*Porter and Millar, 1985*). However, such insights for leveraging the competitive role, which was very different from the other two, could not be obtained from the existing, above mentioned frameworks.

Academic research and literature attempted to bridge this gap, proposing several frameworks to address the challenge of recognizing the competitive role of IT. *Parsons (1983)* articulated different levels of impact of IT in the marketplace, *McFarlan (1984)* attempted to face this issue by adapting Porter's competitive strategy framework to a context characterized by the deployment of IT applications, while *Rockart and Scott Morton (1984)* adapted Leavitt's (1965) organization theory model. Moreover, other frameworks rooted in a set of convenient dimensions (*e.g., Wiseman, 1985; Hammer and Mangurian, 1987*) were introduced.

Part 2: The foundations of Business – IT Alignment

2.1. Management in the Nineties (MIT90s) Research Program

The Management in the Nineties (MIT90s) Program was a large research program undertaken by the Sloan School of Management, Massachusetts Institute of Technology, between 1985 and 1989, sponsored by twelve organizations from government and industry. The findings and conclusions of the program were published in 1991 in the book “The Corporation of the Nineties”, (*Scott Morton, 1991*).

MIT90s was set up in response to the turbulence observed in the business environment during the mid-1980s. Its purpose was to investigate whether the business turbulence would continue, identify its

causes and locate the role of IT both in causing the turbulence and in responding to it. From the start of the program, researchers suspected a causal link between business change and IT; hence the exploration of this link became the main focus of the research.

At an early stage of the initiative, the model which would serve as the framework for all the research was defined (Figure 1).

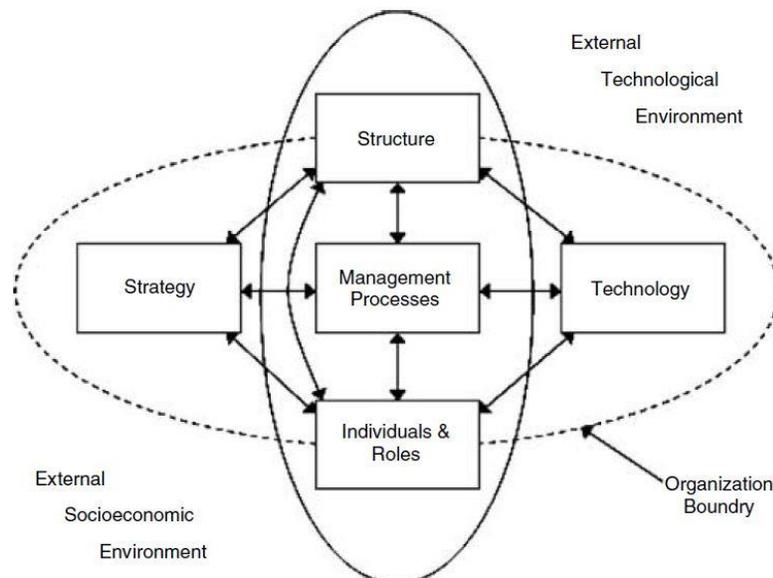


Figure 1 – The MIT90s Framework

“The MIT90s Framework” (Scott Morton, 1985) represents the five components that need to be balanced in an organization, if it is to respond effectively to the drivers which come from the external environment. There were ten major findings extracted from the MIT90s research.

Firstly, it was concluded that the turbulence identified in the business environment would continue and would most likely increase, but at the same time the improvement of IT capability, which was already on the rise, would continue. It was noted that IT was not only contributing to productivity, but also started to change the way business is done and how an organization performs its tasks. This would result in increased IT influence, however it was pointed out that there was no evidence about IT being able to provide organizations with sustainable competitive advantage, mainly due to the ability of competitors to catch up. The important conclusion from this was that sustainable advantage can only be derived when IT is combined with the organization’s people and processes, and also harmonized with its business strategies.

This led to another key finding, the necessity for organizations to rethink the core of the business. As IT provided more and more ways of performing business activities, new entrants were predicted to be more effective. Thus, the existing organizations would have to reengineer themselves in order to

survive. The main opportunities for improving business effectiveness were proposed to be through integration, in essence achieving effective processes that cover not only the whole business, but also go beyond, into the suppliers and customers organizations. For this to be realized, the research concluded that flexible network organizations needed to be created. Organizations would need to integrate themselves electronically, in order to accommodate team working across organizational boundaries. This integration, however, would require accurate timely data, and it was argued that in most cases data was dispersed, inconsistent and even inaccessible. Thus, it was emphasized that resolving this issue would be a top priority for organizations.

Moreover, the findings noted that the nature of work was on the verge of a fundamental change. Consequently, human resources would need to be provided with more training and education on a continuous basis, to ensure possession of the required skills. For this change to be delivered, management should no longer be about maintaining a “status quo”, but about predicting the nature of change and positioning the organization effectively in order to exploit it, before external pressure became excessive. In essence, managers needed to become missionaries, and not corporate generals.

2.2. Henderson & Venkatraman - Strategic Alignment Model (SAM)

In 1990, *N. Venkatraman and John C. Henderson* published the findings and results of a research they conducted for the Center for Information Systems Research (CISR) of the Massachusetts Institute of Technology (MIT), titled “Strategic Alignment: A Model for Organizational Transformation via Information Technology”. In 1993, these results were summarized and published in an article at the IBM Systems Journal, allowing the concept to gain wider reach and acknowledgement in the Business and IT worlds. Based on the finding of the MIT90s program, but mainly the fact that it did not suggest a method to achieve the recommendations of the research, Henderson and Venkatraman aimed to address this gap by proposing a model to link organizational transformation and the exploitation of IT capabilities in its competitive role.

Starting from pointing out the concern that the anticipated value of IT investments was not being achieved, they argued that this inability was related to the lack of alignment between the Business and IT strategies of organizations. *Henderson and Venkatraman (1990)* stated that they viewed strategy as involving not only formulation, hence decisions related to competitive, product-market choices, but also implementation – choices that pertain to the structure and capabilities of an organization to execute its product-market choices. Going deeper, their proposed concept of strategic alignment had its foundation on two fundamental assumptions:

1. Economic performance is directly related to the management’s ability to create a “strategic fit” between the position of an organization in the competitive product-market arena and the design of an administrative structure to support its execution (*Henderson & Venkatraman, 1990*).

2. This “strategic” fit is inherently dynamic, meaning that the choices made by an organization will in time evoke imitative actions, which will require subsequent responses. Hence, strategic alignment cannot be viewed as a single event or an instance, but a process of continuous adaptation and change (*Henderson & Venkatraman, 1990*).

In this defined context, they went on to note that a crucial factor for this dynamic capability is not so much attaining a set of powerful technological functionalities, but obtaining the organizational capabilities to continuously leverage and exploit technology in order to differentiate an organization’s operations from those of their competitors, thus gaining sustainable competitive advantage. Henderson & Venkatraman emphasized that this new concept required a groundbreaking change in managerial thinking about the role of IT in organizational transformation. An understanding of the critical components of IT strategy and its role in not only supporting, but also shaping strategic business decision-making, was necessary (*Henderson & Venkatraman, 1990*). Realizing that such a fundamental change was not going to happen easily and without solid reasoning, the researchers developed a model that defined the range of strategic choices facing managers and explored how those interrelate.

Providing real-life examples of how four organizations managed to leverage IT capabilities to shape and support their business strategies, they highlighted different facets of aligning Business and IT strategy. These examples included the agreement between Eastman Kodak Company and IBM, under which IBM took over the work done by four data centers, and 300 Kodak workers became IBM employees, thus allowing Kodak to significantly cut operating costs. Kodak also outsourced the management of its telecommunications network and the management of its personal computers to two other specialized partners. Other examples were the case of Baxter Healthcare, which took advantage of its superior information processing capabilities derived from their Analytic Systems/Automated Purchasing (ASAP) information systems, in order to provide their customers (hospitals) with a new business program, taking over their materials management function, and the case of Procter & Gamble partnering with Wal-Mart Stores, integrating their information systems to redesign key business processes that affected their ability to manage their Logistics functions, thereby improving their operating costs, allowing more flexibility and enabling quick response to market conditions and requirements (*Henderson & Venkatraman, 1990*).

2.2.1 Strategic Fit

The Strategic Alignment concept was based on two building blocks, namely “Strategic Fit” and “Functional Integration”. The first one recognized the need for any strategy to address both internal and external domains, hence taking into consideration decisions relating to competition, partnerships, product differentiation and placement in the business arena (external domain), as well as decisions pertaining to administrative structure, business processes, human resources, skills and organizational competencies (internal domain). Starting from the existing argument that within the business domain, the fit between external positioning and internal arrangement is critical for maximizing economic

performance, *Henderson & Venkatraman (1990)* claimed that this fit is equally relevant within the IT domain. Therefore, IT strategy needs to be articulated in terms of an external and an internal domain – how the organization positions itself in the IT marketplace and how the IT infrastructure needs to be configured and managed.

During their research, it became clear that managers are more often comfortable to understand positioning choices in the business marketplace than the IT marketplace. The reason they identified for this was that, historically, strategy as a management concept had been applied to the output market rather than input markets, and IT strategy had traditionally been viewed as a functional, internal response to the business strategy. This led them to proposing three sets of choices related to the organizational positioning in the IT marketplace:

1. Information Technology scope: Refers to specific Information Technologies that either support current business strategy initiatives or could shape new ones for the organization. Analogous to the business scope, which deals with choices related to product-market offerings in the output market.
2. Systemic Competencies: Refers to IT strategy attributes that could contribute positively to the creation of new business strategies or better support of existing business strategies. Analogous to the concept of business distinctive competencies, which deal with strategy attributes that contribute to a distinctive, comparative advantage over competitors.
3. IT Governance: Refers to the selection and use of mechanisms for obtaining the required IT competencies. Analogous to Business Governance, which involves “make-versus-buy” choices in business strategy, covering also interorganizational relationships, such as strategic alliances and joint ventures.

Using a similar Business-IT analogy, they went on to propose that the internal IT domain must address at least three components:

1. IT Architecture: Choices defining the portfolio of applications, hardware configuration, software, communication and the data architecture that collectively define the technical infrastructure. Analogous to the business choices within the internal business strategy field, in order to articulate the administrative organizational structure dealing with roles, responsibilities and authority structures.
2. IT processes: Choices that define the work processes central to the IT Infrastructure operations, including systems development, maintenance, monitoring and control systems. Analogous to the design of business processes to support and shape the ability of an organization to execute their business strategies.
3. IT skills: Choices pertaining to acquiring, training and developing the knowledge and capabilities of individuals, required to effectively manage and operate the IT infrastructure within the organization. Analogous to the skills required in the business domain to execute a given strategy.

The internal IT domain was not a completely new concept for managers. Traditionally, IT strategy was viewed in terms of its three components mentioned above, which reflect an internal orientation and limit IT to a support function role, not essential to the business of the organization. In other words, the general view of IT was a “cost of doing business” (Henderson & Venkatraman, 1990). With the emergence of the competitive role, however, it became imperative that top management also took the external components of IT strategy into account, thus elevating IT strategy from its traditional, outdated internal focus to also address external issues, related to how well an organization is positioned in the vigorous, fast-changing IT marketplace. Henderson & Venkatraman pointed out, however, that this didn’t mean putting the internal domain in a secondary place. Their research over the years showed that a lack of fit between the internal and external domains of IT was a major factor behind the failure to derive benefits from IT investments. Hence, they emphasized the need for alignment between the external and internal domains of IT.

2.2.2. Functional Integration

The second dimension of the Strategic Alignment concept points out the need to integrate IT strategy and business strategy. This need had long been advocated by both researchers and practitioners (McLean & Soden, 1977; King, 1978; Henderson, Rockart & Sifonis, 1987). Functional integration specifically considers how choices made in the IT domain impact – positively or negatively – the choices made in the business domain, and vice versa. Until then, the main focus of academic research was on how to integrate the internal IT strategies (IT infrastructure and processes) with internal organization requirements, such as response to business strategies.

Henderson & Venkatraman identified the need to specify two types of integration between business and IT domains. Firstly, the link between business strategy and IT strategy reflecting the external components, which they termed “strategic integration”. This deals with the capability of IT functionality to both shape and support business strategy, a capability that the emergence of the competitive role of IT made crucial. Secondly, the link between organizational infrastructure and processes and IT infrastructure and processes, which they termed “operational integration”. This was to emphasize the necessity to ensure internal coherence between organizational requirements and expectations and the delivery capability within the IT function.

2.2.3. Bivariate versus Multivariate Fit

A third premise of Strategic Alignment is that effective IT management requires a balance among all four domains, namely the internal and external business domain, and the internal and external IT domain. They approached this challenge by first considering a bivariate-fit perspective, including all combinations of any two domains and concluded that such an approach is inadequate. To prove their argument, they provided the example of a bivariate perspective that considered only external issues, like Business and IT strategy, without considering the internal business domain, underestimating the difficulty of

redesigning key business processes. Moreover, it had been argued in the past that a bivariate fit that considered issues of business and IT strategic fit separately is dysfunctional (McLean & Soden, 1978; King, 1977; Boynton & Zmud, 1987). Therefore, they identified the need for the recognition of multivariate relationships, which they termed “cross-domain relationships”. The Strategic Alignment Model they proposed depicts these relationships, creating four dominant alignment perspectives.

2.2.4. The Strategic Alignment Model

The Strategic Alignment Model (Figure 1) depicts the four dominant alignment perspectives identified and proposed by Henderson and Venkatraman (1990). Those perspectives were termed: Strategy Execution, Technology Transformation, Competitive Potential and Service Level.

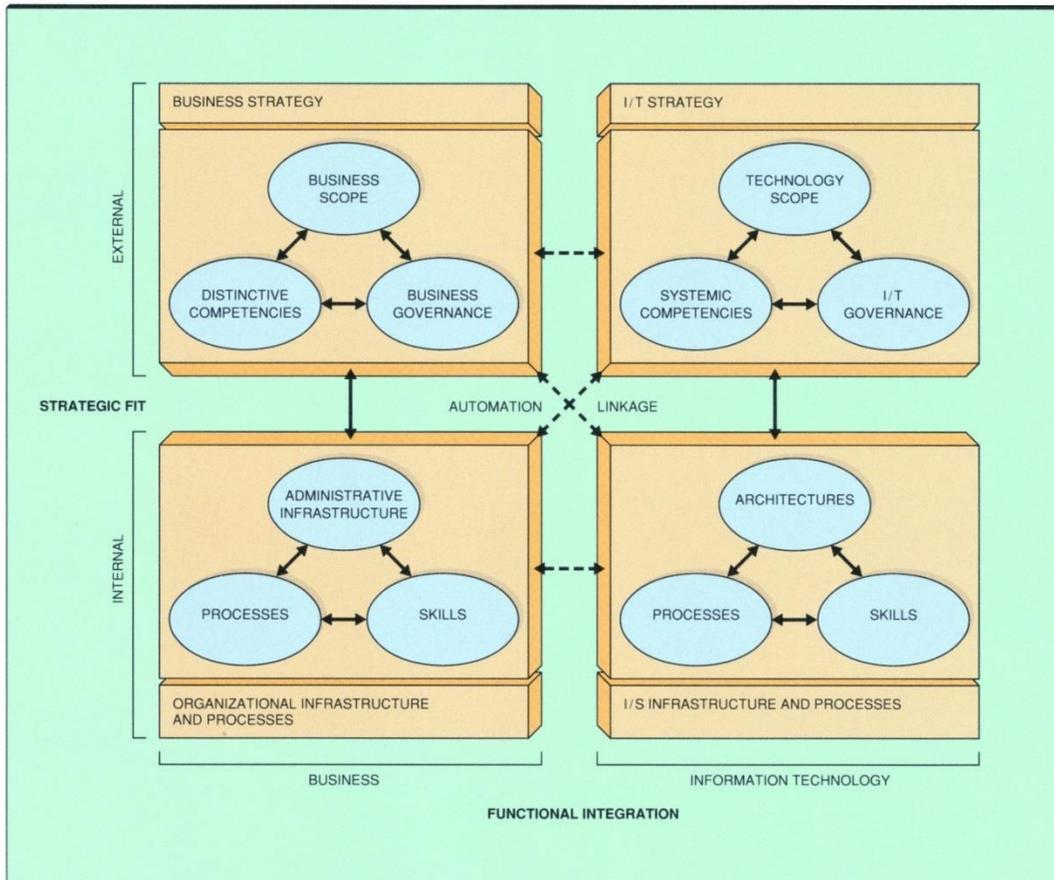


Figure 2 – Strategic Alignment Model

Perspective One: Strategy Execution

This perspective is based on the notion that a business strategy has been articulated and is the driver of both organizational choices and the design of the IT infrastructure. This represents the common and most widely understood perspective, which corresponds to the classic, hierarchical view of Strategic Management.

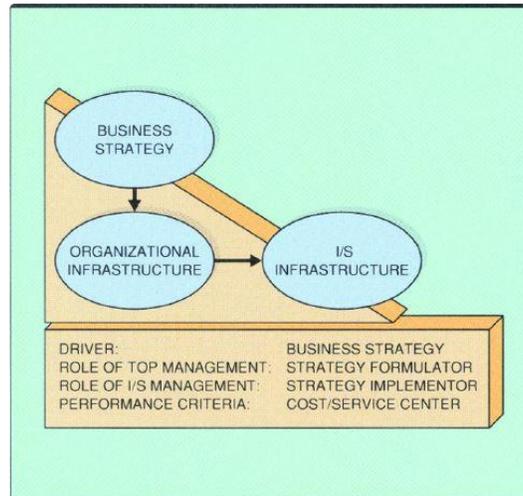


Figure 3 - Strategy Execution Perspective

In order for Strategy Execution to succeed, Henderson & Venkatraman pointed out that it is crucial to identify the specific role of management. They stated that, in this context, top management should play the role of the strategy formulator to articulate the logic and choices pertaining to business strategy, while the role of IT management should be that of strategy implementer, efficiently and effectively designing and implementing the required IT infrastructure and processes to support the chosen business strategy. Moreover, the researchers identified that the performance criteria for assessing the IT function within the Strategy Execution perspective are based on financial parameters, reflecting a cost center focus.

Perspective Two: Technology Transformation

This alignment perspective refers to the assessment of implementing the chosen business strategy through appropriate IT strategy, and the establishment of the required IT infrastructure and processes for the implementation to succeed.

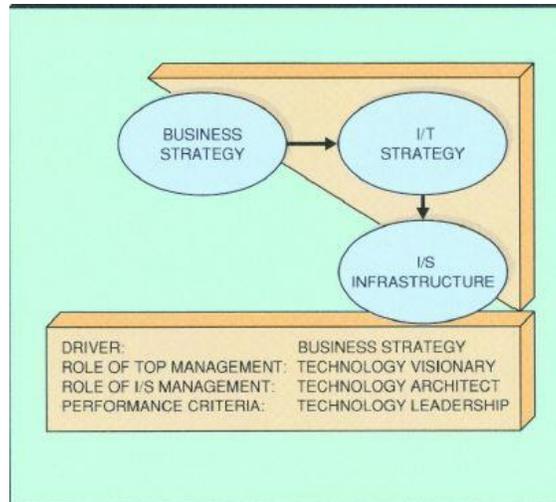


Figure 4 – Technology Transformation Perspective

Contrary to the Strategy Execution perspective, this logic is not constrained by the existing organizational design, but instead attempts to identify the best possible IT competencies through appropriate positioning in the IT marketplace, as well as identify the corresponding internal IT architecture. Here, the impact of business strategy – especially distinctive competence – on IT strategy and the corresponding implications for IT infrastructure and processes are highlighted. The role of executive management in this perspective is to provide technology vision in order to best support the chosen business strategy. IT management, on the other hand, should have the role of technology architect, in order to efficiently and effectively design and implement the required IT infrastructure that is consistent with the IT vision (IT scope, competencies and governance). Performance criteria in this perspective are based on technology leadership, like utilizing a benchmarking approach to assess the position of the organization in the IT marketplace.

In the first two cross-domain perspectives presented above, it is made clear that Business Strategy is the driver. The third and fourth perspectives proposed by Henderson and Venkatraman consider IT as the enabler of new or enhanced business strategies, with corresponding organizational implications.

Perspective Three: Competitive Potential

This cross-domain perspective is concerned with the exploitation of emerging IT capabilities that can impact new products and services – hence, the business scope-, influence the key attributes of strategy (distinctive competencies) and develop new forms of relationships (business governance). In contrast to the Technology Transformation perspective, which takes business strategy as a given or as a constraint to organizational transformation, this perspective allows the adaptation of business strategy via emerging IT capabilities. Starting from the three defined dimensions of IT strategy, the Competitive Potential logic attempts to identify the best set of strategic options for business strategy, and the corresponding set of decisions pertaining to organizational infrastructure and processes.

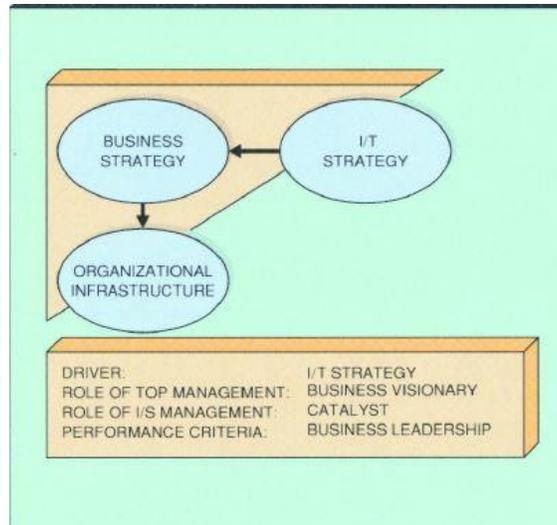


Figure 5 – Competitive Potential Perspective

The role of top management in order for this perspective to succeed is identified as that of the business visionary, articulating how emerging IT competencies and functionality, but also changing governance patterns in the IT marketplace, would impact the business strategy. In contrast, the role of IT management is that of the catalyst, identifying and interpreting the trends in the IT environment in order to assist business management in understanding potential opportunities and threats from an IT perspective. The performance criteria proposed are based on business leadership with both qualitative and quantitative measurements, addressing product leadership such as market share, growth or introduction of new products.

Perspective Four: Service Level

The Service Level alignment perspective focuses on how to build a world class IT service organization. A prerequisite for this is understanding the external dimensions of IT strategy with corresponding internal designs of the IT infrastructure and processes. This strategic fit for IT creates the capacity to meet the needs of IT customers.

In this perspective, top management assumes the role of prioritizer, defining how best to allocate the limited resources both within the organizational and in the IT marketplace, in terms of joint ventures, licensing etc. IT management, on the other hand, undertakes the role of executive leadership, with the specific tasks of achieving internal service business success within the operational guidelines from top management. The performance criteria in this logic are based on customer satisfaction, and are obtained with both qualitative and quantitative measurements using internal and external benchmarking.

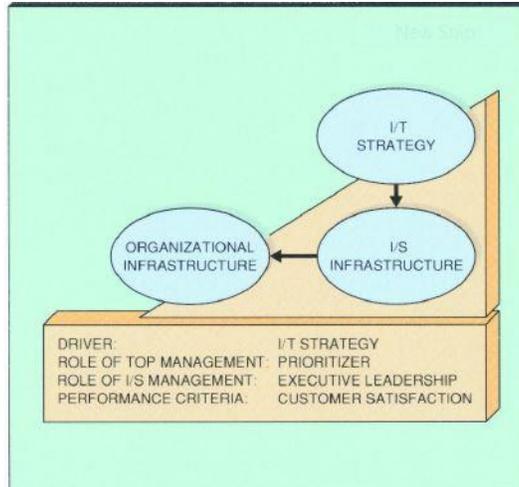


Figure 6 – Service Level Perspective

2.2.5. Differentiation from traditional linkage concept

The Strategic Alignment Model described above in some ways reflects and accommodates a long history of research and practice concerning the most effective means of linking Business and IT strategies. However, *Henderson & Venkatraman (1993)* pointed out that it does differ from the traditional views of linkage between Business and IT in four key ways.

Characteristics	Traditional Linkage	Strategic Alignment
Predominant focus of information systems and technology	Internal I/S function and organization	Internal I/S function and organization <i>and</i> external I/T marketplace
Management objectives	Ensuring that I/S activities are linked to business requirements	Selecting appropriate alignment perspectives for achieving business objectives
I/S executive roles	Line leadership and I/S functional support	Multiple executive roles for line and I/S managers
Dominant criteria for performance assessment	Cost and service considerations	Multiple criteria

Figure 7 – Differentiating SAM from traditional linkage concepts

Firstly, SAM calls for a fundamental shift in IT focus, from an internal orientation toward strategic fit within the IT domain, via recognition of the external IT marketplace in terms of technology scope, desired level of competencies and governance, which is a crucial factor in IT's potential to shape business movement in the product-market arena. Secondly, in the traditional linkage views, the IT function was expected to ensure that its activities were linked to the business requirements, while SAM calls for a focus on selecting the appropriate alignment perspectives that best suit the business circumstances and organizational objectives. This is an important notion, since Henderson & Venkatraman clarify that there is no generally correct alignment perspective, instead it is up to the executive management to examine and understand the context before making a strategic choice, in essence considering a broader vision of IT within the organization.

Moreover, SAM highlights the diversity of roles carried out by both business and IT management. The researchers emphasized the need for top management to understand that alignment, at times, requires role variation. Depending on the circumstances and the alignment perspective that is selected, top management needs to make sure that the right role is present for the right perspective. Finally, the last point of differentiation refers to the criteria for performance assessment. While traditionally IT has been viewed as a cost center and a service provider, a shift and a consideration of multiple performance criteria was required, again depending on the selected alignment perspective (*Henderson & Venkatraman, 1990*).

2.2.6. Continuous Alignment

Henderson & Venkatraman (1990) also emphasized the need to understand this model's intrinsic dynamic nature. They claim that many of the strategic planning methods established in the previous decades have failed not due to weakness in their logic, but due to their failure to realize the dynamic nature of strategy, and therefore alignment. Top management needs to become aware that the real challenge for an organization is not to achieve static alignment among the four domains at one point in time, but to ensure continuous assessment of the trends across these four domains, in order to allow themselves to reexamine and reposition the organization in the external environment, at the same time also rearranging their internal infrastructure.

The researchers urged management to recognize the need to evolve from one perspective to another, based on shifts in both the internal and the external business environments, stating the quote "The most important lesson to keep in mind is that strategic alignment is a journey and not an event". They also enhanced these notions by pointing out their consistency with the contemporary emphasis on the centrality of learning and adaptation for achieving successful organizational transformation.

The SAM model has received empirical support and has is considered as having both conceptual and practical value (*Goedvolk et al, 1997, Avison et al, 2004*). The vast majority of the follow up models and consulting practices in alignment start from the original Strategic Alignment Model. Even today, it is considered as the most foundational work in the field of Business-IT Alignment, and is cited in the majority of relevant academic work.

Part 3: Follow-up Research on Alignment

2.3.1. Significant academic research related to SAM

The MacDonald model

The *MacDonald (1991) model*, building on the MIT90s Framework, also examines inter-relationships between business and IT strategy, infrastructure and processes. External impacts on customers, suppliers and markets are also considered. MacDonald argues that, in order to achieve alignment,

various cycles must be run. In cycle 1, the stages include competitive potential, business value, service level, and technology potential, while in cycle 2, the stages created in cycle 1 are reviewed.

Baets model of alignment

Baets (1992) developed a model of alignment adapted from the alignment models of MacDonald and the enterprise wide information model (Parker et al, 1988). Like the SAM model, Baets depicts the interaction of business strategy, organizational infrastructure and processes, IT infrastructure and processes and IT strategy (Figure 8). The Baets' model also recognizes that alignment takes place in a broader context, and incorporates factors such as competition, organizational change, human resource issues, the global IT platform and IT implementation process. In his research, Baets challenges a SAM assumption, namely participant awareness of the economic environment and the corporate strategy. He argues that in the majority of organizations, there is not a monolithic and widely accepted strategy, and goes even further to claim that most organizational members do not know the strategy, therefore identifying a huge bottleneck to the success of the SAM model.

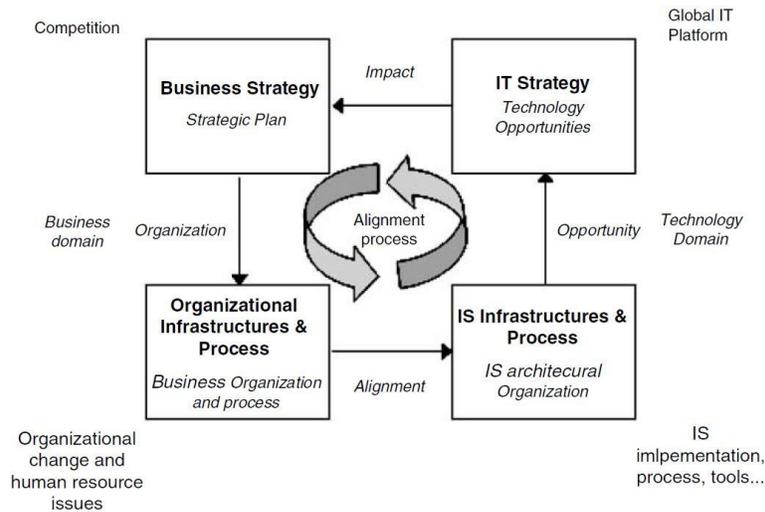


Figure 8 – The Baets model

Maes' Unified Framework for Alignment

Maes (1999) and Maes et al (2000) produced a unified framework that extended the SAM model, also incorporating additional functional and strategic layers. They separated information providers from the systems that provide information. A new information domain represented the knowledge, communication and coordination of information. Moreover, they added a third dimension that contained specific sub-architecture areas, based on the Integrated Architecture Framework (IAF), aimed to support the integrated architectural design of Business and IT. In their work, Maes et al concluded that alignment is a combined management-design concern. They proposed that the produced unified framework is a valid starting point for any further elaboration of the alignment concept, and that the central issues of this framework, dealing with architectural and information sharing issues, were key to the success of this elaboration.

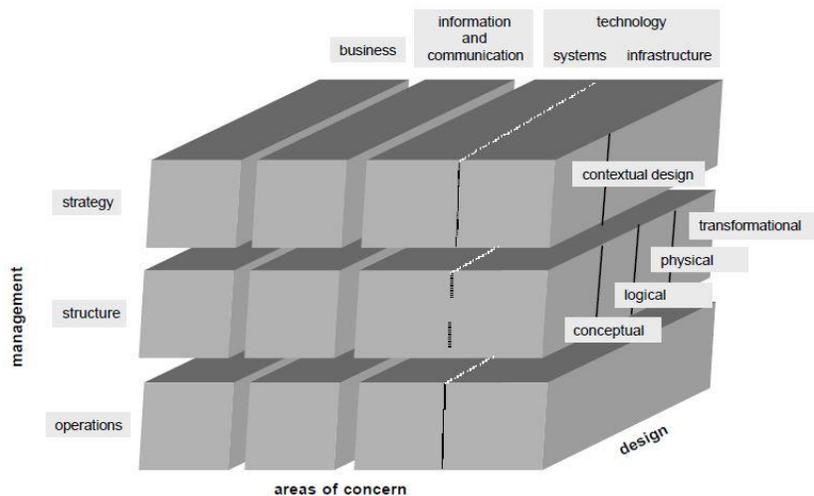


Figure 9 – The outline of a Unified Framework for Alignment (Maes et al,2000)

Part 4: Luftman’s Strategic Alignment Maturity Model

Jerry Luftman’s work on the field of Business-IT Alignment has received wide recognition and is often cited in relevant academic literature. Luftman is also a proponent of the Strategic Alignment Model, however he identified that the model was more conceptual than practical, and basically described what needed to be aligned, not how. This issue was the one that posed, and still poses, the biggest challenge, namely how alignment is to be achieved. Hence, *Luftman (2000)* proposed an approach to address this gap and give insight in the process through which alignment can be achieved (*Leonard, 2008*).

In the article “Assess Business-IT Alignment Maturity” (*Luftman, 2000*), Luftman pointed out that achieving alignment is evolutionary and dynamic, therefore requires strong support from senior management, good working relationships, strong leadership, appropriate prioritization, trust and effective communication, as well as a thorough understanding of the business and technical environments (*Luftman, 2000*). Hence, achieving and sustaining alignment requires a focus on maximizing the enablers and minimizing the inhibitors that cultivate alignment. These enablers and inhibitors were defined in an earlier article (“*Enablers and Inhibitors of Strategic Alignment*”, *Luftman et al, 1999*) and are presented in Figure 10.

Luftman argued that, in order to be able to improve, achieve and sustain alignment, an organization firstly needs to be able to assess it. Realizing that until then there was no approach for assessing Business-IT alignment, he proposed an alignment maturity assessment approach in order to provide a comprehensive means for organizations to evaluate Strategic Alignment, in terms of where they are and what they can do to improve their position.

	ENABLERS	INHIBITORS
1	Senior executive support for IT	IT/business lack close relationships
2	IT involved in strategy development	IT does not prioritize well
3	IT understands the business	IT fails to meet commitments
4	Business - IT partnership	IT does not understand business
5	Well-prioritized IT projects	Senior executives do not support IT
6	IT demonstrates leadership	IT management lacks leadership

Figure 10 – Enablers and Inhibitors of Strategic Alignment (Luftman et al, 1999)

Luftman applied the results of his research that identified enablers and inhibitors to alignment (Luftman et al, 1999), and combined them with earlier works conducted by the Software Engineering Institute (Humphrey, 1988), Keen's reach and range (Keen, 1996), Henderson and Venkatraman's SAM (Henderson and Venkatraman, 1993) and an evolution of the Nolan and Gibson stages of growth (Nolan, 1979) as a basis for his proposed strategic alignment maturity assessment method.

2.4.1. Strategic Alignment Maturity Assessment

Using the 12 elements of Business/IT-Alignment, which can be recognized in the model of Henderson and Venkatraman, in combination with the enablers and inhibitors of Strategic Alignment (Luftman, 1999), Luftman formed the building blocks for his proposed model. The model consists of six alignment maturity criteria (Figure 11), each having multiple attributes.

The model (Figure 12) is based on a categorization into the following five levels of strategic alignment maturity:

- 1) Initial/Ad Hoc Process
- 2) Committed Process
- 3) Established Focused Process
- 4) Improved/Managed Process
- 5) Optimized Process

Each of these levels of alignment maturity focuses on a set of the same six criteria defined earlier.

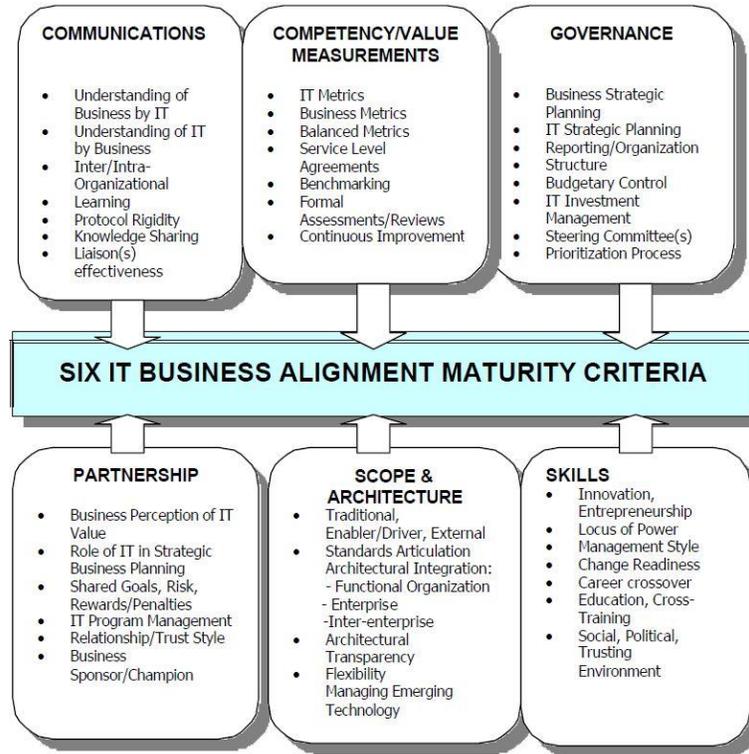


Figure 11 – The Six Alignment Areas (Luftman, 2000)

Luftman also proposed a procedure for assessing maturity using this model in three steps:

- 1) Each of the criteria is assessed individually by a team of IT and business unit executives to determine the firm's level of strategic maturity on each criterion. In other words, each of the six criteria is found to be at either level one, level two, level three, level four, or level five.
- 2) The evaluation team converges on a single assessment level for each of the six criteria. The discussions that ensue are extremely valuable in understanding both the current state of the organizations alignment maturity and how the organization can best proceed to improve the maturity.
- 3) The evaluation team, after assessing each of the six criteria from level one to five, uses the results to converge on an overall assessment level of the maturity for the firm. They apply the next higher level of maturity as a roadmap to identify what they should do next.

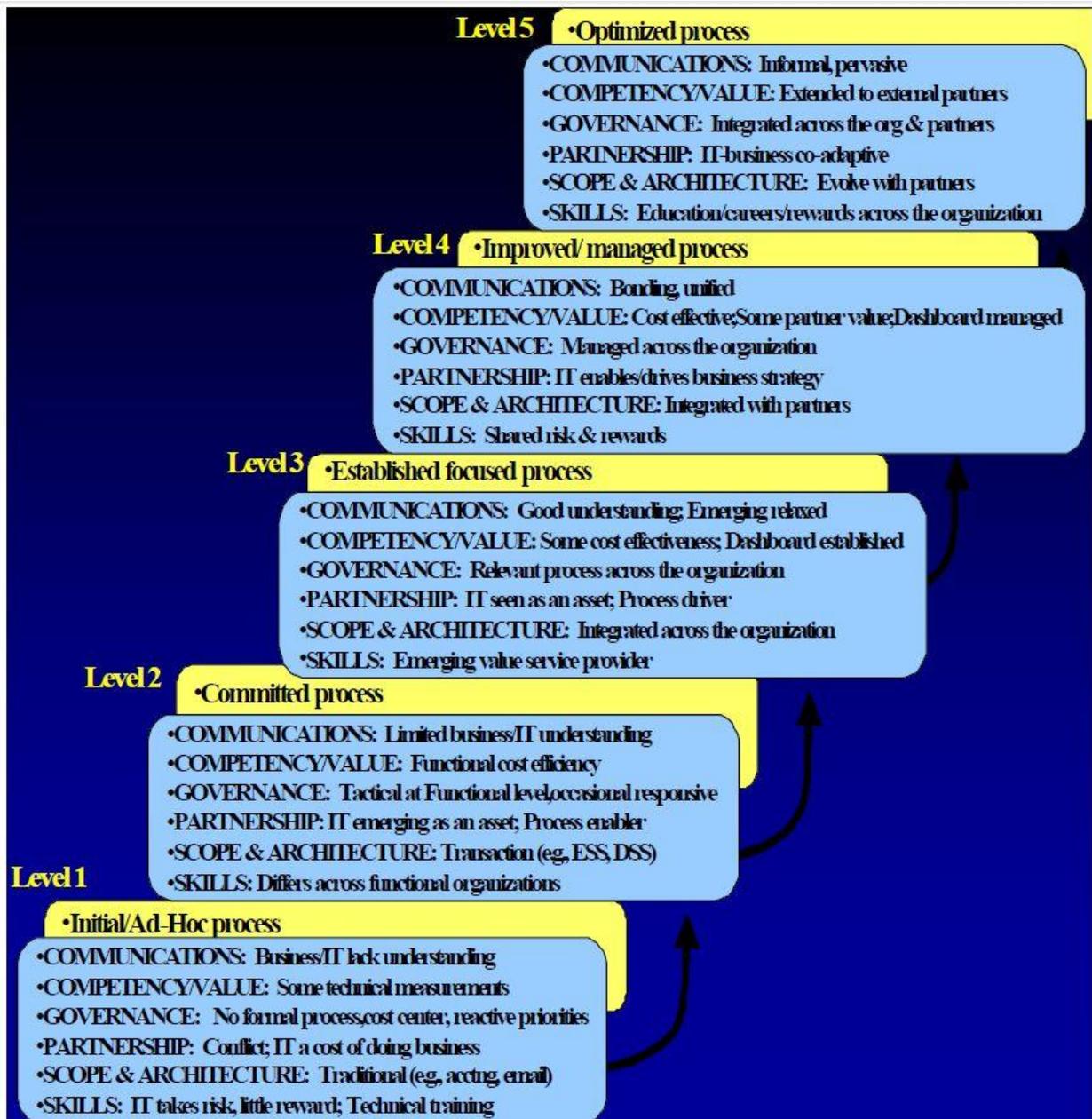


Figure 12 – Luftman’s Strategic Alignment Maturity Model

2.4.2. Strategic Alignment as a Process

Luftman went beyond just proposing a tool to give insight in the relationship between Business and IT within an organization, also defining a process for Strategic Alignment (*Luftman and Brier, 1999*). This process describes how organizations can assess their state of alignment using Luftman’s Maturity Model, and contains six steps:

1. Set the goals and establish a team.

Ensure that there is an executive business sponsor and champion for the assessment. Next, assign a team of both business and IT leaders. Obtaining appropriate representatives from the major business functional organizations (e.g., Marketing, Finance, R&D, Engineering) is critical to the success of the assessment. The purpose of the team is to evaluate the maturity of the business-IT alignment. Once the maturity is understood, the team is expected to define opportunities for enhancing the harmonious relationship of business and IT. Assessments range from three to twelve half-day sessions. The time demanded depends on the number of participants, the degree of consensus required, and the detail of the recommendations to carry out.

2. Understand the business-IT linkage.

The Strategic Alignment Maturity Assessment is an important tool in understanding the business-IT linkage. The team evaluates each of the six criteria. A trained facilitator can be valuable in guiding the important discussions.

3. Analyze and prioritize gaps.

Recognize that the different opinions raised by the participants are indicative of the alignment opportunities that exist. Once understood, the group needs to converge on a maturity level. The team must remember that the purpose of this step is to understand the activities necessary to improve the business-IT linkage. The gap between where the organization is today and where the team believes it needs to be are the gaps that need to be prioritized. Apply the next higher level of maturity as a roadmap to identify what can be done next.

4. Specify the actions (project management).

Naturally, knowing where the organization is with regards to alignment maturity will drive what specific actions are appropriate to enhance IT-business alignment. Assign specific remedial tasks with clearly defined deliverables, ownership, timeframes, resources, risks, and measurements to each of the prioritized gaps.

5. Choose and evaluate success criteria.

This step necessitates revisiting the goals and regularly discussing the measurement criteria identified to evaluate the implementation of the project plans. The review of the measurements should serve as a learning vehicle to understand how and why the objectives are or are not being met.

6. Sustain alignment.

Some problems just won't go away. Why are so many of the inhibitors IT related? Obtaining IT-business alignment is a difficult task. This last step in the process is often the most difficult. To sustain the benefit from IT, an "alignment behavior" must be developed and cultivated. The criteria described to assess alignment maturity provides characteristics of organizations that link IT and business strategies. By adopting these behaviors, companies can increase their potential for a more mature alignment assessment and improve their ability to gain business value from investments in IT. Hence, the continued focus on understanding the alignment maturity for an organization and taking the necessary action to improve the IT-business harmony is key.

Part 5: Critique on Alignment literature

2.5.1. Ciborra's Approach

In the article *“De profundis? Deconstructing the concept of strategic alignment”* (Ciborra, 1997), Ciborra launches a strong critique against the dominant IT literature. His position is based on his claim that this literature proposes abstract models, which are not rooted in the empirically observable everyday practice of managers and organizations. Instead, Ciborra suggests an approach to strategic alignment that is related to reflections from everyday experiences and relies on such concepts as care, cultivation and hospitality.

Ciborra starts by claiming that alignment is modeled as a bridge between business strategy and IT infrastructure, which he sees as an attempt to bridge two extremely unstable variables. He goes on to claim that this is bound to fail, since strategy ends up in “tinkering” or “bricolage” (Ciborra, 1991) and the IT infrastructure tends to “drift”. He argues that there can be no observable alignment or measurable fit, because strategy is de facto “bricolage”, while technology is mostly “out of control”. Therefore, he characterizes alignment models as theoretical abstractions that only exist in an “objective” world and points out that researchers develop models in order to raise management awareness. This leads to new management practices being developed, when managers attempt to bring these models into existence and practice, resulting in breakdowns and “ultimate impotence”.

Ciborra explained the path that he believes strategic alignment research had taken as such:

“Researchers made multiple abstractions out of the muddling through and drifting; idealized tinkering and called it strategy; idealized technology as a controllable set of means and called it IT; granted to these concepts existence and essence, transformed them into boxes and traced a line between them. Then, they started the difficult journey back to the real world, and found difficulties in measuring “the strength of the line” or formulating prescriptions that would be followed by managers when tracing the line on the field of practice. They ingeniously provided more and more sophisticated representations of alignment, as more analytical and detailed maps for the actors to operate in the real world. To no avail: the higher conceptual detail remained confined to the world of idealized abstractions, but had little impact on the life worlds of business and organizations. The research wheel was turning on empty.” (Ciborra, 1997, page 72).

He suggested to avoid using these concepts, and promoted an alternative approach to address the alignment issue. Ciborra proposed a return to basic evidences, encountering the world as it presents itself in the everyday experience of practitioners, reflecting upon observations. He also suggested the use of a new language based on three concepts: Care, hospitality and cultivation.

The concept of “care” relates to a change in focus, from viewing alignment as a product of a rational planning process to viewing it as a continuous aim of supporting and developing alignment as a relation – a relation which involves various actors beyond management. Care-taking relates to strategic alignment, thus becomes a part of the agenda of the specific design projects:

“The driving force behind alignment in-action, as opposed on-paper, is a great amount of care taking performed by the various actors involved in the design, implementation and use of IT applications: [...] it is just familiarity, intimacy and continuous commitment from the initial needs analysis throughout constructing the system, training the users, introducing the system into practice, modifying it as new practices emerge, and so on” (Ciborra, 1997, page 73).

Ciborra defined “care” in three ways:

- 1) Care performed *as intentional perception* has its domain in artificial “objects” and includes the rational alignment approach from IS literature. It deals with idealizations, abstractions, and rationalizations, and develops methods, concepts, models, and structured designs.
- 2) Care *as circumspection* deals with the “worldliness” of objects and is concerned with the practical learning and problem solving situated in the specific organizational context. It involves ‘getting our hands dirty’ in managing the process of developing systems and related work organization and work practices.
- 3) Care expressed *as understanding* is the domain of “worlded” objects that are now embedded in the daily work practices. Understanding alignment ultimately means that this is part of our tacit knowledge.

The “hospitality” concept addresses the organization’s acceptance of the IT that is expected to achieve the strategic alignment. His position was that proposing and implementing new IT is not just a matter of carrying rationally planned changes into effect, but also involves changing work organization and power balances, and it typically involves (at least temporarily) an extra work load in changing existing work practices: “Acceptance has to face ambiguity: coping becomes hospitality. On its turn, hospitality is an unstable way of coping with the stranger: it can suddenly turn into hostility” (Ciborra, 1997b, page 74).

“Cultivation” is a concept which *Dahlbom and Mathiassen (1993)* define as an approach to change, where there is a reliance on changes being conducted as a series of small steps, and where the existing organization is slowly (but continuously) “cultivated” to meet the new demands for change. Cultivation is thus a conservative approach, in contrast to the radical changes as suggested by business process reengineering (*Hammer, 1990; Hammer and Champy, 1993*). Ciborra argued that the concept of cultivation should invite everyone to interpret organizations as “organisms” with a life of their own, not just changing on demand: “Cultivation is a conservative belief in the power of natural systems to withstand our effort at design either by disarming them or by ruining them by breakdowns” (Ciborra, 1997b, p. 76).

2.5.2. Other Critics of Business-IT Alignment

Apart from Ciborra, a number of other scholars also argued that the alignment literature fails to capture important phenomena and that, in reality, alignment is not always desirable.

Depending on the model of alignment, one can argue that it is necessary for IT to challenge the business, not simply implement its vision (*Chan and Huff, 1993*). Disagreement, friction, and conflict can

be more desirable than reactive, smooth IT operations in order to achieve high business performance. This view suggests that researchers who believe that IT should simply support what the business is doing may be wasting their and others' time. However, Kearns and Lederer (2000) point out that while effective alignment of the IT plan with the business plan can provide competitive advantage, the opposite – aligning the business plan with the IT strategy – can result in potential losses. For this reason, researchers and practitioners must be cautious about putting IT in the lead.

Levy (2000) used a resource-based perspective to conclude that IT by itself is not strategic, even aligned IT. In order for IT to be strategic, Levy argued that it must be valuable, unique and difficult for competitors to imitate.

Sauer and Burn (1997) state that alignment can possibly give rise to pathologies that require careful management, if undesired business and IT costs are to be avoided. They identified three types of pathological outcomes from strategic alignment, namely misalignment, which takes place when a company tries to align IT with business strategies that are not internally consistent; IT stagnation, which occurs as part of a common, almost natural, cycle of innovation; IT globalization, which presents special scale and poses cultural difficulties for alignment. They concluded that, if IT academics produce literature that promotes alignment in these potentially difficult situations, they are misguiding practitioners.

Despite these counter-arguments on alignment research, the reality is that alignment poses a big challenge in the real world, as shown by many surveys conducted in the past 15 years. In 2005, the number one management concern of all groups of respondents to a survey conducted by the Society for Information Management was alignment (*Luftman et al., 2005*). Alignment was also ranked as the top management concern in 2004 and 2003, and still remains one of the two top enterprise executive concerns globally, as shown in a survey conducted by Serena Software at Gartner's recent *Application Architecture, Development and Integration (AADI) Summit (December 2013)*. Hence, it is clear that this issue has remained unsolved over the past two decades, and further research is essential.

Part 6: Definition of Alignment

Various alternative terms exist to refer to the phenomenon of strategic alignment, such as balance (*Henderson and Venkatraman, 1993*), coordination (*Lederer and Mendelow, 1986*), fit (*Venkatraman, 1989*), linkage (*Reich and Benbasat, 1993*), harmony (*Woolfe, 1993*). Also, in the strategy literature, there is extensive use of the terms congruence and covariation (*Chan and Reich, 2007*). However, the predominant term today, both in IT literature and in the real world, appears to be "alignment".

2.6.1. Academic definitions of Alignment

Alignment has been conceptualized in the academic literature in various ways. As stated above, *Henderson and Venkatraman (1993)* defined it as the degree of fit and integration among business strategy, IT strategy, business infrastructure and IT infrastructure. *Reich and Benbasat (1996)* defined alignment as the degree to which the mission, objectives and plans contained in the business strategy are shared and supported by the IT strategy. *Sauer and Yetton (1997)* argued that its basic principle is that IT should be managed in a way that mirrors management of the business. *Luftman and Brier (1999)* supported that good alignment means that the organization is applying appropriate IT in given situations in a timely way, and that these actions stay congruent with the business strategy, goals and needs.

McKeen and Smith (2003) claimed that strategic alignment exists when an organization's goals and activities, and the information systems that support them, remain in harmony. In a survey conducted by *Campbell (2005)*, focus group participants were asked to define alignment and the following definition was extracted: "Alignment is the business and IT working together to reach a common goal". In a similar approach, *Abraham (2006)* described alignment using a rowing analogy: "Strategic alignment refers to everyone rowing in the same direction".

2.6.2. Alignment dimensions

In the Management of Information Systems (MIS) literature, several dimensions of alignment have been proposed. Those are the strategic/intellectual, structural, social and cultural dimensions.

Strategic and intellectual dimensions

Strategic alignment refers to the degree to which business strategy and plans, and IT strategy and plans, complement each other. *Reich and Benbasat (2000)* define intellectual alignment in terms of "the state in which a high-quality set of inter-related IT and business plans exist". This perspective implies that a lack of a formal, documented business plan is a big obstacle to alignment (*Vitale et al, 1986; Lederer and Mendelow, 1989; Wang and Tai, 2003*).

Structural dimension

Structural alignment refers to the degree of structural fit between IT and the business. It is influenced by the location of decision-making power, reporting relationships, (de)centralization of IT and the deployment of IT personnel (*Chan, 2002*). *Pyburn (1983)* claimed that IT is much more likely to be perceived as supporting the critical needs of the business when there are few levels between senior

management and IT management. Empirically, *Tavakolian (1989)* found that IT structure is strongly related to competitive strategy. That is, firms that have a conservative strategy tend to have a centralized IT structure. Those firms that are more entrepreneurial and risk-taking tend to have a decentralized IT structure. *Bergeron et al. (2001)* concluded that increasing structural complexity alone has no impact on performance. That is, more complex IT structures are not necessarily superior. However, increasing structural complexity in conjunction with a stronger IT management can increase competitive positions in terms of growth and profitability.

Although the formal structure is most often researched, *Chan (2001)* supported that the informal structure can be of great importance in improving IT alignment and performance. The informal structure was defined as “relationship-based structures that transcend the formal division of labor and coordination of tasks”. In his study, Chan suggested that scarce management time and resources are better spent on improving the informal organization than on aligning formal structures. Although much less visible and harder to identify than the formal structure, Chan claimed that informal structure can be more malleable and, paradoxically, more enduring.

Social dimension

Reich and Benbasat (2000) define the 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”. They argue that researchers should study the social and intellectual dimensions of alignment together. This will reveal the complexity and challenges of IT alignment. There are many barriers to achieving both intellectual and social dimensions of alignment and the prerequisite strong CEO–CIO relationship (*Feeny et al., 1992*). IT personnel and business staff must collaborate together at all levels of an organization. This is a prerequisite for high alignment. Yet this may be hindered by many issues such as the invisibility of the IT staff, communication barriers, history of IT/business relationships, attitudes of organization members to IT, shared domain of knowledge, and leadership (*Earl, 1989; Campbell, 2005*).

Cultural dimension

In an early study on strategic IT issues, *Pyburn (1983)* points out the importance of cultural fit between business and IT as a precondition for successful IT planning. He argues that IT planning can validly adopt “a personal-informal or a written-formal approach”, but that it needs to be aligned with cultural elements such as the business planning style and the top management communication style to be effective. Therefore, alignment needs to be culturally supported, otherwise it will end up in a never ending quest.

In connection to his suggestion on the importance of informal structure, *Chan (2002)* suggested that a solid company culture is a prerequisite to the type of informal structure that fosters alignment. *Tallon (2003)* emphasizes the need for a mind-set that encourages shared networks and common IT procurement policies, and an “across-the-board willingness to give up incompatible best-of-breed systems”. According to Tallon, the “alignment paradox” cannot be avoided just by picking certain technologies and avoiding others. Flexibility requires vigilance and smart management approaches.

Alignment is then fundamentally about cultural change and behavior change (*CIO Insight Staff, 2004*). There needs to be commitment from top management for alignment to work. People are not going to listen to what the CIO says as much as they are going to watch what the CIO does, and what the CIO’s business partners do. IT personnel need to be skilled in the softer side of business, which often does not go hand-in-hand with the engineering focus of IT professionals. Top management buy-in, proactive CIOs, and socially adept IT professionals are vital for making alignment a cultural phenomenon.

Van Der Zee and de Jong (1999) and *CIO Insight Staff (2004)* raise the issue of the lack of a common “language” between business and IT executives. They emphasize the need to build bridges so that both IT and business personnel are using the same terms, talking about the same topic, which in turn assists with alignment in thought and action. *Hunt (1993)* states that in well-aligned firms, top management welcomes what can be done through IT, using their understanding of the particular business issues in their company and their imagination when conceiving IT-enabled business strategies. *Burn (1993)* advocates a cultural audit to examine the relationships between organizational and IT strategy formulation processes. Burn suggests two independent audit checks: one to review the alignment of organizational strategy and structure, and the other to review the alignment of IT strategy and structure. The two audit checks, when applied together, are referred to as the organizational “cultural” audit framework.

2.6.3. A distinct categorization of alignment dimensions

Schlosser, Wagner and Coltman (2012) studied the existing Business-IT alignment dimensions from literature, and proposed a clearer and more specific categorization, introducing three distinct alignment dimensions. They identified the need to clearly separate between the organizational level and the content of alignment, concluding that the existing proposed alignment dimensions are overlapping and to some extent ambiguous. Reconsidering the existing dimensions of Business-IT alignment, they argued that there is no widely accepted and comprehensive conceptualization. In particular, they noted that the most famous dimensions like strategic, intellectual, structural, and social alignment often inherently represent a mix of organizational level (e.g., strategic level) and nature or content of alignment (e.g., the intellectual dimension). They argued that this this leads to confusion in practice, therefore proposing to clearly separate organizational levels of alignment from the nature of alignment.

Based on the work of *Henderson and Venkatraman (1990)*, they identified three distinct organizational levels:

- The strategic level: IT and business strategy level
- The operational level: organizational and IT infrastructure and processes, or short business and IT structure
- The cross-domain level, which is in essence connecting the strategic and operational levels.

Concerning the content of alignment, three dimensions were proposed. These were the human alignment dimension, referring to individual competences and behavior, the social alignment dimension, addressing relational, informal and cultural aspects, and the intellectual dimension, encompassing all artifacts resulting from the work of individuals or groups of people (e.g. hardware, software, plans, documents). A more detailed representation of what each proposed dimension contains can be seen in Figure 13 below.

Human dimension	Social dimension	Intellectual dimension
<ul style="list-style-type: none"> • Business skills and knowledge of IT executives • IT skills and knowledge of business executives • Leadership skills of business and IT executives • Managerial capabilities of business and IT executives • Commitment • Behavior and attitudes towards “other side”, respectively • Business skills and knowledge of IT employees • IT skills and knowledge of business employees • Technical skills and knowledge of IT employees • Managerial skills of business and IT employees • Commitment • Behavior and attitudes towards “other side”, respectively • ... 	<ul style="list-style-type: none"> • Shared understanding of business and IT executives • Mutual trust and respect between business and IT executives • Cultural fit between business and IT executives • Work relationships between business and IT executives • Informal structures between business and IT at executive level • Common language • Shared understanding of business and IT employees • Mutual trust and respect between business and IT employees • Cultural fit between business and IT employees • Work relationships between business and IT employees • Informal structures between business and IT employees • Common language • ... 	<ul style="list-style-type: none"> • Alignment of business and IT strategy/goals/plans/... • IT architecture alignment • IT standards and platforms alignment • Alignment of business and IT structures (rights and roles, reporting, committees, formal meetings, (de)centralization, ...) • SIS alignment • IT project portfolio alignment • Shared applications • IT infrastructure alignment • IT project alignment • Alignment of IS and processes • Alignment of business and IT structures (rights and roles, reporting, formal meetings, ...) • IT services alignment • Procedures/workflow alignment • ...

Figure 13 – Distinct categorization of alignment dimensions

Chapter 3 – Research Approach

This chapter outlines the approach that has been taken to execute this research project. Starting with an overview of the research design that outlines the process that has been followed, the research questions, the research methodology and the outcomes of its execution are presented.

3.1. Research Methodology

The research methodology selected and applied in this Thesis project is the exploratory interview approach. In the exploratory interview, the question areas are pre-determined but the respondents are allowed some latitude to answer in their own way and the interviewer may probe for more information in promising areas. The exploratory interview is particularly valuable to find out what concepts and terminology various groups of people use. Due to the nature of the research, which aimed to extract real-life experiences and opinions from Business-IT Alignment experts, an unstructured interview approach was selected.

A framework of a set of main interview questions was created, in order to assist with the required data collection and act as guidelines, however the actual questions asked and the topics discussed during the interviews were not strictly limited to this framework. The interviews were conducted in the form of a conversation, with questions asked in a non-standard order, and allowing the participants to express their mind freely and elaborate on their views and opinions.

In total, 8 interviews were conducted, with experts from 6 different organizations in the Netherlands, 4 of which have international activity. 6 of the interviewees were experienced professionals working on the Business-IT Alignment field, and 2 were IT consultants with many years of experience in IT Strategy and Business-IT Alignment. The interviews have all been recorded, partially transcribed and processed, following the Grounded Theory Approach (*Strauss and Corbin, 1994*).

3.2. Research Questions

The main purpose of this research is to identify how real-world organizations perceive and apply Business-IT Alignment in practice, if and how they utilize existing academic theories, how they assess alignment and what structure they use to achieve it.

The main research question defined for this Thesis project is:

- **“How can Business-IT alignment be characterized and established?”**

In order to answer this question, we formulate some sub-questions that act as guidelines in this research:

- What are the existing academic theories on Business-IT Alignment?
- How is Business-IT alignment (BITA) defined?
- How much impact does existing academic theory have in the real-world BITA practice?
- What do organizations understand as BITA?
- How do organizations structure themselves internally in order to achieve BITA?
- How do organizations assess their internal level of BITA?
- How can Business-IT alignment be characterized solidly?
- How can Business-IT alignment be further improved in practice?

3.3. Possible Limitations

Limitation	Explanation	Risk Level
Limited existing research	Existing literature work relevant to the topic may not be adequate	Low
Temporality of existing research	Some of the related work may be old and outdated	Medium
Unwillingness to share internal organizational information	Interviewees might not be willing to share information that could expose the organization	Medium
General Validity of gathered information and results	Interviews will be local, therefore results cannot be considered globally valid.	High

Table 1 – Possible Limitations of the research

3.4. Interview Outtakes and Findings

In this section, the information obtained from the conducted interviews is presented and the key findings are highlighted. The full framework of the established guideline questions and the transcripts of the conducted interviews can be found in Appendix.

The selection of the participants was based mainly on their professional experience with alignment and on their current role and its relation to alignment. Moreover, the organizations in which the participants work do not all belong in the same industry, and most of them have international activity, adding to the validity of the obtained information and results. The main conversation topics were around the participant’s personal view on Business-IT Alignment, their professional experience with it, how it is applied and supported in their current organization, whether and how it is assessed, whether existing

academic literature plays a role in the way alignment is applied, and the general process followed in their organization in order to achieve maximal alignment between Business and IT.

An initial set of questions was generated, to act as guidelines towards the information that the interview process intended to retrieve:

Background of Participant

1. What is your role (and scope) in the organization?
2. How is your role related to Business-IT Alignment?
3. How much experience do you have in the Business-IT Alignment field?

Personal view of Business-IT Alignment

4. How would you define Business-IT alignment (BITA), and what does it mean to you?
 - 4a. Which would you say are the most important enablers and inhibitors of BITA?
5. What do you interpret as "Business" in the term "Business-IT Alignment"?
6. According to recent surveys, the BITA challenge is one of the top concerns for top management in the current business world. Do you believe there is enough awareness and acknowledgement in the business world, apart from top management, regarding the importance of BITA?
7. Recent studies have shown that it is perceived that collaboration between Business and IT has improved, and confidence in IT's ability to respond to business needs is rising. However, the same studies have found out that the reality is different (Figures with results of survey shown to interviewee for better clarification of the argument).
Would you say this finding is reliable? How would you explain it?

Personal Experience with Business-IT Alignment

8. In your professional experience, how is Business IT Alignment perceived within organizations? How do they actually interpret this term?
9. Have you worked for/with an organization that manages to successfully align their Business and IT?
 - 9a. Was any known tool/framework used in order to achieve BITA?
 - 9b. Can you mention some examples/success stories?

10. One of the main reasons behind unsuccessful or sub-optimal BITA that I have identified from reviewing existing literature appears to be lack of clearly stated corporate goals. Moreover, one definition of BITA claims that ***“BITA refers to achieving maximal IT value-add to the corporate goals”***, and not the various business strategies.

11a. What is your opinion regarding these arguments?

11b. A ***goal*** is defined as the end toward which effort and action are directed or coordinated – *the What*, while a ***strategy*** as a thoughtfully constructed plan/method/action, that will be employed to reach this end – *the How*. In your experience, who is in charge of stating the goals, and who ensures that they are communicated across the organization?

11c. Do you believe that organizations usually manage to clearly state and communicate their corporate goals?

11d. Are they clearly stated and communicated in the organization you work for at the moment?

11e. Who is in charge of stating the goals, and who ensures that they are communicated across the organization?

11f. Going even further, some researches claim that a very low percentage of employees actually understand their company’s goals and strategies. Also, very often, the separation between what is a goal and what is a strategy appears to be unclear. What is your opinion on these arguments?

11f.1. Do you believe there is a clear separation between what a goal and what a strategy is within your current organization?

11f.2. Do you have any experience with such a situation? Can you name example(s)?

11f.3. Do you believe it is important that the CIO/Head of IT is actively involved in strategy planning and decision-making, and holds a position in the board?

11.f.3.a. From your professional experience, is the CIO/Head of IT usually involved as described above? Is he/she a member of the board?

BITA Assessment

11. What would you say are the most important factors that need to be considered when assessing BITA?
12. Are you familiar with any known BITA assessment tools? Which ones?
13. Which would you evaluate as the most useful and reliable tools, and which as the least?
 - 13a. Can you explain why? (Strengths/weaknesses of these tools)
 - 13b. Do you have any suggestions regarding improving the BITA Assessment tools you mentioned?
 - 13c. Do you have professional experience with any of these tools?
 - 13c.1. Can you give example(s)?
14. From your professional experience, which is the most popular and valued BITA Assessment tool among organizations? Can you explain why?
15. Is the organization you are currently working for using a BITA assessment tool?
 - 15a. Which one? Why is it preferred over others?
 - 15a.1. How would you personally evaluate this tool?
 - 15a.2. How would you evaluate this tool's contribution to your organization so far? Do you think it could be improved somehow?
 - 15b. Have you ever had experience with another mechanism for assessing BITA, outside the known theoretical tools? Can you describe it?
16. Some researchers claim that, towards achieving BITA and successfully assessing it, the establishment of an effective, dedicated BITA process is a critical step. What is your opinion on this argument?
 - 17a. Do you know any examples of such a process? If yes, can you name some and describe the processes?
 - 17b. Can you describe an ideal BITA process, based on your personal views and experience with BITA?

3.4.1. Personal interpretations of Business-IT Alignment

During the literature review, it was identified that a general consensus on what Business-IT alignment actually represents and how it is and should be interpreted does not exist. Therefore, all the participants were asked to provide their personal interpretation of the term, in order to understand how real-life practitioners view alignment.

The answers provided ranged in context and content, and seemed to depend on the particular role and the background of each participant. There were responses that were in line with the operational view of IT, interpreting alignment between Business and IT as IT supporting a chosen Business strategy. One business manager in charge of Alignment in one of the regional departments of an international energy company stated that her personal definition of alignment is “IT working close together with Business, IT understanding the Business and translating the Business requirements to IT solutions.” Another experienced consultant interpreted alignment in terms of every IT investment being traceable to a business investment or strategy, also putting the business strategy in the position of the driver. However, one business manager in charge of Operations and Services in a global energy company responded that “alignment is a circle where Business, IT and Operations all discuss and work together”. This response is closer to the view that recognizes the strategic importance of IT, hence the competitive role.

On the other hand, the majority of the respondents interpreted alignment as the practice of IT adding value both in creating and in implementing business strategies, and also supported that IT needs to push and prove itself strategically. An experienced IT consultant stated that he views alignment from two perspectives, namely operations and innovation. He claimed that from an operations point of view, Business-IT Alignment concerns the IT department best supporting and also consulting the various business departments. He went on to stress that business does state the requirements, but they don't always know what the technical possibilities are, hence the IT department has a responsibility to advise them on this. On the other hand, from an innovation point of view, he argued that there needs to be a technology push which can stimulate innovation, while proving IT as a strategic resource. Another IT manager explained that in order for IT to enable the Business, IT needs to be part of it and actually help forming the strategy. He stated: “To me, it has a lot to do with being able to move from two islands, which Business and IT are now, to a holistic overview that touches over the whole chain to see how value can be captured”.

In contrast to the above, one of the participants posed a different viewpoint in alignment. According to him, the Business needs to be the one to start coming closer to IT and initiating alignment. As he claimed, “everything is becoming IT”, therefore Business should be able to think in terms of IT itself. Instead of providing vague requirements, Business should at least possess a high-level knowledge of IT and understand what can be delivered beforehand. This way, he argued, the Business will be able to make their requirements clearer on the first place, bridging a significant part of the gap between Business and IT.

3.4.2. Perception of IT in the real world

Apart from providing their own interpretation of alignment, participants were also asked to describe how IT is viewed and how Business-IT alignment is understood within an organizational-wide context, based on their professional experience.

The responses showed that within organizations IT is in general being viewed more on the functional, support level than as a strategic resource. Again, the main notion was that it is IT that mainly strives to push the business to recognize and value its strategic importance. However, one IT manager stated that within his organization, IT is valued and involved in strategic decision making. He went on to point out that the Business recognizes its inability to fully understand the possibilities and capabilities of the IT department, hence involves IT management in strategic decision-making and project portfolio setting from the beginning. Another manager in charge of alignment stated that IT is well-respected within her organization, and that this is also obvious in the organizational structure, where IT's position is on a high level. Moreover, a consultant stated that it seems to depend on the organization, the circumstances and mainly on the people, therefore there is no standard view in his mind. He used the example of the Strategic Alignment Model of Henderson & Venkatraman, which recognizes that neither IT's nor Business' role and place can be globally defined, since there are many factors that affect the Alignment perspective on each situation.

3.4.3. Perception and Reality about Business-IT collaboration

The results of a recent study, conducted by Cisco (*Cisco Global IT Impact Survey, 2013, Figure 14*) show that even though it is perceived that collaboration between Business and IT has improved, and confidence in IT's ability to respond to business needs is rising, the reality is different.



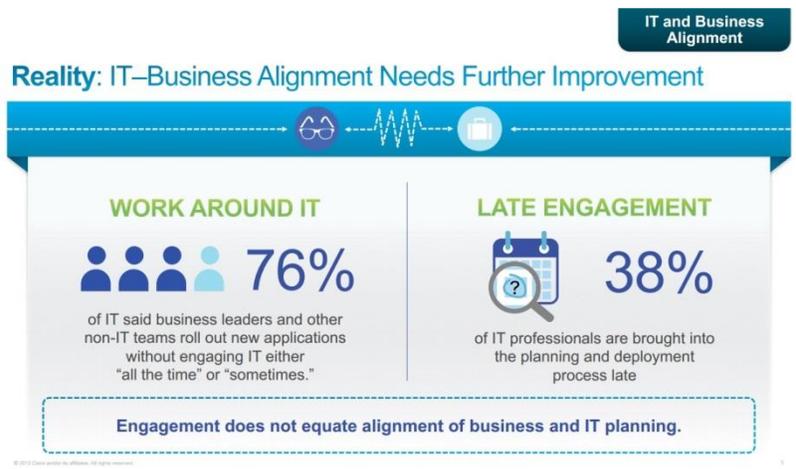


Figure 14 – Cisco Survey on Perception and Reality regarding Business-IT Alignment (*Cisco Global IT Impact Survey, 2013*)

These survey conclusions were presented to the interview participants, who were then asked to comment and provide their own explanation as to why this is happening.

An experienced consultant commented that, in his view, business is more willing to listen to IT now. He explained that this is happening mainly due to a defensive stance, since the occurrence of a project starting and running into a dead end due to unrealistic requirements is quite common and people have realized that engaging IT is more beneficial than fighting it. Therefore, if Business sees that IT is doing a good job, based on criteria important for the business (flexibility, fast delivery, low cost, innovation), they perceive IT as “exceptionally relevant” and appreciate its value much more. A manager responsible for alignment in a large organization explained the high perception about good collaboration between business and IT by stating that, in her department, IT has managed to prove itself as beneficial, therefore business now appreciates and recognizes IT’s value much more. However, she explained the gap between reality and perception by emphasizing the awareness factor. As she said, “that always depends on the people who are responsible for IT. In our organizational structure, IT is not low, but on the top of the organization. Therefore, people are aware that IT is a part of the normal business structure and organization”. An IT manager argued that, in his opinion, what this research shows is actually happening, thus the perception is getting better, but the reality is behind. However, he pointed out that he believes the reality is also improving, quoting “I think perception and reality grow and decrease together, but they are rarely at an equal level”. He claimed that “You need to work on the perception and the reality all the time, otherwise they will both go down. It’s not that you cannot solve the issue, but you need to work on it. The ideal situation is to get the perception high, and try to keep the reality as close to that as possible. But I think reality will always be behind the perception”.

In conclusion, the responses given supported the findings of the Cisco survey, and placed the reason behind the high perception in IT’s successful technology push, increased effectiveness and faster deliveries. Regarding reality lacking behind, the main explanation was that business people involved with IT may change their opinion on IT based on their personal experiences with it, and not the total picture of IT within an organization.

3.4.4. Awareness on the importance of alignment

The issue of awareness is always a rather important one, when it comes to concepts that seem to be unsolved and constant challenges. Interviewees were asked about their personal opinion on whether there is enough awareness and acknowledgement regarding Business-IT Alignment in the real world, without limiting the context to top management only.

The dominant view appears to be that most people are aware of how important it is for Business and IT to collaborate and be harmonized, however there seems to be very little awareness on what exactly Business-IT Alignment represents, where in the organization it takes place and, most importantly, how to deal with it. Moreover, Business-IT Alignment does not seem to exist as a known term in the real world. As an IT consultant stated, “If you go to a random person and ask them about Business-IT Alignment, they will give you a story. Nobody will tell you “Business-IT Alignment? *What do you mean?*”. And that’s because the term consists of 3 words that people know. Business, IT and alignment”. The responses given implied that it is mostly within the IT departments that awareness exists, and not so much within the business departments. Another experienced IT consultant argued that it is not necessary for everybody to know about alignment and what it means, but the worrying part is that sometimes you see that people who are in a position and have a responsibility to influence it do not seem to do so, or care about it. Another IT manager called for the need for Business-IT alignment to prove itself as valuable to the organization, in order for people to recognize it and become more aware of it.

In conclusion, the answers provided prove a lack of awareness regarding both the meaning and the importance of Business-IT Alignment. Opinions showed, once again, that it is mainly up to the IT people to prove its importance and strive for acceptance and recognition.

3.4.5. Enablers and inhibitors of Business-IT Alignment

Jerry Luftman first defined the main enablers and inhibitors of Alignment in 1999, from an academic point of view. The interview participants were asked about which they view as the most important enablers and inhibitors, based on what their professional experience has shown them. From the responses given, Luftman’s conclusions appear to be still valid, since they mainly focus on relationships and commitment. The participants’ opinions all came down to the fact that the biggest factor influencing alignment is the people themselves, and not only management, but everyone who is involved with Business-IT alignment at any level.

The expert’s view is mainly that there needs to be people in key positions, who both understand IT and Business. Moreover, achieving engagement and commitment from all people influencing alignment has proven to be a very difficult matter. What was identified from the beginning as a crucial factor, namely

an understanding and willingness to cooperate between Business and IT, still appears to be the main inhibitor.

Aside from the people factor, a number of respondents identified Enterprise Architecture and IT Governance as other key enablers. However, it was emphasized that while they are important and need to be there, their existence by itself is not enough. They need to be clear, constantly updated, actually utilized and easy to understand. Quoting an experienced IT consultant, “really applying them and doing something with them in a meaningful way and having your individual projects aligned with your architectural principles is not happening that adequately. It many times lacks the correct procedures, government bodies, guidelines etc. So that’s an inhibitor and an enabler together, they are opposites either ways. If it’s done in a good way, it’s an enabler, if not, an inhibitor”. Regarding IT Governance, everyone agreed it is a very important factor towards alignment, since it concerns the structure around how organizations align IT and business strategies. However, the majority agreed that IT Governance alone is not enough to ensure alignment.

Hence, in the end, it also seemed to come down to the people being the foundation. As a high-level IT manager stated, “You might have it on paper, but it will never work. People are more important than processes”.

3.4.6. Interpretation of the term “Business”

An important part of understanding and clarifying the term Business-IT Alignment is to define what is meant by the word “Business” in it. This word is used in various different meanings, representing at times an organization as a whole, or a business unit, or the total of business units, even everything that is not IT. Interview participants were asked to give their own understanding and interpretation of this word, in the context of Business-IT Alignment.

The majority of the responses lied around Business being the one IT serves or supports. Therefore, in the term Business-IT Alignment, it was argued that you can’t exactly define what Business is. It depends on who is the customer or the one IT is serving or supporting at the time. As a top level IT manager stated, “We use it basically to describe whoever is buying or using the IT service that we provide. The customer of IT in each case”. One response was based on the context of value-adding, claiming “In the end, the word business, what it means, is the value-adding activity which you choose to pursue as a company”, while another statement identified business as the ones setting the requirements. Another response defined business as any BU that initiates an investment, quoting: “For me, Business is the one who is paying the investments to get the product there, if you want to keep it short. They have an idea, they initiate it, and they are willing to put money in it. It can be therefore any BU that initiates a project.

In short, the perception appears to be that, in the term Business-IT Alignment, Business refers to the customer of IT on each separate occasion, which in most cases is one of the BU’s that needs something from IT.

3.4.7. *Significance and communication of corporate goals*

As Kessler defined them (*The Business of Government: Strategy, Implementation & Results, 2000*), a goal is the end toward which effort and action are directed or coordinated – the “What”, while a strategy is a thoughtfully constructed plan/method/action, that will be employed to reach this end – the “How”. Based on this definition, the goal is of higher importance and priority than any strategy, hence achieving corporate goals should be the essence of every organizational body. Alignment literature has identified that, in many organizations, the clarity, communication and significance of corporate goals are inadequate. Also, it has been argued that “the existence of clear and focused corporate goals and a clear understanding within IT, and elsewhere, of what these goals are is a key condition for optimal IT Alignment” (*DeLisi and Danielson, 2007*). In this context, the interview participants were asked whether they believe there is a clear statement, understanding and communication of the corporate goals within organizations.

The responses given enforce the significance of clear goals and communication, on one hand, however the majority of the interviewees appeared unsure as to whether they are well communicated and understood by an organization’s personnel at all levels. As one IT manager stated when asked about the importance of goals and if they are communicated and understood by everyone, “Well, I hope. We have a very good intranet, where you can read everything. It is really important that everyone reads them and understands them, but we can’t be sure they do”. In addition, since most of the participants are members of large organizations, it was identified that the size of an organization plays an important role in the clarity and successful communication of corporate goals. An IT manager in an international energy company explained that the goals are set on the corporate level, then passed down to the CIO, who will pass them down to him and he will be in charge of communicating them to the management team, before reaching the employees. Hence, as he stated, “after 4-5 levels, you can be sure that the initial message is not gonna be the same as the message that arrived to the final level”. He went on to argue that another important issue here is that some managers do not agree on the significance of communicating the corporate goals to the levels below them, making communication even more troubled.

In the same context, there were responses that disagreed with the importance of the goals being communicated to every employee. As a business manager stated, “I think people in management level do need to be aware of the goals. I don’t think everyone needs to know them though, at most a mid-level manager who is leading a team needs to be able to understand them”. This adds to the notion of the IT manager above, about the unwillingness of some managers to understand the value of the communication of goals. Finally, another participant voiced the opinion that it also depends on the education level and the type of organization. As he stated, “For me, the important thing is that everybody who is at a level that matters needs to know and understand the goals”.

In conclusion, the importance of clearly stated goals is undoubted. However, there seems to be a difference of opinions regarding whether communicating the goals across the whole organization is required.

3.4.8. Separation between Goals and Strategies

Another important outtake from the conducted interviews is the understanding of the separation between what a goal and what a strategy is. As defined earlier, a strategy represents how a goal is to be achieved. However, during the interviews, this separation didn't appear to be very clear.

Some participants pointed out that since these are business terms, educational background has a lot to do with understanding them. As one of the interviewees stated, "I think these words are more business-related. They are often used by many people in different meaning, and that sort of devalues the words. That creates misunderstanding." Also, it was noted that a small number of the participants used the words goal and strategy in a context that doesn't agree with the definitions provided, further enhancing the belief that there is a lack of understanding and separation between a goal and a strategy.

3.4.9. Alignment to goals versus alignment to business strategies

Based on the fact that a goal is the reason strategies are created, as well as a study conducted by DeLisi and Danielson (*"A Research Study on IT Alignment"*, 2007), this research attempted to obtain the opinion of experts on an alternative definition for Business-IT Alignment. This definition was first suggested by DeLisi and Danielson in the above mentioned study, and defines Business-IT Alignment as such: "Business-IT Alignment refers to achieving maximal IT value-add to the corporate goals, and not the various business strategies."

Two crucial prerequisites for this definition are that goals are clearly stated and communicated, and that there is a clear separation between a goal and a strategy within the organization, hence the questions posed to the participants before this definition, as described above. Despite the fact that the clear separation does not appear to be there at all times, most participants agreed to this definition and found that it grasps the essence of alignment in a complete way. However, there were counter-arguments and objections as well. One IT manager stated that even though she generally agrees with the definition, she believes that goals and strategies are equally important and this definition undermines the importance of strategies. Another Project Manager disagreed with the definition, stating "For me, the key thing is IT adding value to the Business. So there should be a clear outcome of each investment, which should deliver the value. That should be the main target of Business-IT Alignment." Another IT manager agreed with the definition, but identified a possible risk. He stated that: "If only IT realizes this and not the various business units, then there will be conflicts, because IT will have to make them realize that the goals are where they seek to add value. And that's not easy". One important notion was given by a Business Manager, who emphasized the importance of the organizational size factor, pointing out that in a large, international organization, it's very difficult to control and direct all the different IT departments toward a single direction, in this case the corporate goals. He did recognize the need to align to the corporate goals, but clarified that he considers it equally important to IT aligning to the various business strategies.

The most interesting answer was provided by an IT consultant with many years of experience in the Business-IT Alignment field, who based his answer on both his experience and his grasp of the reality in the business world. Quoting him: “I think that every single definition that tries to frame Business-IT Alignment is a bit short on reality. Business-IT Alignment is basically taking place at many different levels. So, yes, this definition is not wrong, but it doesn’t cover everything, there is always something that will be missing”.

In conclusion, respondents showed a positive reaction to this alternative definition, even though the current situation of Business-IT alignment does not seem to be in line with it. The focus appears to be on IT responding to given business strategies, and not so much on IT adding value to the organization and its goals.

3.4.10. The CIO/Head of IT role

In the past years, there has been increased speculation and discussion regarding the role of the Head of IT and what it currently involves, and should involve in the future. In larger organizations, the Head of IT has assumed the title Chief Information Office (CIO), something that is a symbol of the role’s increased importance, mentally placing it next to the Chief Executive Officer (CEO), Chief Operational Office (COO), Chief Financial Officer (CFO) etc. However, this seems to be more of a misguided perception that contradicts with reality. On one hand, it is true that the CIO has received more recognition and responsibilities among top management, and is no longer considered as the manager in charge of allocating IT resources. This research aimed to identify the opinion of experts on what the role of the CIO today actually is, and what they believe it should be in order to benefit Alignment.

Every participant was asked whether they consider CIO involvement in the executive board, therefore in strategy planning and decision-making, an important matter considering Business-IT alignment. Moreover, they were asked to provide their opinion on the current situation concerning CIO’s recognition and involvement in their organization. Responses varied, with an experienced consultant stating that, in his experience, the standard situation is to not include the CIO in the board of directors. When asked whether he believes alignment would be benefited by the CIO’s increased role and involvement, he responded that just that wouldn’t be enough. He argued that it is IT in general, hence the CIO as well, that needs to prove itself as a capable strategic resource, instead of expecting to be recognized strategically in the first place. Quoting him, “If IT is not able to show its strategic value, it will never get that seat in the table. Because it’s not perceived as a strategic function. So, putting somebody in the board doesn’t change something by itself. You still have to prove you can be of strategic value.” Another IT manager in charge of alignment explained that, in her organization, the CIO reports directly to the CFO, who is a member of the board. She went on to argue that she believes this setup works, and that the CIO is free to voice his opinions and concerns to the board, if he thinks it is necessary, adding that IT is respected within her organization. Another IT consultant avoided to take a side in this matter, arguing that giving a CIO a seat in the executive board doesn’t mean anything by itself, but he did

recognize the urgency of involving the CIO in strategic decision-making, pointing out that “The CIO has a coordination role in things like how can you ensure that the business requirements are going to the operational IT organization doing the day-to-day operations of the IT systems, and he’s also responsible for the technology push. The CIO has to help the business in getting organized. And that’s related to strategy, he needs to be involved in this game.” Another IT manager emphasized organizational size as a crucial factor in this matter. He stated that in smaller organizations, it makes absolute sense to involve the CIO in all strategy-related situations. However, he voiced the concern that in a large organization, the CIO is supposed to represent the capabilities and capacities of the whole IT department, which is something impossible for just one person. Hence, he proposed that in big companies, aside from just making the CIO a part of the board, it is crucial to establish a structure a level below the CIO, that is responsible for gathering all the information required to properly represent the IT organization as a whole in the executive board.

On the other hand, there were respondents that voiced their concern over the CIO being undervalued. A high-ranking IT manager claimed that he believes organizations in general do not prioritize IT high enough, hence they are not appreciating the CIO strategically. He stated his belief that in his organization, the CIO should be a member of the executive board, instead of reporting to the CFO, which is the current situation. He concluded with a very interesting notion, stating that “Everything is becoming IT, therefore you cannot have one single person managing the IT organizations. You need to have all managers, at all levels across the organization, understanding and managing IT”, going a step further and calling for the need to appreciate the significance of IT even more in the future. Two more respondents raised objections to the fact that the CIO is reporting directly to the CFO, voicing concerns about a CFO’s understanding and appreciation of IT. As one manager in a global organization stated, “Usually the CIO reports to the CFO, who is a member of the board. And for me that doesn’t make sense, because the CFO is in essence an accountant who has no view on where IT should be“. Another IT Project Manager supported that it is important for a CIO to be influential in business decisions, and to inform the other Chief Officers about the technology trends and directions, assisting the organization in realizing possible advantages of adapting new technologies. Quoting him, “If Business can appreciate the CIO’s recommendations and advice, they can exploit technological advances and changes much better and adapt their strategies accordingly”.

In conclusion, there was a contradiction in the responses given to the importance of recognizing the CIO as a member of the executive board. In general, there seems to be a view that the current status where the CIO reports to the CFO is not the most beneficial, however almost everyone agreed that it is mainly up to the CIO’s knowledge and skills to be of strategic value to an organization.

3.4.11. Utilization of academic theories in the real world

Based on the fact that Business-IT alignment has received a lot of attention in the academic world over the past 25 years, and that there are many academic works proposing ways to apply and improve alignment, this research aims to explore the impact of Business-IT Alignment in the real world.

Firstly, participants were asked whether they are familiar with existing academic literature related to the field of Business-IT Alignment. Surprisingly, only one of the respondents possessed knowledge about existing theories and concepts. The rest of the responses were negative, leading to the identification of a big gap between academia and the real world. This gap refers to both theories and concepts about Business-IT alignment application, as well as Business-IT alignment assessment, which is a more specific area of the topic that has also received attention in the academic world.

When foundational theories of alignment (Henderson and Venkatraman's SAM, Luftman's Strategic Alignment Maturity Model) were presented and briefly explained to the respondents, the majority of them did seem to recognize the concept and to match it to the general way they view alignment as well. However, the fact that alignment professionals are not familiar with alignment theory cannot be overlooked.

When asked about the reasons they believe theory of alignment is not known or utilized in the real world, the responses given were quite interesting. An experienced IT consultant claimed that theory is mostly conceptual and not something they can directly apply in practice. Another consultant, who was indeed familiar with theory, brought up the work of *Ciborra*, who criticized existing alignment literature as unrealistic and not in touch with the real world. He did, however, stress the importance of staying in touch with academic developments and methodologies, and using them as a source of reflection and guidance. A top level IT manager stated "Regarding BITA theories, no, I don't know any. I think it's more like common sense what we are trying to do", while another IT manager explained that, when something is part of your everyday life, like alignment is to IT managers, "people tend to believe they know how it should be done. If you engage in something new, then you often turn to theory or consultants to help you. But when it comes to something that you do every day, you probably should also ask yourself now and then if you're doing it correctly, but that seldom happens in real life. People don't seem to feel the need to know the theory behind what they do every day". Interestingly, he concluded by recognizing the value of theory, and accepting that there should be more appreciation and engagement from real world practitioners.

Another IT manager also recognized this need, explaining that he believes it is mostly ignored because organizations want something practical and with proven value, not conceptual, to help them with their work. Finally, one participant added that "there are so many process and tools in IT to help you with everything, and it's impossible to know all of them. But I believe many of them have the same basis".

In conclusion, academic work on alignment seems to be unknown and have little impact in the real world. Even though most people do appreciate the value of theory in general, they do not seem to turn to it to help them with their professional life.

3.4.12. Business – IT Alignment Assessment in the real world

In order to be able to understand whether an organization is applying Business-IT Alignment successfully, performing an assessment to estimate it is crucial. Participants were asked whether they have had any knowledge and experience with known assessment tools from academic theory, with all answers being negative. Hence, they were asked if there is a mechanism in place to assess alignment within their organizations, and to describe how it works.

Responses showed that there are no actual mechanisms to assess Business-IT Alignment in the organizations involved in the interview process. Instead, there are processes in place regarding estimation of business satisfaction from IT. One manager described a monthly customer satisfaction index, where the business is the customer, and an annual stakeholder satisfaction index. The customer satisfaction index is obtained from answers to a questionnaire, while the stakeholder satisfaction index is obtained through interviews. Stakeholders provide a ranking, in the range of 1-10, concerning how satisfied they are from IT overall, and how reliable they believe IT has been. Another IT manager described a similar process, where interviews with the Business take place and a ranking based on satisfaction is obtained. The same manager argued, however, that he sees this grading as conceptual and maybe unreliable. As he stated, “if one day before that interview, they had an enormous breakdown and the service desk refused to help them for example, that wouldn’t help in the grading”. On the other hand, another assessment mechanism that was described was a monthly IT scorecard, followed by a yearly survey with business stakeholders. Again, the results obtained concerned satisfaction from IT, and not so much Business-IT Alignment. Another IT manager in charge of alignment responded that no actual assessment is in place, even though he considers it a useful thing that his organization should adopt. Quoting him, “It would be easier to get IT on the agenda if we had a measure that proves it is beneficial to the business.”

On the other hand, another business manager supported that you can actually measure alignment, not just assess it. He used the example of KPIs based on goal setting during the year. These goals can be transformed into KPIs and be measured in the end of the year. The most interesting responses came from two consultants, who replied that they never perform any kind of assessment. One of them stated that his organization performs IT capability assessments, in relation to “How good is your company at doing things you should be good at with IT”. More specifically, he explained that they use Capability Maturity Models, which do not refer exclusively to Business-IT Alignment, but do include it within them as well.

In conclusion, it can be understood that Business-IT Alignment assessment does not really take place in the real world. Even though there are tools, models and guidelines from theory on how to perform it, organizations do not seem to be familiar with them, and to not really recognize the importance of assessment as a whole.

3.4.13. Business-IT Alignment as an independent function

During the conversations that took place in the interviews, a very useful concept came up. A number of participants stated their belief that Business-IT Alignment would be much more achievable if the people responsible for it were independent from both the Business and the IT departments, and had an exclusive responsibility to carry out alignment. As it was stated, placing the responsibility of Business-IT alignment in one of the two islands creates the issue of trust and impartiality, meaning that the other side will most likely blame any issues on the fact that the people responsible for alignment belong to the “other side”, which does not understand and cannot provide enough benefits for them.

An IT manager stated that “What I’ve seen very much in such cases is that you get some kind of informal BITA organization in the Business side, which acts like the Business Demand on the Business side, while at the same time you have BITA on the IT side. So, you have two structures for the same thing, and they don’t really work together”, enforcing the argument of structuring Business-IT alignment in the middle of the two islands, as an independent body. Another IT Project manager supported the idea of introducing hybrid teams, comprised of experts in both fields, who can add much more value and lead to successful alignment.

3.4.14. Business-IT Alignment as a Process

A dedicated Business-IT Alignment process that describes the steps needed and provides guidelines towards the application of alignment could be seen as a solution to the alignment challenge. *Luftman and Brier (1999)* first described such a high-level process, calling for structure around alignment. Participants were asked their opinion on whether such a process would be of benefit, and as a follow-up were asked if there was a similar kind of process within their organization, and describe it.

The majority of the responses were positive towards the possible benefits of establishing a Business-IT Alignment process, since putting structure around a challenge so big as alignment can help in at least understanding it better and being able to identify weaknesses and strengths. However, they all identified the difficulties and limitations towards attempting to structure alignment as a whole in a single process. An IT consultant stressed that Business-IT Alignment needs to be viewed a process, and it has to take place on all kind of levels. However, he pointed out that we can’t neglect the innovation factor, and that no matter how solid a structure one will establish, unexpected things that will affect it are bound to happen. Therefore, it is correct to view it as a process, but it’s important to consider the dynamic nature of alignment and the impact of change. Moreover, one respondent that appeared hesitant towards the benefits of inserting such a process into the organization. As he stated, they already have processes in connection to Business-IT alignment, and attempting to create a new, dedicated one, would bring about a big change and add even more complexity to the current situation.

There was a quite interesting outcome in some cases, concerning responses to description of the general existing Business-IT alignment process. The majority of the respondents were not in place to directly answer the question, implying that there is no actual process setup related to alignment. The responses were mostly a summary of steps taken through the year, including strategy formulation, budgeting, portfolio setting, and discussions and meetings between business and IT to discuss progress and next steps. However, no solid process closely related to Business-IT alignment was described.

3.5. Summary of key findings and observations

In this section the outtakes of the interviews presented above are summarized and compiled, in order to present the most important findings and observations from the information obtained during the interview process.

1. Lack of awareness regarding Business-IT Alignment

The literature review showed that there is no consensus regarding what Business-IT Alignment actually represents, and this was enforced during the interviews. Aside from that, it can be observed that even the term itself is not really known in the real world, making awareness and recognition much more difficult.

2. Satisfaction from IT is increasing, but strategic recognition is lacking behind

The information obtained from the interviews enforced the findings of the Cisco research, which identified that perception regarding IT performance and collaboration with the Business is on the rise. However, this does not seem to have led to increased appreciation of IT as a strategic resource. Even though the CIO's role has received increased recognition, the CIO still doesn't appear to be viewed as a strategic resource. Further CIO involvement and appreciation is required, if IT is to be of strategic importance. The consensus seems to be that IT, and the CIO as a result, need to push for recognition and acceptance, in order to prove their strategic worth and show the competitive advantage they can provide to the organization.

3. People are the key to alignment

All respondents agreed that it is the people themselves that are the main enabler and at the same time inhibitor to alignment. Structures and processes are viewed as important as well, but eventually it all comes down to the people.

4. Clarity and communication of goals is inadequate

The information obtained from the interviews points to the conclusion that there is not a clear statement, understanding and communication of an organization's goals among the organization's personnel. This is an obstacle towards successful Business-IT alignment, since neither the business nor the IT people seem to fully understand exactly what they are working towards.

5. Significant gap between the academic and the real world

One of the most important observations derived from this research is the very little impact of academic progress in the real world. Practitioners of Business-IT alignment appear unaware of relevant academic theories and concepts, deeming any academic progress unutilized and, in essence, insignificant

6. Lack of Business-IT alignment assessment

Another key observation is that organizations do not seem to appreciate the importance of assessing and estimating their alignment level. Most related mechanisms in place are aimed towards estimating how satisfied business is from IT, and not how well-aligned these two islands are in a strategic context.

7. Business-IT alignment takes place on many different levels

It was observed that Business-IT alignment is not generally viewed as a separate issue and challenge, but as a part of something bigger. An independent and dedicated alignment process does not appear to exist, and it can be concluded that it is very difficult to structure such a process, mainly due to the number of organizational bodies involved and the high complexity this creates.

Chapter 4 – Recommendations

In this chapter the key observations presented in the last section are further analyzed and recommendations are proposed, in order to bridge the identified gaps and provide a roadmap towards a further, more solid establishment of Business-IT Alignment practice.

4.1. Theory-Practice: A Missing Link

As made clear in the literature review, in the last 25 years the Business-IT alignment issue has received a lot of attention from the academic world and a solid literature foundation has been built in order to assist practitioners with facing this ongoing challenge. However, it is not really clear whether these theoretical foundations are something the real world builds on when addressing the Business-IT alignment issue. There have been arguments for and against existing theories, yet most of them seem to be from other academics, and a clear view on how the real world perceives them is missing.

This study led to the observation that alignment literature has not received enough attention and appreciation in the real world, and does not appear to have been utilized enough in order to effectively assist with the challenge of Business-IT alignment. The situation appears to be that, not only is the theory not utilized, but there seems to be a lack of awareness and even interest from the real world

regarding the value of alignment theory. Practitioners do not seem to be familiar with even the most foundational theories regarding alignment, and each organization seems to look for their own ways and best practices to address this challenge. During this research, a number of reasons explaining this missing link have been identified.

A very interesting notion was made by an experienced consultant during the interview process. He pointed out that, nowadays, IT is everywhere around us, and even if someone does not have an IT educational background, they still need to have a basic understanding of IT. He claimed that the most important thing is people having an interest in IT, and this can only happen by experiencing it and being exposed to it during their life. He used the example of primary and secondary school education, where he claimed the exposure to IT is very poor. He supported the idea of bringing people in touch with IT at a young age, allowing them to gain some insight and basic understanding of it. Quoting him, "Kids don't really learn about IT. I really appreciate the initiative of Mark Zuckerberg and other people about programming. Even if it is for 2 days in your whole curriculum, you'll at least get an understanding of what it is. It's basic, but it's a way of growing people's understanding about what IT is."

This notion touches one of the most fundamental inhibitors of the Business-IT alignment issue, which appears to be that business people neither understand IT, nor have an interest in doing so. Exposing people to IT and allowing them to gain interest in it is crucial in this era, especially because IT is everywhere in our lives.

In a similar fashion to the lack of IT exposure in general education, alignment theory does not appear to be an area covered in university education, hence future practitioners of alignment are not exposed to it during their academic years. As a result, they are not able to bring in any related concepts or ideas when they enter an organization. Moreover, some of the experts interviewed pointed out that they believe alignment theory is not "marketed" well enough, and its reach doesn't usually extend beyond the academic world. Unless somebody is genuinely interested in it and looks into it themselves, it seems likely that they will never hear or learn about it.

In addition, as some interview participants pointed out, professionals who have been dealing with alignment for a long time do not tend to turn to either old nor new academic concepts and theories to help them with their work. Theory is viewed as something too conceptual, lacking proof of concept and, therefore, practical value. Instead, there seems to be a tendency to look for best practices, with proven value and results. For example, one of the large international organizations participating in the interview process does not have an organization-wide approach towards alignment. Approaches vary between regions and departments, with different results and success. As explained by one of the participants, the way business-IT alignment is applied in his department has been recognized as a best practice from top management, and they are now initiating a change to consolidate this practice across the whole organization. However, the alignment approach and the ways to assess alignment success are not in connection to any existing theoretical context, hence pointing to the conclusion that proven practices are more preferable than theoretical concepts in the real world.

This observation is also in line with Ciborra's observations and critique. Ciborra criticized the alignment literature as utopic and out-of-touch with reality, proposing instead that decisions and actions related to alignment should be made based upon empirical observations derived from the reality within an organization. However, Ciborra's main argument against existing alignment literature was that academics create abstract models and tools, which, when implemented blindly by managers, result in breakdowns and "ultimate impotence".

This research argues that proposed alignment theory and concepts should not be viewed by practitioners as complete tools, ready to be used in the real world. Instead, academic theories should be seen mainly as means of inspiration, discussion and reflection. It needs to be understood that academic works are not to be seen as universally relevant, since theories are by their nature abstract and not exactly content-, or topic-specific. Therefore, they should be examined with critical judgment and be taken into consideration to the extent that they fit the organizational circumstances and context.

Moreover, exposing both future and current practitioners to the various existing academic works on such a big and unsolved challenge as Business-IT alignment could be of great assistance towards the progress and establishment of successful alignment. Future practitioners - in other words, students of business and IT management schools-, will gain a lot of insight by knowing these concepts and models, and could bring in new ideas to organizations that struggle with the alignment challenge. Moreover, encouraging professionals to turn to theory and be informed about what the academic world observes and proposes regarding the alignment challenge would also be beneficial, again in terms of inspiration and discussion. An experienced consultant gave an example of such an initiative, mentioning a series of seminars he participated in for a Dutch municipality. He stated that he and other consultants were asked to conduct seminars to business people, who only had very little knowledge of IT. He emphasized that such seminars incite useful discussions and awareness, urging business people to become more interested in understanding how things work in their professional environment. Quoting him, "such a thing triggers the right question. They at least gain some interest".

In conclusion, this research calls for the need to extend the reach of Business-IT alignment theories beyond the academic world. One useful step towards this direction would be including foundational alignment theories in the curriculum of studies related to both business and IT management. Graduates from such schools will unavoidably deal with the challenge of alignment in their professional life, and giving them insight and prior knowledge to what it includes and how it can be dealt with is of high importance. Moreover, top management that has experience with the alignment challenge, and understands the need for addressing it thoroughly, should initiate seminars in order to expose its personnel to foundational Business-IT alignment theories and concepts. This way, people in positions affecting and influencing alignment will at least gain awareness on the academic perspective, and possibly be incited to reflect and discuss with their colleagues about areas of improvement within their organization. Besides, the biggest enabler and at the same time inhibitor of alignment has been proven to be the people themselves.

4.2. Characterization of Business-IT Alignment

One of the starting points for this research was the fact that there is no consensus on what Business-IT alignment represents, neither in the academic nor in the real world. Various attempts at defining and framing alignment have been made, but so far no generally accepted, dominant characterization has been established.

Academic definitions vary, with some focusing on IT adding value to business strategies, others on business recognizing IT as a strategic resource, and others on IT strategy supporting the business strategy, harmony between business and IT goals and activities etc. *Henderson and Venkatraman (1993)* used the term “strategic fit” in their foundational work on Business-IT alignment. *Reich and Benbasat (1996)* define alignment as the degree to which the mission, objectives, and plans contained in the business strategy are shared and supported by the IT strategy. *McKeen and Smith (2003)* argue that strategic alignment of IT exists when an organization’s goals and activities and the information systems that support them remain in harmony. One observation that can be made here is that academia has focused more on the strategic dimension of alignment, giving more emphasis on strategic collaboration and how IT strategy can add value to the business or corporate strategy.

However, researchers have identified and defined more alignment dimensions, namely structural, cultural and social. Most definitions of alignment do not seem to take all these dimensions into consideration, mainly attempting to resolve the strategic alignment issue. In addition, as presented in the literature section, *Wagner, Coltman and Schlosser (2012)* argue that a reconsideration of the existing alignment dimensions is required in order to better analyze alignment and clearly understand what it represents. Studying the already defined dimensions, they proposed a categorization in three distinct areas, namely human dimension, social dimension and intellectual dimension. The human dimension refers to skills, capabilities, knowledge, commitment and attitude towards the “other side”, the social dimension to the relationships, understanding, communication and informal structures between employees belonging to both sides, while the intellectual dimension refers to strategies, structures, plans, infrastructure, project portfolio and governance. This categorization helps towards a clearer separation and understanding of the contents of Business-IT Alignment, and adds to the argument that definitions should attempt to refer to more than the strategic side of alignment.

Henderson and Venkatraman’s work also identified that internal infrastructure, including people, skills and processes, is essential and should not be overlooked when addressing alignment. Even though their model focuses on the strategic side of alignment, and their proposed alignment perspectives start with either Business or IT strategy as the driver, they emphasize that the effect these will have within the organizational setup and resources is also a crucial matter and should always be taken into consideration.

Moreover, the fact that Business-IT alignment is about much more than strategy was made clear during the interview process as well. An experienced consultant noted that alignment takes place on many different levels, and framing it or putting a solid structure around it is a big challenge. Another IT

manager stated that “It’s all about people, it’s all about the relationships between people. You can have all the processes and structure you want, but if people are not talking to each other and trusting each other, you won’t have an efficient alignment. You might have it on paper, but it will never work. People are more important than processes”. Professionals that deal with alignment in their daily life understand that this challenge contains more things than just aligning strategies and creating structures and processes. The people that carry out these intellectual setups are the ones that influence and affect alignment the most, as well as the relationships and interactions between them.

Indeed, when talking about “Business-IT Alignment”, it is misleading to only refer to strategic alignment. The term itself has a much broader context, and its definition should capture the whole essence of alignment. Business and IT are “islands”, with “living inhabitants”, hence people and relationships, in them. This research led to the observation that people are the most important and influential enabler and at the same time inhibitor of alignment, therefore it can be argued that a definition of Business-IT alignment needs to include them as a key factor.

Aside from the alignment dimensions, the importance of clearly separating a goal from a strategy has been observed as a matter that hasn’t been given much attention. A strategy is the means towards a goal, therefore creating strategies to support and enable other strategies is, in essence, “a means to a means”. IT contributions at the business unit level, while necessary, tend to be suboptimal (*DeLisi and Danielson, 2007*). The best argument for this comes from *Russell Ackoff (1994)*, the former Dean of the Wharton School. As Ackoff maintains, if one views the corporation as a system of interdependent parts, improving the parts will not necessarily improve the whole. Quoting him, “The performance of a system depends on how its parts interact, not on how they act taken separately. Therefore, when the performance of parts taken separately is improved, it does not follow that the performance of the system as a whole will improve. In fact, in many cases, it will get worse....The properties to be desired of the parts of a system should be derived from the properties desired of the whole, not conversely.”

In reality, business units act in their own best interests. Often, metrics and incentives are directed at business unit performance and do not consider the way in which the business unit contributes to corporate performance. Therefore, IT efforts in support of the business units will unavoidably result in a suboptimal overall contribution of IT (*DeLisi and Danielson, 2007*). With this in mind, creating IT strategies that follow various business strategies can be concluded to be suboptimal. Hence, it is argued that it is crucial to emphasize the need for IT to align to the organizational goals, instead of the various business strategies that are created to achieve these goals.

This argument has also been voiced in past academic works. In their paper “A Research Study of IT Alignment”, *DeLisi and Danielson (2007)* took a thorough look on how IT can optimally align to the business. They attempted to establish the contemporary state of IT alignment, and propose ways to advance its practice. They focused on optimal IT alignment, and concluded that if IT attempts to align to various business strategies and not the organizational goals, it will unavoidably end up in sub-optimal alignment and value-add. Therefore, they proposed that “IT alignment refers to IT achieving maximal value-add to the organization’s goals”.

This statement is something that this research also supports, however, it can be argued that it focuses only on the IT side of alignment, and doesn't capture the whole essence of Business-IT alignment. IT and Business are both significant cogs in the organizational machine, and they need to act in harmony and collaboration. Hence, just stating that IT should focus on aligning to organizational goals is not considered enough, since there are a lot of interdependencies and collective actions between Business and IT. If IT is the only one focusing on goals, and the various Business Units focus on their own strategies, which can many times contradict, overall alignment is not going to be benefited. As one of the interview participants pointed out, "If only IT realizes this and not the various business units, then there will be conflicts, because IT will have to make them realize that the goals are where they seek to add value. And that's not easy".

In conclusion, in combination with the distinct categorization proposed by *Wagner, Coltman and Schlosser (2012)*, it is argued that a characterization of Business-IT alignment needs to include all the important contents of alignment. The intellectual component of alignment, hence strategies, infrastructure, architecture, process etc., is equally important to the social and human components of alignment. Based on these arguments, a new definition that characterizes the alignment essence in a more complete way is needed is proposed:

"Business-IT alignment refers to the intellectual, social and human components of Business and IT collaborating in harmony, in order to add maximum value to an organization's goals."

4.3. Establishing an independent Business-IT Alignment body

One important observation derived from this research is the fact that Business-IT alignment as a term lacks awareness and attention in the real world. Apart from the needs for better characterization of Business-IT alignment and raising more awareness and interest in its academic perspective, another recommended step towards establishing Business-IT alignment even further is to view it as an independent entity, and not just a part of bigger, more general issues. It was observed that no dedicated alignment process seems to exist in the real world, and that such a process is very difficult to structure. This is mainly due to the fact that alignment is by nature dynamic, takes place on various different organizational levels and therefore high complexity is created. When asked to describe the general Business-IT alignment process that takes place within their organization, most participants basically described strategy or project initiation processes instead. These processes are more related to governance and organizational structures, and are not entirely meant to promote and ensure alignment.

The interview participants seemed to view Business-IT alignment as something that is part of a bigger, more complex entity. This by itself can be identified as an inhibitor to alignment, since it implies that it is not given the necessary recognition and attention. Another observation that points to this conclusion is the lack of assessment noticed in the real world. The current status seems to be that organizations consider business satisfaction from IT as an adequate measure for alignment; however this contradicts the competitive role of IT, since it limits the essence of good alignment to IT performing well enough to

satisfy its various business counterparts. The value-add to the organizational goals and the benefits IT provides in a strategic context are not included in such an assessment, deeming it inadequate.

Furthermore, one key outcome of the interview process was that people are the most important factor when it comes to alignment. Those that are in positions that influence and affect alignment are key to its success or failure. However, it was observed during the interviews that most of the people responsible for alignment are not entirely dedicated to this function. Their job roles are diverse and they have more than one responsibility, resulting in reduced focus on alignment, and ultimately deeming it sub-optimal. As an IT manager stated, “[..]Business alignment managers [..] need to have an extremely flexible role, basically without too many line responsibilities”. He went on to use a football analogy to clarify his point: “If you have this type of roles, then you need to have something like what I call “3 midfielders”, in football terms. They need to be very senior, high salary probably, but not so much structure around them. You use them to actually enable the rest of the organization to deliver.”

Therefore, it is argued that the introduction of an independent, dedicated Business-IT alignment function is required as another step towards establishing and improving alignment.

The current status shows that Business-IT alignment takes place in various different levels, but there is not exactly a central structure around it. And even when there is such a formal structure responsible for alignment, this research identified that usually informal structures that undermine it are created. More specifically, when the alignment function is placed within the business, it usually seems to result in frustration from the IT side, and vice versa. Placing it in one of the two sides seems to bring about resistance and disappointment from the other side, in essence damaging the whole setup. Moreover, the people in positions affecting or influencing alignment are observed to have other roles and responsibilities within the organization, resulting in reduced focus and unavoidably suboptimal alignment. Hence, it is proposed that Business-IT alignment is established as an independent function, belonging to neither of the two sides.

A good analogy for Business and IT is comparing them to two islands that belong to the same government, own different resources and produce different materials, which are all crucial for the government and the community as a whole to progress. Therefore, there needs to be something physically connecting these two islands. The most sensible thing is to build a solid bridge between them, allowing for fast and easy communication and transportation. However, such a bridge is by definition not belonging to either of those islands, instead it is something that stands in the middle, and serves as a means of connection. With this analogy in mind, it makes sense to establish a dedicated, independent Business-IT alignment function in the middle of business and IT, with the sole purpose of facilitating and enforcing alignment.

Naturally, the human elements of such a function need to have the skills and capabilities to carry out their responsibilities. Going back to the bridge analogy, it makes sense to build a bridge with the most solid tools and foundation, in order for this bridge to last and serve its purpose to the maximum. Similarly, a Business-IT alignment function that stands in the middle needs to be comprised of people that know and understand both sides, but also serve the organization as a whole, can facilitate

discussions and bring the two sides together, and are perceived as impartial by both sides. This can be achieved by forming a hybrid team of experienced business and IT professionals, who have a deep understanding and knowledge of both IT and business capabilities, and do not have any other focus, responsibilities and roles within the organization than alignment itself.

4.3.2. Key Roles and responsibilities

In this section the recommended key roles and responsibilities of such an independent Business-IT alignment function are described. These activities are presented on a high, theoretical level and should be viewed as guidelines towards establishing an independent alignment function and a process to ensure alignment.

Define assessment criteria and execute assessment

As it was observed during the interviews, Business-IT alignment assessment does not usually take place in the real world, with mechanisms to assess how satisfied business is from IT being more commonly in place. Based on the proposed characterization of Business-IT alignment, this research argues that the three components proposed in it (intellectual, human and social) should also be used as the main categories of assessment. When performing a Business-IT alignment assessment, all key dimensions of alignment need to be taken into consideration, in order to have a more complete view of where an organization stands in regard to alignment. It is important to capture the whole essence of alignment when attempting to assess it, in order to be in a position to fully understand strengths, weaknesses and define actions that need to be taken to improve alignment and benefit the organization as a whole.

Therefore, it is argued that the assessment method should also consider the human and social dimensions of alignment, apart from the intellectual one. Assessing it only in relation to strategy will not provide a complete view, and will most likely result in missing areas that can be improved to further enhance alignment. For example, IT can initiate projects related to system upgrades or maintenance, which do not have an obvious, direct value that the business people can see. Therefore, an assessment related to IT's value-add to strategy and goals might show positive results regarding such projects, however it will miss a possible dissatisfaction or misunderstanding from business people, who might have complaints about delays and lower priorities in other projects, which they consider more valuable and important. Similarly, IT people might be asked to give lower priority to a project they consider highly important, in order to deliver another project of business value and strategic importance. Thus, it is argued that understanding these relations and taking them into account is a crucial part of evaluating alignment and will result in a more complete view of the current situation within an organization.

Once the assessment method and criteria have been defined, the next step is for the independent alignment body to execute the assessment and identify the organization's alignment level, gaining a solid overview of each of the three proposed dimensions and revealing areas of strength and weakness.

The results can then be examined, areas of improvement can be identified and required actions that need to be taken can be defined.

Involvement in Planning and Prioritization

After the establishment of the corporate strategy, the various parts of the organization (namely the Business Units) engage in planning activities in order to define their strategies that will add value to the corporate strategy, and therefore to the organization's goals. The alignment team needs to be part of the planning, in order to ensure that the business and IT strategies are in harmony, and are both dedicated to serving the goals above anything else. More precisely, the alignment body should be the facilitator of the planning discussions, where both Business and IT people are involved, promote mutual understanding and communication and intervene to resolve conflicts and disagreements. For this to happen, the alignment team needs to possess "soft" skills, be respected within the organization and be perceived by both parties as an impartial mediator.

Aside from planning, the project portfolio and priority setup is another important stage where the alignment team's involvement is crucial. Projects are created as the breakdown of strategies, and decisions regarding the realization and priority of each of these projects are part of the planning process. The alignment team needs to make sure that the IT project portfolio corresponds to the IT strategy and has the potential to add value to the organization's goals. The significance of each project to the achievement of goals should be the main factor regarding prioritization, and the alignment team needs to be involved and ensure that this happens. In this stage, it is expected that conflicts will arise, and another key responsibility of the alignment body should be to resolve those and assist towards a mutual understanding and agreement regarding portfolios and prioritization.

It needs to be noted that the independent alignment body is proposed to be on the Business Unit level, and not the corporate level. Including IT in corporate strategy setting is indeed considered important; however this regards top IT management, namely the CIO or Head of IT, and not a function below it, like the recommended body proposed here.

Monitor Alignment

The dynamic nature of alignment is something that needs to be taken into account at all times. Alignment is continuous, and needs to be monitored in order to ensure the organization is moving in the right direction. Sustaining alignment demands being in position to assess its instances at various times, preferably in a predefined frequency that the alignment team decides itself (e.g. monthly or quarterly). By constantly monitoring the aspects of alignment, an organization can make sure that it stays on the right path, and is in position to react to issues that will unavoidably come up in the progress of time. Therefore, the activity proposed above, namely definition of assessment criteria, is in close relation to

the monitoring of alignment. It is argued that assessing alignment only at one point in time is inadequate, and contradicts its dynamic state.

As concluded by Henderson & Venkatraman, alignment is a continuous journey and cannot be seen as something stable that is the same at any given point of time. An assessment can provide only an instance of the alignment status, which corresponds to the specific point in time that it was executed. Thus, monitoring its progress and assessing it in specific frequencies is considered a logical step. This method can provide the alignment function with a more global and complete view of the alignment status, and comparing the different assessment results will show whether the situation is improving or deteriorating, and whether actions need to be taken.

The frequencies mentioned above, as well as the assessment method and performance criteria, are recommended to be pre-defined by the proposed independent alignment function.

Assess IT capacity and capabilities

As it was identified during the interview process, one key role of IT in relation to strategic value-add is considered to be advising the executive board about the feasibility of expectations from IT. A corporate strategy that creates unrealistic demands from IT will create issues and delays, and result in IT's inability to deliver what is expected, in essence coming down to the failure of the strategy. Gartner identified four key reasons for IT projects failure:

- Poor or ambiguous sponsorship
- Confusing or changing requirements
- Inadequate skills or resources
- Poor design or inappropriate use of new technology

These can be argued to be a result of inadequate Business-IT alignment, and a crucial step towards mitigating them is being proactive and involving IT in early stages of strategic decision-making, in order to offer advice and inform the board about its capacity and capabilities. As an IT manager stated, "If Business can appreciate the CIO's recommendations and advice, they can exploit technological advances and changes much better and adapt their strategies accordingly". Another experienced consultant added that "The CIO has a coordination role in things like how can you ensure that the business requirements are going to the operational IT organization doing the day-to-day operations of the IT systems, and he's also responsible for the technology push. The CIO has to help the business in getting organized. And that's related to strategy, he needs to be involved in this game." Therefore, the CIO's involvement in the early stages of strategic decision-making can be argued to be valuable to the establishment of solid and realistic strategies.

However, as pointed out by some of the interview participants, organizational size is a critical factor in such a case. A top-level IT manager stated that in a large organization, the CIO is supposed to represent

the capabilities and capacities of the whole IT department, which is something impossible for just one person. Hence, he proposed that in big companies, aside from just making the CIO a part of the board, it is crucial to establish a structure a level below the CIO, that is responsible for gathering all the information required to properly represent the IT organization as a whole in the executive board.

It is argued that the Business-IT alignment body proposed in this research would be ideal for carrying out such an activity, possessing in-depth knowledge about the IT organization and its capabilities in relation to responding to business demand. Working closely with the CIO and reporting about IT capabilities and weaknesses would be of great benefit to the whole organization, and assist in mitigating the risk of unrealistic business demand and requirements IT cannot respond to. This way, the CIO will be able to offer the organization both his personal skills and knowledge about IT and technological advances that might be of competitive advantage to the company, as well as solid advice regarding the feasibility of desired strategies.

Chapter 5 - Conclusion

In this Thesis, an investigation into how the academic and the real world perceive Business-IT alignment was presented, in order to identify the current status of Business-IT alignment practice and its connection to theoretical foundations. Besides collecting information from literature, a series of interviews with alignment professionals was conducted, in order to obtain opinions and insights from experts who deal with the alignment issue in their daily professional life.

In the Research Design, we defined a main research questions and a number of secondary questions, which acted as guidelines towards the completion of this study. These questions were all answered and, as a result, the recommendations section answered the main research question.

The first two questions, namely:

- What are the existing academic theories on Business-IT Alignment?
- How is Business-IT alignment (BITA) defined?

were answered during the literature review, presented in the beginning of the Thesis.

- How much impact does existing academic theory have in the real-world BITA practice?
 - The interview process provided an answer to this question, which was that academic theory related to Business-IT alignment does not appear to have a big impact on real world practice.
- What do organizations understand as BITA?
 - All interview participants were asked to provide their personal view on BITA, as well as their organizational perception towards it. The answers showed that most organizations

interpret Business-IT alignment as IT responding to business demand and delivering the requirements as expected, in essence supporting and enabling business strategies.

- How do organizations structure themselves internally in order to achieve BITA?
 - The interview process showed that there are usually people responsible for Business-IT alignment within organizations, however there doesn't seem to be any dedicated process to ensure alignment. Usually the BITA function is placed within Business, and less often within IT, but it doesn't appear to act as an independent body, and the people responsible for it are not entirely dedicated on Business-IT alignment.

- How do organizations assess their internal level of BITA?
 - It was observed that Business-IT alignment assessment is not something that organizations value a lot. Most methods to assess alignment are in relation to Business satisfaction from IT, and do not follow any theoretical models or tools.

- How can Business-IT alignment be characterized solidly?
 - In the recommendations section, this Thesis proposed a new, more holistic characterization of Business-IT alignment, which points out the most crucial components of alignment, and the need to shift the focus towards the organization's goals, instead of the various business strategies.

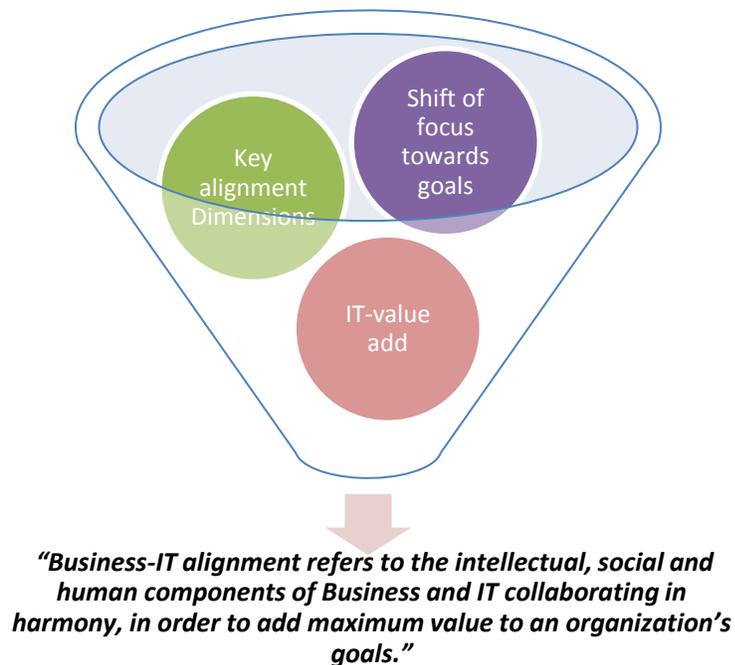
- How can Business-IT alignment be further improved in practice?
 - This Thesis concluded that two important steps towards the establishment and improvement of Business-IT alignment are an increased focus on academic theory, which at the moment seems to lack awareness and recognition in the real world, and the introduction of an independent Business-IT alignment function, which would be entirely dedicated to ensuring and promoting alignment, and stand in the middle of Business and IT, belonging to neither of them.

More analytically, a result of this research, it was observed that Business-IT alignment is still a big and not fully comprehended challenge, and that there is a missing link between academic theories and real world practice. Organizations seem to avoid turning to relevant theories when it comes to the alignment challenge, preferring instead to look for more practical approaches that can result in the identification of best practices. Moreover, the lack of a solid characterization of what Business-IT alignment represents and contains was identified, resulting in further confusion and creating obstacles towards its establishment.

There were 7 key findings derived from the interview process, which represent the current status of Business-IT alignment in the real world:

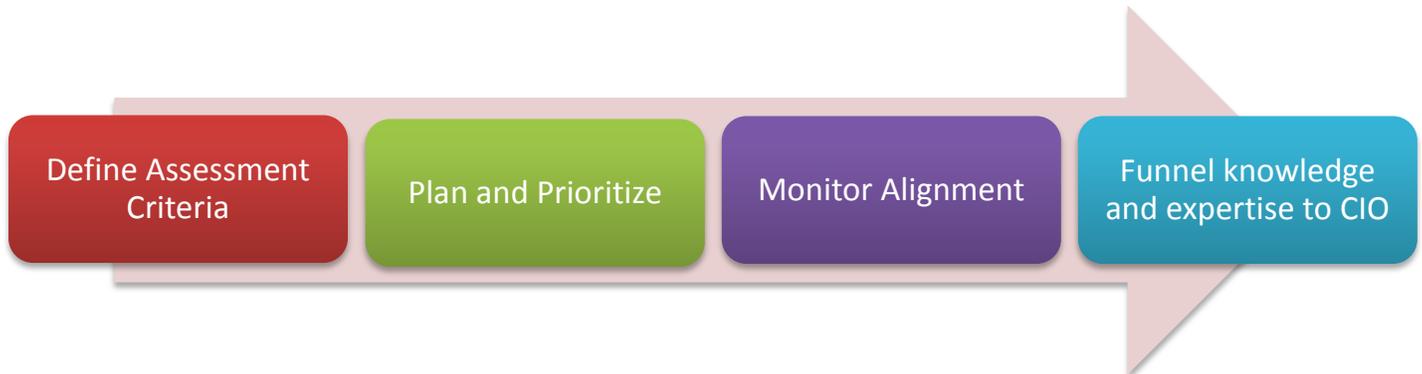
1. Lack of awareness regarding Business-IT Alignment
2. Satisfaction from IT is increasing, but strategic recognition is lacking behind
3. People are the key to alignment
4. Clarity and communication of goals is inadequate
5. Significant gap between the academic and the real world
6. Lack of Business-IT alignment assessment
7. Business-IT alignment takes place on many different levels

These key findings, combined with the information obtained during the literature review, were compiled in order to present the Thesis recommendations. The main outcome of this research is the introduction of a new, more complete characterization of Business-IT alignment that captures its essence in a more holistic way.



Furthermore, this Thesis recommends the establishment of Business-IT alignment as an independent function in the organizational structure, belonging to neither IT nor Business, but standing on its own, in the middle of both. Such an independent body is argued to require a hybrid composition, hence being

comprised of experienced professionals with deep understanding knowledge of both Business and IT, and acting as an impartial facilitator between both in order to serve the organization as a whole.



The recommended key roles and responsibilities of such a function are, firstly, the definition of assessment criteria and the execution of a selected assessment method. In addition, it is argued that involvement in the planning and prioritization processes, in order to ensure alignment to goals and facilitate discussions between Business and IT, is a critical activity for the independent alignment function. Moreover, due to the dynamic nature of Business-IT alignment, monitoring it in order to ensure its continuity is essential. Finally, it is proposed that this body works in close cooperation with the CIO of the organization, providing him or her with all the necessary information related to the capabilities and capacity of the IT organization, in order to assist him in advising the executive board during the strategy creation process.

Future Research

The fact that the Business-IT alignment challenge is considered more and more critical, even though it has been attracting increasing academic and practical attention in the past 25 years, points to the conclusion that further research into this issue is required. In connection to the recommendations and results of this Thesis, a number of possible future research directions has been identified:

- It was observed that the reach of relevant academic work is limited, and does not appear to affect the real world. Therefore, it is concluded that there is a need for further research in regard to extending the academic reach and increase its impact in the practice of Business-IT alignment.
- The characterization proposed in this Thesis requires a change in the way alignment is viewed. A more holistic approach is proposed, one that does not focus only on the strategic dimension, but includes all the key components of Business-IT alignment, namely social, human and intellectual dimensions. Further research using this approach is recommended, in order to establish a foundation towards this direction.

- Application and evaluation of the proposed independent Business-IT alignment body in practice is another recommended future direction in connection to this research. This study proposed the introduction and key roles and responsibilities of such a body, but further evaluation and observation of its possible impact is considered crucial.

- The establishment of a dedicated Business-IT alignment process is also considered a critical next step. The independent alignment function proposed here, in connection with the recommended roles and activities, can act as a foundation towards establishing a process that exists only to ensure and promote Business-IT alignment. Further research in this direction is therefore proposed.

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Appendices

Appendix 1 – Keyword Definitions

Alignment	An arrangement in which two or more things are positioned in a straight line or parallel to each other
Business-IT alignment	A dynamic state in which a business organization is able to use information technology (IT) effectively to achieve business objectives - the process of aligning Business and IT strategies
Alignment Dimensions	The different areas that comprise the essence of alignment, including the strategic, social, structural and cultural perspectives.
Goal	The end toward which effort and action are directed or coordinated – the “What”
Strategy	A thoughtfully constructed plan/method/action that will be employed to reach a goal– the “How”
IT Strategy	A comprehensive plan that information technology management professionals use to guide their organizations.
Competitive Role of IT	The view that states that the capability exists for organizations to deploy new IT applications that leverage information and technological attributes to obtain differential sources of competitive advantages in the marketplace
Strategic Fit	The need for any strategy to address both internal and external domains, hence taking into consideration decisions relating to competition, partnerships, product differentiation and placement in the business arena (external domain), as well as decisions pertaining to administrative structure, business processes, human resources, skills and organizational competencies (internal domain)
Functional Integration	The need to integrate IT strategy and business strategy.
Governance	The act of establishing chains of responsibility, authority, and communication to empower people
IT Governance	Consists of the leadership, organizational structures and processes that ensure that the enterprise’s IT sustains and extends the enterprise’s strategies and objectives

Appendix 2 – Interview Transcripts

Interview Transcript 1

- **How is your role related to BITA?**

In order to gather the requirements, I have to communicate with the Business. So, mainly I translate those requirements into IT language, so that my architects, my technical team, my development team can understand them. So, the Business might have an output product in their mind, but not be able to articulate it themselves. So I need to be involved to make the requirements clear. Sometimes the business will say what they want in a more general way, and I have to ask questions to make it more specific so that our tech team has everything they need to deliver the required output.

And then I'll need to take some decisions myself, for example if the Architect asks me which browser do you want this to work in, I can't go back to the Business because they might not be able to give me a specific answer. Therefore I see what are the latest browsers, and make a decision. That's an example of how I interface between the business and the technical team, and how my current role is related to BITA.

- **How much experience do you have in a role related to the Business-IT Alignment field?**

In total, 4 years.

- **Can you give me your personal view and interpretation on the term BITA?**

For me, there is no term "Business-IT Alignment". So, I feel that in the previous decade, 2000-2010, when IT was rising and it needed to work with the Business, push itself there. And you wouldn't talk about BITA then, but most likely about "development". Alignment then wasn't that fierce.

Now, I think that Business should be able to think in terms of IT itself, because IT is part of the job they do. Even if you go to a supermarket, you pay by debit card, you scan the products you want to buy, everything is related to IT. Or if you are a customer relations person, you still use IT and need to be able to know what you are doing in a day-to-day basis in relation to IT. To answer your question, my professional view is that Business should also think in terms of IT, rather than just come and state some requirements. Because Business should understand what are the technical capabilities needed in order to deliver their requirements. In the end, IT can deliver a solution, but Business needs to have knowledge about what IT can deliver beforehand. To give you an example, they can come up with a requirement that says that they need to communicate with users frequently. Rather than coming up with that vague requirement, they can think one step ahead and say "we need to send push notifications to the customers in that country on a daily basis". Because if the requirement is vague, then IT has to think what it means by itself and come up with a solution that might not be exactly what Business wanted. So, if Business keeps technology in mind, there are less problems and delays in communication. I am not talking about expert knowledge, but Business should at least have a high-level

knowledge of IT, because with the current generation and all the things that are available, they are able to get this information and knowledge everywhere. Then they will be able to make their requirements clearer on the first place.

- **I understand that this is how you believe things should be. But are they like this?**

No. Business is not able to understand IT fully, IT is not able to understand Business fully, that's the main problem.

- **Which would you say are the most important enablers and inhibitors of BITA?**

Firstly, Business doesn't really care about those things. Enterprise Architecture or strategic IT decisions, for example moving something into Cloud. Business can't understand such things, these are Architecture components, and Business doesn't care if you do it or not. All they need is a working front-end basically. So, from that perspective, I can't see EA as an enabler for BITA. Business doesn't care about IT, all they want is a ready solution and reduced cost. So, EA for example is not fully relevant to all the stakeholders, it mostly concerns IT, so it would cover one of the two sides of BITA.

For me, an important enabler would be people who have a good Business and Domain knowledge and are part of IT. Or a good technical guy with experience in an IT role, who is part of the Business. Such persons would be able to create hybrid teams that can understand both parts. But I don't see that happening, because the generation is very new, and we are still far from forming such a hybrid team with enough experience of both domains.

So, forming of hybrid teams is a key enabler for me. I don't believe in interfaces between Business and IT, meetings taking place in order to mediate between Business and IT and translating everything from one to another. That is a lot of process efficiency missed. I need someone from Business who has full domain experience and can understand the business process flow, and has enough experience, being part of my team, within IT.

- **What you describe is kind of similar to a "champion". What do you think about the existence of a champion for BITA, with the soft skills required to communicate with all stakeholders, as a part of an independent team dedicated to BITA?**

I don't want a guy who can understand both areas. I want one who is fully experienced in one of the fields, being part of a team of the other field. That is what I believe will work. Academic literature can say a lot of things, for example EA is a key enabler etc, all these things are happening. But in a practical sense, these things are not utilized by everyone. Nobody will open the EA document. So in a practical sense, we need a real hybrid team.

- **In the term Business-IT Alignment, can you tell me what you interpret as Business?**

For me, Business is Requirements. Anything to do with functional requirements is related to Business. That's how I personally define Business.

- **So Business for you is not related to the Business Units, or the corporate level, or the board of directors?**

OK, now I get your question. Yes, a BU can be a Business, the stakeholders can be a Business, or even an IT team can be a Business. If I am talking to an Infrastructure guy to deliver some service, that group is a Business for me. But personally, for me, Business is mainly those who come up with the functional requirements. It's not a standard thing, if someone comes to me and requires something, they are the Business for me in that case. Pretty much everyone who is a customer to the IT department.

- **According to recent surveys, the BITA challenge is one of the top concerns for top management in the current business world. Do you believe there is enough awareness and acknowledgement in the business world, apart from top management, regarding the importance of BITA?**

Everybody knows about this term, Business-IT Alignment, it's a generic term. But if you ask me, people don't really know how to apply it.

BITA is key important, everybody can say it's a top priority and put it in the agenda, the issue is what you are gonna do to achieve it. That should be part of the CIO and CEO agenda. Everyone can talk about it, but the things that are put in place to make it more effective are what's important. And I'm afraid that what's being done is not enough.

- **Recent studies have shown that it is perceived that collaboration between Business and IT has improved, and confidence in IT's ability to respond to business needs is rising. However, the same studies have found out that the reality is different (Figures with results of survey shown to interviewee for better clarification of the argument). Would you say this finding is reliable? How would you explain it?**

That's an interesting question. Let me answer this in two contexts.

Firstly, let's say IT creates an excellent solution, better than what Business expected. In this case, Business will recognize this and appreciate it. But some people in IT will feel that they didn't get enough information about what Business wanted, so they weren't able to provide the exactly right solution Business wanted. So, IT would feel that the steering was not adequate. This has happened in my past experience.

But if one of the two teams is not that enthusiastic, and they deliver something that doesn't cover all the requirements, then Business will not be happy, and there will be mutual blames, one will complain IT didn't deliver, and IT will complain about Business not telling them exactly what they want from them.

- **In your professional experience, how is Business IT Alignment perceived within organizations? How do they actually interpret this term?**

Everybody has BITA as a high level agenda item, and there are steps in place to enable it, but I believe it's not enough.

In general, IT is seen as functional, but the CxO's should recognize IT as a key strategic component in my opinion. And when key strategic decisions are to be made, IT should be supporting them. But still, IT is not that much in the discussions, even though it can provide very important input. Maybe in companies where IT is the core business, IT is much more strategic, but in general I believe IT is viewed as a support function.

- **Do you believe it is important that the CIO/Head of IT is actively involved in strategy planning and decision-making, and holds a position in the board?**

Yes, it is important, but to answer very honestly, the key thing is that the CIO should influence the business decisions. The CIO should inform the other CxO's about the direction that technology is moving towards, and make sure that the Business is also going to the same direction. And then CxO's need to understand that the Business sometimes needs to adapt new technologies and adapt their strategies accordingly. If Business can appreciate the CIO's recommendations and advise, they can exploit technological advances and changes much better.

- **Regarding academic literature, are you familiar with any BITA related theory?**

No, I am not, not on the top of mind at least.

- **Can you give me your explanation as to why theory is not really known and utilized in the BITA area?**

Well, my personal opinion is that everyone can make any theories they want. Their own abstract, their own research, their own conclusion. But in practice, things are much different than in theory. Everyday you are presented with new challenges, from business perspective, from timeline perspective, from budget perspective, from competency perspective etc. So, there are many factors. I am not convinced that theory takes all these factors into account. Theory is catching up on BITA, and the existing practices will not easily change based on some theory. It's more or less like theory is coming in a secondary fashion in this area for me.

- **What is your opinion on IT Governance? Do you consider it an important factor for BITA?**

Yeah, definitely. It's one of the main things you have to do before starting each project. You need to agree on the governance, who is gonna be on the steering committees, who is in the IT team of the project, who is responsible for aligning, who is the project owner, what to report and to whom etc.

- **Can you explain the IT Governance in your department?**

Generally it depends on the project, but in essence, there will be a program character, a program manager, a project manager, a person from Business – a sponsor, monthly meetings for progress updates and discussions and steering, in order to move forward.

- **What about decision making power regarding IT investments?**

That's not part of the Governance. If Business wants to allocate for example 10% of the revenue to IT, they are the ones to decide. IT does not affect the budgeting, Business decides the allocation.

- **One of the main reasons behind unsuccessful or sub-optimal BITA that I have identified from reviewing existing literature appears to be lack of clearly stated corporate goals. Moreover, one definition of BITA claims that "BITA refers to achieving maximal IT value-add to the corporate goals", and not the various business strategies. What is your opinion regarding these arguments?**

For me the key thing is IT adding value to the Business. So there should be a clear outcome of each investment, which should deliver the value. That should be the main target of BITA.

I do think that IT should prioritize mainly based on the corporate goals though, I agree that they are the most important.

- **Do you believe people know the difference between a goal and a strategy?**

Yes, I think people in management level do. I don't think everyone needs to know it though, at least a mid-level manager who is leading a team needs to be able to understand these.

- **Do you believe it is important that the corporate goals are communicated across the whole organization?**

Yes, that's quite important.

- **Regarding BITA Assessment, what do you think are the most important factors that need to be considered?**

I think the main thing is Business Value. This should be the success criterion.

- **Can you tell me if your organization has something in place to assess BITA?**

Yes, there are many tools; there are teams to review the BITA success criteria for example. It depends on the project which tool is going to be used.

- **Do you assess BITA on a global, organization level?**

There are internal IT auditing teams that do that, they report on the CIOs and assess how good BITA is and how it can improved.

- **Are you familiar with any BITA tools from theory?**

No, not from the top of my mind.

- **Do you know if there is a dedicated BITA process in your organization?**

No, there is no process to manage the whole BITA.

- **Do you believe that the establishment of such a dedicated BITA process would help make alignment more successful?**

Well, I think it would add even more complexity to the current situation. And it would be a big change to how things are happening now.

- **One final question, can you describe to me the process of BITA in your department?**

We talk to Business on a weekly basis, extract the requirements, then get the project moving. There are also monthly steering committee meetings, where we update the Business on our progress and what exactly we are doing. In general it depends on the project, we use both Waterfall and Agile approaches.

Interview Transcript 2

- **Can you give me your personal view on BITA, and tell me how you interpret this term?**

Well, for me, BITA is an extremely crucial part of doing the right thing at the right time, as an IT organization. I'd say that's the purpose of it. For me, an IT organization has dependency, at least historically, to work on its own. Deliver what they think is right, and what they believe the business wants. In some cases, IT needs to deliver stuff for security reasons or technology update reasons, that the Business doesn't really care about, so the IT organization decides to do that by itself.

I think what BITA is all about, is for IT to get a very tight understanding with the Business, regarding what their priorities are. And they normally change rather quickly. But It's also about explaining the long-term gain of application life-cycle management and architecture and stuff like that. Which is normally something the Business will not choose to invest in, if they have all the money to decide upon.

So, for me, BITA is really a way of helping the IT organization to understand how to prioritize their resources. Again, I've been working in small and large organizations, I was the CIO of an online travel agency where the IT department was about 20 people. In that organization, the BITA is basically done on day-to-day basis between the Business and IT people. So, saying the BITA is a priority is right and you can use that on every level. But it's extremely different between small and large organizations.

It's easier to do successful BITA in a smaller organization. Personally, one of my main pain points is that at the moment, since I am working at a large organization, it creates a lot of structure and overhead to understand and optimize the processes. But doing that, you also lose the flexibility and the intimacy I'd say of BITA. If you have people working on a system, and you have users working on that system, the intimacy of these people discussing on a day-to-day basis is extremely powerful. That's why I think a small organization can be extremely fast when it comes to developing IT solutions. In a large organization, you can still have that intimacy. But it's really really hard, because normally you add on a lot of stuff to an overhead on top of that.

- **Can you tell me which you consider the most important enablers and inhibitors of BITA?**

It might sound strange or simplistic, but for me it comes down to the people and the relationships. That's the most important people. It's all about people, it's all about the relationships between people.

You can have all the processes and structure you want, but if people are not talking to each other and trusting each other, you won't have an efficient alignment.

You might have it on paper, but it will never work. People are more important than processes.

- **What about Enterprise Architecture and Governance?**

I think that in small organizations, you need to have clear roles. And there that's rather quick to set up. In a large organization, you need the Governance because it is the framework for the people relationships! And that's really needed in large organizations, because otherwise who would talk to whom, how are decisions made, who has what mandate to make decisions?

So, in a large organization, IT Governance is important. But it will fail if you don't have the people relationships supporting it, so to say. I've seen that a couple of times in organizations, that you have a great Governance, you have everything documented on paper – how things should work, but in real life you see different processes and people talking to each other, because they know each other and find ways to deliver in the organization, basically overruling the governance. So for me, yes, Governance is important and needs to be there as a framework, but again it comes down to the people relationships.

- **What is your opinion on the existence of a “champion” to enforce BITA?**

I think it would definitely help. What we had in Vattenfall is what we called Business Alignment Managers. I say we had, because we are re-organizing a lot. That's basically someone that understands a lot of business and a lot of IT, but the main competence they have is the social skills, the “soft skills”. These people can talk to a lot of people from both Business and IT and make them understand and help them align. This role fits to the “champion” role you mentioned, and I think that it's really really important.

But what they need to have then, is an extremely flexible role, basically without too many line responsibilities. For example, I have that role in a way. I have the Business Alignment role towards many of the BU's. But since I have too many BU's, and I am heading an organization with 150 people and 10 direct reports, I don't have the time to actually do it. Even if I had enough business and technology knowledge, apart from the very good soft skills, because that's basically what I do, I don't have time to do all that. So, if you have this type of roles, then you need to have something like what I call “3 midfielders”, in football terms. They need to be very senior, high salary probably, but not so much structure around them. You use them to actually enable the rest of the organization to deliver. With all this in mind, I think the champion role is really really good.

- **Regarding BITA awareness, do you believe that there is enough of it in the real world? Not only among top management, but also in lower levels.**

I don't think that people call it BITA. But I do think that they are aware of how important it is. Then again we come back to everyday life. I think logically, all will agree that this is very important. But do they show it in everyday life? Do they really take and have the time, or in some cases are even allowed to talk to the Business or IT as much as they should? Well, that's another story. I think that everybody would agree that it's important, but I'm not so sure everybody has this as a priority.

- **Do you believe that people in general know and use the term Business-IT Alignment?**

I don't think it's used. I think it's more used among managers, all managers would recognize this term and use it. I don't think the staff does though. They normally, I would say, call it "talking to the Business/IT".

- **What do you interpret as "Business" in the term "Business-IT Alignment"?**

Primarily, the Business is the ones that are securing and innovating the core business of the company. So, for example, in an energy company like we are, the Business would be the ones doing the sales operations, or the customer service, or the production unit, or the distribution unit. So, the ones that are delivering the value of the company to the end customers.

Then, you always have a secondary layer of what IT normally calls as Business. That is the other support functions. Finance, procurement, HR, IT themselves as well. You always have a lot of support functions in a company, and in many cases they are also referred to as the Business from the IT organization. Because if you are working with a financial system, BITA is handled between the financial support function and the IT support function. You can argue that this financial support function is not the Business as I defined it in the primary layer, but we still refer to them as the Business. So, I think Business is as you say a very mixed term that we use for many different things.

We use it basically to describe whoever is buying or using the IT service that we provide. The customer of IT in each case.

- **One definition of BITA claims that "*BITA refers to achieving maximal IT value-add to the corporate goals*", and not the various business strategies. What is your opinion on this definition?**

I think it's a really good definition actually. I don't think I've ever heard a definition like this before. Because for me it is, you know, you define the Governance that tries to support BITA. But, what the definition really is, that's rarely discussed. People assume, and assumptions are really not that good. You run into a governance and a solution before you really understand the problem.

- **One of the main reasons behind unsuccessful or sub-optimal BITA that I have identified from reviewing existing literature appears to be lack of clearly stated corporate goals. A goal is defined as the end toward which effort and action are directed or coordinated – *the What*, while a strategy as a thoughtfully constructed plan/method/action, that will be employed to reach this end – *the How*. Do you believe that this separation is clear among people in the real world?**

I think these words are more business-related. They are often used by many people in different meaning, and that sort of devalues the words. That creates misunderstanding.

I think in many cases, if you're having the dialogue that we are having right now, and I say that the goal means this and the strategy means this, many people would agree. But when they leave the room and they use the words, they use them differently or sloppily. So, many people would sign off on these definitions you mentioned, but in everyday life they will say targets, goals or strategies and they would mean the same thing.

- **In your experience, who is in charge of stating the goals, and who ensures that they are communicated across the organization?**

Well, to be very honest, I'd say that that's the board of director's responsibility. Normally they will set the goals of an organization and transfer them to the CEO, and then the CEO will set the strategy with the executive group of the company.

I think it's extremely important that these are communicated across the organization. By the way, there is another research that I've been involved in from the University of Stockholm. There is a professor there that in the last years has discussed a lot about Microsystems. And basically the theory there is that value in an organization is created in microsystems. For example, you have a meeting and in that meeting we create the microsystem that takes a decision, and hopefully that decision is valuable. Or we have a project, and then you have a project team which would also be a microsystem in that organization, delivering something of value.

You participate in many of these microsystems every week or every day in some cases, and what the organization can do is only put the framework out. "This is the project, and you're a member of it", or "this is a line organization and you're a member of it". All these things can be done in paper, boxes, organizational charts etc. But if you want a high-performing team, if you want a microsystem to not only deliver, but be highly effective and deliver high value, you need every single individual in that microsystem to have the same understanding of what the goal and the strategy is. If people in this microsystem believe that the goals are different, or that the strategy to reach the goals is different, you will have a very inefficient way of working and a low productivity. Because, without them understanding these, they will work towards different goals. In some cases it's obvious that people have personal goals that are different, and then you have to manage that as a team leader/project manager. But very often people interpret the company goals and strategies differently, and therefore they are not efficient when working. So, for me it's extremely important that all employees, on all levels, discuss and understand the strategy. And then of course, in a large organization, it's hard. There you have to at least understand the strategy of the BU that you are working in.

Regarding communicating goals and strategies across the organization, there is also sometimes the issue of translation. Basically, the CIO of Vattenfall will communicate them to me, and then I will communicate them to the management team, and then they go to the employees. So, after 4-5 levels you can be sure that the initial message is not gonna be the same as the message that arrived to the final level. When it comes to the method of a strategy, I think it's important that you communicate it directly to the employees. So I prefer to bypass the management level below me and communicate it myself, so that I know exactly what the message that arrived to the employees is. I know that the CIO of Vattenfall communicates such messages directly to all the managers, so that he knows that it is his message that goes to them. So, if you do this, at least you can make the information more coherent and more precise. But the only way to make sure that everybody gets the same message is to have the CEO of the company addressing all of the staff at the same time, which is kind of impossible.

- **Do you believe that organizations usually manage to clearly state and communicate their corporate goals?**

In Vattenfall, we have a good plan for this. There is a good structure for how to communicate, and a good toolset to do this. Unfortunately, I don't think that all managers consider it as important, and therefore it's not really efficient throughout the organization. And I'd say that's probably true in all organizations. Managers are also people, and they have opinions. If they don't agree with the strategy, they might even tweak it a little. And this is a very big problem.

- **Do you believe it is important that the CIO/Head of IT is actively involved in strategy planning and decision-making, and holds a position in the board? From your professional experience, is the CIO/Head of IT usually involved as described above?**

I'm very dualistic on this, and I will try to explain why. Because, on the one hand, I think that companies in general are not prioritizing IT high enough. Which means that they are not putting the CIO in the board. For me, even in a company like Vattenfall, where we do electricity production and distribution, the CIO should be part of the top executive board, and not reporting to the CFO as it is now. And in many other companies the CIO also reports to someone else who is in the board.

So I think no, in general, the CIO is valued enough. The reason is, everything is becoming IT. And this is why I'm so dualistic, because my other way of viewing this is that maybe the role of the CIO is that. Because if everything is IT, you cannot have one single person managing the IT organizations. You need to have all managers, at all levels across the organization, understanding and managing IT. This is a more theoretical, academic approach that might be more intensive in some years. But the CIO role is important, I still believe he should be there and there should be more emphasis on him, but in the future, I don't know.

- **Do you think the CIO should be involved in defining the corporate strategy?**

Yes. Very much so, and it's not happening in general as I see it.

- **Are you familiar with any BITA-related academic theories or tools/frameworks?**

No.

- **I've seen this a lot during my interviews, theory not being known and utilized in a real world. How would you explain this?**

I think it's probably a challenge, because this is the everyday life of an IT manager. And because of this, people tend to believe they know how it should be done. If you engage in something new, then you often turn to theory or consultants to help you. But when it comes to something that you do every day, you probably should also ask yourself now and then if you're doing it correctly, but that seldom happens in real life. People don't seem to feel the need to know the theory behind what they do every day.

I do think it theory should be more valued, but looking at myself, even though I am quite interested in theories and models etc., I haven't done it for almost 15 years. Which is quite disturbing when I think about it!

- **A possible reason for the fact that theory is unappreciated is that organizations prefer to go for something that has been proven and is practical, and not conceptual like most of the theory is. What is your opinion on this?**

Yeah, I think that this is quite true.

- **Do you believe that IT is more appreciated in the sense of being the one driving the strategy at some cases within a non-IT organization?**

No, I don't really see that unfortunately. It's happening too little, and it should be happening more.

- **Can you explain how you assess BITA in your organization?**

On a monthly basis we do a scorecard for IT, and also on a yearly basis we do a survey with the business stakeholders. We are not using any theoretical tools for this either.

Interview Transcript 3

- **Can you explain how your role is related to BITA?**

So, from support point of view, from where we are coming from, we have alignments, SLAs, with the Business, where we agree how we should perform. So, what is the expectation, what is the baseline etc, based on alignments with the Business and certain KPIs, like availability for example.

- **How long have you been working in a role related to BITA?**

I just started at my current role in February with Shell. Before, I was working with Accenture, and there I had several roles, starting from PMO, so supporting Project Managers, and then became a Project Manager as well. I was a Consultant with a PM expertise. That was a time period of about 3.5 years in Accenture.

- **Can you give me your personal view on BITA? How do you interpret it and understand it?**

My first question is actually, if you look at BITA, do you look at it from a Strategic and Developing perspective, or from a Strategic, Developing and Operations perspective? Because, for me it's a circle and all these 3 are involved.

You have the Business as the requirements who want something, then they start working with IT to see what's possible technologically, how it can be done, what's the impact – finance and this kind of stuff, then it is done and then you have Operations, when Development is finished. Operations is managing the final product, and they will see incidents and sometimes an incident becomes a problem. Then Operations flag this with the Business, informing them about the problem, and telling them that maybe a new investment is needed to make the product more sustainable for the users. So, therefore I see it as

a circle, and it includes communication in all directions. Also, therefore there are the SLAs as well, they help operations give feedback to the Business.

- **Which would you say are the most important enablers and inhibitors of BITA?**

Actually, every person should be an enabler to make it a complete and smooth process. I think one who is not willing to work together, disturbing the process, would be an inhibitor. Also, processes. A company like Shell has so many processes that sometimes slow you down in getting solutions there quickly. Agile is still not completely embedded, people have a lot of problems with Agile and sometimes even get scared when they hear this word. Especially in the mobility sector, where I'm responsible, you need to be flexible. If you are not, you cannot do mobility on Waterfall, because you aren't agile enough to scale change. That's why I think there needs to be the circle I mentioned earlier, I do that a lot in my daily work. Talking with IT and the Business and Operations. Important decisions are made between the three of us, so we get together and make a decision about where we want to go. Business says OK, it's fine, I approve, Operations are ready to support, and that's what I see as quick and flexible. But I see other structures within the company, where it's much more static. Decisions need to be approved by the board and steering committees and it takes months sometimes to implement a change. So, there's different Governance within Shell.

For us, it's a joint decision. Of course, between Operations and Business there is the SLA, but in practice we are really flexible and agile and communicate a lot in order to get to the solution. Sometimes I'm initiating something, other times Business does, and other times IT does as well. Strategic is not only coming from Business, the requirements about why something exists and what the Business expectations are do. But IT and Operations also help the Business mature their product.

- **If IT has a strategic idea, are they free to move it up the ladder and discuss with the Business about it?**

Yes, within our department they are. Business listens and is very open to ideas. We understand we have the Business knowledge, for example we know how to sell oil our way. But not how to sell it via an application. For this, we rely on IT as well.

- **Can you tell me some things about the IT structure in Shell, and where your department lies in it?**

We are the Headquarters of Project and Technology for Shell. It's called TACIT, Technical and Competitive IT. So, that's the strategic IT function. TACIT is here to accommodate the Enterprise, for Enterprise wide strategic solutions. And TLS (Technical Landscape Services), where I work, is the Operational arm for TACIT. TACIT develops, TLS supports.

- **What do you interpret as "Business" in the term "Business-IT Alignment"?**

For me, Business is the one who is paying the investments to get the product there, if you want to keep it short. They have an idea, they initiate it, they are willing to put money in it. It can be therefore any BU that initiates a project.

- **To follow up on the interpretation you said, do you believe that IT then has to align to the various Business strategies?**

Yes.

- **One definition of BITA claims that “BITA refers to achieving maximal IT value-add to the corporate goals”, and not the various business strategies. What is your opinion on this?**

Well, I would say that they both go hand-to-hand. IT needs to align to both the corporate goals and the various business strategies for me. Of course you cannot have optimal BITA if you wanna focus on all the different business strategies, since conflicts might arise, and therefore you need to have a Strategic IT.

But in a company like Shell that's very difficult, since it's a huge organization and having control over everything is close to impossible. For example somebody in Shell Nigeria can kick-off a project and create an application that we already have. TACIT is there to do Strategic Enterprise IT, but these things happen.

For instance we have developed a mobile app for consumers, where you can find stations or whatsoever, but then a similar app has been developed by another brand within Shell for their stations. That's not really strategic, it's a problem.

- **So, I understand that the organizational size creates a lot of IT complexity and that's difficult to manage. Is TACIT supposed to be the one on top of this?**

For strategic things, yeah. Other divisions can initiate their own project if they want, they have their own budget, so it's hard to control the entire organization.

- **Regarding budgeting, who sets the initial budgets for IT and how are they distributed?**

This is a bit of a joint effort I guess. IT, Operations and Business are involved. First of all, you're gonna look at demand. If you look at 2015, we check the Business Demand. Business has raised some requests, we can build them, we see what the impact is and calculate the cost. Then of course, there's always some contingency that needs to be there. Maybe we have some ideas ourselves; we have some investment money for things that we want to do ourselves. So, budget is split between business needs, growth and maturing, operations as well since it's a cost for IT. There is an alignment you need to make every year, based on costs and possibilities. We discuss with the Business, propose what we believe needs to be done, Business gives their input and then we come to an agreement on the money and prioritize. This happens annually.

IT is then actually flexible, when the budget is agreed and the money is transferred. Then IT is allowed to use that money, so prioritization can change.

- **According to recent surveys, the BITA challenge is one of the top concerns for top management in the current business world. Do you believe there is enough awareness and acknowledgement in the business world, apart from top management, regarding the importance and meaning of BITA?**

BITA as a word, no. IT people probably know it better, but they don't really use this term. I haven't heard it at least. You will mostly hear the words "agreement" or "alignment" in general, but not the term. I personally have never seen the term BITA as is.

- **This is something I have across during my interviews, the fact that BITA and its related academic theory is not really known to people who practice Alignment. Are you familiar with any of this theory?**

To be honest, there are so many process and tools in IT to help you with everything, and it's impossible to know all of them, but many of them have the same basis.

- **Do you believe it is important that the CIO/Head of IT is actively involved in strategy planning and decision-making, and holds a position in the board?**

I think it is. Usually the CIO reports to the CFO, who is a member of the board. And for me that doesn't make sense, because the CFO is an accountant who has no view on where IT should be. He's usually just looking at numbers and not the strategic stuff. Of course if you have a good CFO, they can do more, but in general CFOs are accountants. They are good with numbers and budgeting, but they don't really see where investment needs to be. They definitely don't see the added value of IT, because they see it as supporting the organization instead of being part of the core of the company.

Of course IT is supporting the Business processes, but on the other hand without IT there are no Business processes!

If you have a CIO in the board, then the CIO can take part in the strategic discussions and help the rest understand that IT can develop something that can assist in achieving the goals. Then they can align better with strategic decisions. Now, they are not part of the board, so they hear the decisions after they are made, and then they need to give feedback to the board, and that creates a delay. While if the CIO is in the board, IT can be way more effective and I think even cheaper, since you can avoid bad investments as well.

- **Recent studies have shown that it is perceived that collaboration between Business and IT has improved, and confidence in IT's ability to respond to business needs is rising. However, the same studies have found out that the reality is different (Figures with results of survey shown to interviewee for better clarification of the argument). Would you say this finding is reliable? How would you explain it?**

There are two different perspectives here for me. You have the Strategic, on TACIT and Enterprise level, which is well aligned. But then, there's more to it. For example, a few days ago someone approached me and said they have developed a new app, and if I can support it. Then I asked when did you start, who did you contact, what process did you follow? Because I had no idea about this. So of course I couldn't support it. That's what I mean, Strategic is ok within Shell. But if you go one level below, you have the local Businesses and they still do things on their own. Which is not good alignment.

- **Do you believe that a CIO should have very good business knowledge, apart from technical knowledge?**

Yes of course. Otherwise they cannot be strategic.

And that's actually something I need to say about Accenture, that they did really well. They train you in industries, so I was doing Shell projects and then they moved me to Resources. So I needed to start doing all this training on gas and waste and water management. So they made me learn the Business of the area I was working in at that time. Even if you are a contractor, you need to know and be able to bring added value.

I had my year-end review last week, and my manager asked me "You have a portfolio of 20 applications. Do you know for every one of them what the added value for the Business is?". This was really my manager challenging me. For most of them I knew, but for 1-2 I didn't know the strategic value. And I realized I needed to find out, even though I am in Operations. So, it's not only relevant to IT, but to everything, knowing what you are doing and why.

- **Going back to theory again, you told me you are not familiar with many of it. Can you tell me why you believe theory is not considered so important and is not being utilized?**

Well, the main reason is that it's not "marketed" so well. It's not promoted, and people do not become aware of it. They have to look for it themselves.

- **A goal is defined as the end toward which effort and action are directed or coordinated – the What, while a strategy as a thoughtfully constructed plan/method/action, that will be employed to reach this end – the How. Do you believe this separation is clear in the real world?**

No, I see people mixing these terms all the time. And it doesn't make sense. It's also connected to the education you have, I studied business theory therefore I have learned these terms. In other fields of study you probably never hear about those. But I still think that this makes no sense, these are words used outside business theory as well. If you just understand their general meaning, you shouldn't mix them in the business world either.

They are two different things! It's just common understanding for me.

- **Do you believe that organizations usually manage to clearly state and communicate their corporate goals?**

I think in Shell this is done well, they do videos with the CEO telling us where we gonna go, how we are doing etc, what we need to change etc. Also in my previous experience, they were clear as well.

I think in general, top management knows how to bring it down.

To be honest, when the goals and strategies are shared with the organization, people are paying more attention to their own practice, to what concerns them most. So you're listening to see what's affecting

you and where you can add some value and give an input. People are not gonna listen that much about something that doesn't concern them, for example how to sell more gas in China.

And of course, organizational size plays a role here, especially in how easy it is to pass the message across.

- **What do you think about the establishment of a “champion” to enforce BITA?**

In Shell we have managers called IMIT, Integration Managers IT, and they are sitting on the Business side. They do have some technical skills as well, so they are a bit of both. Their role is similar to a champion, and I think it is very useful.

- **What about BITA Assessment? Do you have anything in place for this?**

First of all, I think you can measure BITA, not just assess it. Maybe with KPIs, setting some certain goals you want to achieve during the year, and transform them in KPIs and measure them in the end. KPIs are always an easy way to measure anything.

You agree where you wanna go and how you wanna perform. You can assess this every month like this, and see if you are behind somewhere. Then you measure progress and intervene when you are not performing based on the goals you set in the beginning of the year. Find what went wrong and fix it, that's how you can also keep track of your goals.

We use such an approach as well. The KPIs we define and report every month, are also the same KPIs which are reported quarterly to the Business. These KPIs are set by all 3 of us, Business, Operations and IT. So, we have KPIs, other divisions have KPIs, they are all in one big spreadsheet and that's going up to the CIO. So, he sees it quarterly, but we do it monthly.

Those KPIs are incorporated in my personal targets. So if I make these targets, I'll get a bonus. So I have extra motivation. Everyone does, hence everyone is aligned and more motivated to fix everything that doesn't work.

- **One last question, apart from what you just described, are you using any theory tools or frameworks for BITA?**

No.

Interview Transcript 4

- **Do you believe there is awareness about Business-IT alignment among an organization's personnel?**

So, it would surprise me if they didn't know about BITA. If you look at the clients that Accenture has, pretty much all are publicly listed and most are multinationals. They are doing well, 10ths of millions in revenue. Big companies.

We also work with smaller clients, but it's an exception. There's a lot that can be improved for all our clients, which is why we are here. But BITA, I'd be surprised if they are not doing something for it.

In the big companies, people are aware of BITA. From low level to top management. And that is the context that I am coming from. If you are in IT and don't know about BITA, then you probably skipped some classes in school. I am talking about non-IT companies as well.

- **Do business people also know the concept of BITA, do they focus on it and think it's valuable?**

Depends on what you mean. For example, if you go to a random person and ask them about BITA, they will give you a story. Nobody will tell you *"BITA? What do you mean?"*. And that's because the term consists of 3 words that people know. *Business, IT and alignment*. So they will give you a story. Whether you're gonna get a story that agrees with what you mean as BITA, I don't know.

If you ask 100 people, in most orgs you will get 100 different stories. But again, whether you're Business or IT, you've been sleeping under a rock for 100 years if you don't know about BITA.

- **This would mean that people don't actually know the term, as theory defines it though.**

Yes. Probably when you dig deeper, and ask "Tell me what is BITA, and where you see it in your company, and can you show me what it means and where it appears at your work", that's when you'd start getting blank stares.

If the random person you ask is a Business person, who is somehow involved with IT – via requirements gathering, end user testing, or they have complaints to IT etc – then they'd probably have a better view and they'd start talking about what they expect from IT, and probably complain about IT – they don't understand us, they are not giving us what we want etc.

- **What do you personally interpret as BITA?**

Let me explain it with an example. If I ask for something from IT, and you ask me why do you need this, then the answer I will give should be about BITA. The WHY. So the answer should be that I need it because we have a new strategy, we are targeting a different user group etc. That's when you start talking about BITA. "I need this, because it has something to do with the Business".

I don't have a definition about BITA. What I mean when I talk about BITA is that, every dollar you spend on IT, is traceable to a Business investment or strategy. Let me explain it better to make sure I don't throw you off.

Let me explain how we as Accenture talk to our clients about BITA. By definition, everything you do in IT should be aligned to the Business. If you ask me about a model or a process, then the first thing I'll do is think about what we call "Investment Portfolio Management". So, IPM starts with the Business. The

Business is thinking about the next step. It could be coming up with a new strategy, a big transformational move or doing a strategy refresh. For example, iPhone 6 is now in the market. 3 months ago, Apple probably already started working on the next iPhone. You're always looking forward.

Essentially, the Business Strategy or the strategy refresh translates into a roadmap. "We're gonna do these things, in the next months". Build a new product, acquire this company etc. The roadmap is the execution of the strategy. And to execute the strategy, the Business is going to invest in things. So they're gonna spend money.

So, this translates into an Investment Portfolio. They're gonna invest time & money in various things. IPM is the umbrella term that I use for this. IP is the grouping of all the investments that you're gonna make. You generate a big investment list.

If you take IT as a service provider to the Business, then the list of investments goes to IT and the CIO discusses the portfolio with the Business. Then the CIO says "OK, if this is what you wanna do, I need to think about what IT is gonna do to enable and support that". And so, the Business Investment Portfolio turns into an IT Investment Portfolio. You may need new capabilities, or a new sourcing strategy, or a different operating model, or to carve out an IT because they are divesting a part of the company etc. In general, the IT investments are around new capabilities and new services.

So let's say the Business investment portfolio is 2 Billion. And IT is 100 million. Or 500 million, whatever the number is, then you get a list of investments. Then all the CxO's will want to see why this money is spent. So there needs to be traceability from the IT Investment Agent to the Business Investment Agenda. That's where the BITA starts.

IT might decide that they are gonna move all their applications to cloud. Why are we doing that? Because we need to be more agile, need more elasticity etc. This is the IT investment. To execute the agenda, IT starts running projects. These projects should then be tied in the IT Investment Line, so that you know what money you spend, where and why. The project gets its funding from the ITIP. Now, there is the case that the project goes over or under budget. If it goes over budget, then someone will ask why is this extra money requested. Then IT will say because of this project, and when the Business asks why are we doing this project, then the traceability mentioned earlier will justify the costs, by tying the project to the ITIP and then to the BIP. So traceability has to go all the way. Every dollar spent from IT should be traceable back to the Business.

So if you're a good project manager, then I should be able to go to everyone in your team and ask why this project is done, and they will be able to tell me. I see that a lot in practice with our clients. So, if you ask anybody who is working in IT for our clients about BITA, they will talk to you about the traceability I just described. The reason is, they have processes and governance for IPM, they have also process and governance for Project Portfolio Management. So they have a Portfolio of Projects, and they know which of these projects are for Strategic Alignment, and which are for any other category. These are not visually represented though, they are usually Excel sheets. That actually depends on maturity, some clients might have Excel sheets, but in other cases all these might be just in the Portfolio Manager's

head. The more mature plans have end-to-end systems that contain the whole traceability I am talking about in them, so you can see all the linkages.

The last thing you have is Application Portfolio Management, which is for each and every solution or application that you have. They are all managed in a portfolio, so somebody is looking at that portfolio and evaluates the existing technologies/applications. Looking for a functional fit, technical fit and sourcing –who runs it, outsourcing or insourcing. So if you're an AP Manager, you constantly appraise the portfolio. And then you are always gonna be maintaining and running a roadmap of the applications. And each application is then again tied through the original investment that was made to the strategy, explaining why it is there.

IPM, Project PM and APM are what I call BITA.

The client mostly manages all these portfolios, since they need to know their Business. We shouldn't be managing and running these, we are only helping them do it. It's not outsourced to us.

- **What about using existing theory relevant to BITA?**

We use this model, that was created by us. We utilize our own experience, documenting it along the way and updating the documentation constantly. All our employees have access to these, and take advice from there.

- **What about the foundational theory about BITA, for example Venkatraman's SAM?**

I don't know about it.

(I explain and show pictures).

This seems quite conceptual. Anybody who has an opinion about BITA, will recognize their opinion in this model. Exactly because it is quite conceptual. But they don't use it as their starting point. When you explain it to me, in my mind I map it to our Investment Portfolio view and it fits.

So, the operating models, tie to the Infrastructure and processes. And the linkages to the strategies also reflect to the traceability I described.

- **Do you think that Business is listening more to IT now?**

Judging from my clients, yes. Sometimes it might be out of a defensive position. The requirements for a project are set, the project starts, and then you run into problems, which might be caused by anything, even factors not related to IT or Business. And then there comes a point in time where you realize that even though it's gonna cost you money, you are better off helping IT than fighting IT. That's what I mean by saying that the business partnership with IT sometimes comes out of a defensive position. They realize they have been screaming at each other for so long, and trying to tell IT how to do its job, believing that's the only way to make sure IT does its job right. Which is a quite immature sort of "punishment". When the Business really sees that IT is doing a good job, e.g. they are fast, they do it cheap, they come up with innovative ideas and most importantly they are able to change the way the

company does business, that's when IT becomes and is perceived as exceptionally relevant. If IT can bring something like this to the table, then Business will appreciate its value and perhaps start seeing it as a strategic resource.

- **In order for something like this to happen, do you think that it is important that the CIO has a seat in the table? Do you believe that CIOs are appreciated enough?**

In the more incumbent organizations, no. But in the less incumbent, I am pretty sure they do. But we traditionally still see that you have the board of directors, and in there you always have the CFO. IT very often reports to the CFO, since it is seen as a cost function etc. None of my clients include the CIO in the board of directors.

- **Do you believe that things could be better if CIOs were a part of the board of directors?**

That's a difficult question. I think that the CIO needs to prove themselves as a strategic function, rather than say "put me in the table because I am the CIO and the world is gonna be a better place". And it's been a struggle for CIOs over the past 25 years. There are great success stories regarding this, but there are also great success stories to whatever idea you wanna talk about. Do I believe the CIO should be a strategic function? I don't see the world changing if this happens. I don't see a governance shift, suddenly ending up with more IT value than what's being delivered today. So I think the challenge with IT values isn't necessarily in the Governance, but it's more in the culture, the way they are thinking, maybe even in the operating model. For example, I knew somebody who went to work for a very good law company. She went there to work as HR. And she was completely ignored by everybody, because she wasn't a lawyer. This is what I sort of mean about IT. If IT is not able to show its strategic value, it will never get that seat in the table. Because it's not perceived as a strategic function. So putting somebody in the board doesn't change something by itself. You still have to prove you can be of strategic value.

- **Do you believe that IT is the one that has to push and prove itself as a strategic resource, and not that Business should appreciate its value more?**

Well, it goes like this. Not everybody has the style to go to a CEO and say "Listen, I've got a plan for you". Some people prefer to wait for someone to ask for their plans. But IT is a very serious function nowadays, no company can exist without it. But does this make it strategic? Don't know. It depends on the company and the industry as well.

So, yes, IT has always struggled to prove its value, and it continues to do so, but just putting the CIO in the board doesn't suddenly make it strategic.

- **How about BITA Assessment? How do you do evaluate how well you are doing in terms of alignment?**

I personally have never done a BITA assessment. We do a lot of what we call IT capability assessments. How good is your company at doing things you should be good at with IT. And in there there is always a BITA. But it's never a core thing. It's more about how well are we doing with IT, and of course there is

some BITA in there. I've never had a client ask me about BITA specifically, and I've never said to a client "You need to look into your BITA". The clients never ask "How do I improve my BITA?", not in that way at least. They might say I wanna get closer to IT or to the Business, but they don't exclusively ask about BITA. It's always part of a bigger thing.

To answer your question about assessment. We do have something in place for assessment, as a part of that bigger thing I just mentioned. What does it look like exactly? I don't know. I've never really done it specifically. It's usually in sort of a conversational mode, where we ask them to tell us how they do something, e.g. "tell us where your business ends and your IT starts". Hopefully they'll say it never ends because they are both one and the same. But that's not usually the case. They will always talk about the business relationship function, Business-IT relationship manager. And then a conversation starts, where we ask them where do we see the relationships, where are the processes, how do you ensure this and that, and before you know it you are venturing into the Investment Portfolio Management area that I talked about earlier.

We have assessment; I can show you what it looks like in my laptop. *[He shows me the Capability Maturity Model]*. But this model doesn't refer to BITA exclusively. It does include it though.

We have questionnaires for all these items, in order to assess the maturity of each.

- **This reminds me of the Luftman model. Do you know it?**

No.

[Explanation of the Luftman model]

It does look quite similar. But I had never heard of it before.

So, yes we have a tool, we've had clients ask us about IT capability scans, and from these scans we show them what they need to fix and how. But this doesn't happen often. It's more really around the operating model of IT. If you ask me what an IT operating model should look like, then I'll give you the view that ensures good BITA. So, I don't talk about BITA unless you say "why do I need this?". Then I'll tell you and explain BITA to you. BITA is usually a part of something bigger, as far as our clients are concerned.

- **What is your opinion on viewing BITA as a dedicated process?**

Let me give you an example. One of my clients is an oil company. They work with joint ventures when extracting oil from another country. So they agree with the government of Iraq for example, the government gets 80% and the client 20% of the profits. That's how it works.

Then they go in there and start drilling. Usually with oil rigs in the sea. And when you put an oil rig out there, you need IT. Now, this oil company does this everywhere in the world. And every time they do that, they have the same question. What IT do I need to put up there? They pretty much want what they call "a rig in the box". So, if you put a rig in the North Sea, this is what you are going to get in regard to IT. Communications, SAP systems etc. Now, to them, that is commodity. They don't really care about it.

They want to get the oil. And the IT is not really important to them. If it doesn't work, they get really annoyed. But if it does, then they are not exceptionally happy or anything. So, is BITA so fantastic there? Well, it is when you talk about the "rig in the box". So, when IT takes the initiative and comes up with the "rig in the box", that is a strategic conversation that Business and IT are having. And you can define an operating model, systems, telecommunications, in general standardize whatever can be standardized. That is a strategic function.

- **What do you perceive as "Business"?**

Whoever you serve. So, I am currently doing a project, where my client is IT. I am IT, but my client is also IT. So my Business is IT in this case. Therefore, for me Business is whoever you serve on each case. If you are asking me to see this from a CIO's shoes, then business is the company I serve.

Interview Transcript 5

- **How much professional experience have you had with BITA?**

I think I'm now working for 6 years as a manager in a trading-related IT environment. We've always been separated, but since 1,5 year now, being part of the IT Vattenfall team, I see all my colleagues who are directly also involved in the other model. Let's say the sales department, they have a Demand IT and a Supply IT, whereas I am both Demand and Supply in one department

- **Is IT strategy within your department independent from the rest of the company?**

Well, it's not independent of course. But 90% of my focus goes towards my business strategy. So if my business wants to grow new markets and new products, then I have to probably follow with a kind of a different project portfolio. Let's say if the main IT strategy is application consolidation, but my business has other goals, then that would be conflicting scope. So I'm trying to leverage between both, keep everyone happy, but first and foremost I'm there to enable my business.

- **Can you tell me how you personally understand the term Business-IT Alignment?**

IT as a whole is following the Business, but we try to do more than following. We are enabling Business, hence we are part of the Business and we actually help forming the strategy. So, my direct report goes to the VP for Operations, who is in the management team of AOT and helps forming the business strategy. So we form that together, and that's again quite different than in the other BUs.

I don't have an explicit definition for you. To me, it has a lot to do with being able to move from two islands, which they are now, to a holistic overview that touches over the whole chain to see how value can be captured. I mean, the guys on the backend, they can be sitting on the technology that creates flexibility on the forefront, where they always assume there was none. I mean, there's a lot of maturity that is needed in both sides to take the other one in on what's needed. And it often leads to misunderstanding and frustration. There are also many business people that I know from the past, who

are always swearing at their IT guys, considering them stupid and that they don't understand their business. That's the most common thing you hear. Then, in IT, you always hear that they are not respected and don't get the recognition of what they ultimately can do. It's sort of a vicious circle.

I think if you establish a platform where you are able to bridge these concepts, then that's really worth something. Our attempt here is a small setup but is already starting from a not so problematic foundation – meaning we are already in the business and they have accepted us, my head target is also their turnover, then we are already some steps ahead. But still our approach is implementation of an agile SCRUM methodology, which is also not very new anymore, but we try to give it our own flavor, where we really state roles. So, we have product owner roles, system owner roles, implementation leads, where people in the business will be able to drive our priorities for the coming, let's say, month, and then every month we have a delivery which should create value for them, and then we set the priorities for the next month. Thereby, we get out of this huge strategy delivery, just keep it small. I mean, how do you define value? Is it only money? It can also be something else. For each type of business it's different, for us it's clearly money, there is a business case there. We have a delivery model which is aimed at frequent deliveries, then you get forced to communicate with each other. We need to constantly discuss what are the next items required, what the issues are, what the requirements are etc.

You could say that this SCRUM methodology is forcing the business to walk the path of your IT capability. So, in the end, it all comes down to bottleneck management. If you only have these 1-2 guys in the backend who are able to do this trick on Java or whatever, it doesn't make much sense to build a whole strategy on the forefront where something more than their capabilities is required. We try to do it the other way around, steer the demand towards the supply we are able to deliver.

But, again, we also have applications that have two mega releases a year, and there you find the problems are also stepping up on trying to understand what you need to go for. So, BITA also needs to take place in bigger projects in some occasions, not only in the small and flexible setup I described above. There we have Business Analysts who try to capture the requirements for the Business, in such a way that we can have work packages defined from these requirements, and then you go from the traditional functional requirements to the technical design. We also do that in the waterfall projects. I think BA's are key to bridge the gap.

- **What about your personal opinion on BITA, not only related to the situation in your organization?**

I think everybody should do it the way we do it. It might also be that there are maturity levels involved, and the number of people, conflicts and volume that you need to handle actually drive your decision on how to organize your structure best. For, let's say, the group that we have – about 600 people in AOT, including my 50 internals - , it's really good to be part of your business and set your strategy together. On the BITA setup, we are also changing this model in the company currently. We just had a new CEO in October, and we now already see as a change that he wants all the BU's in Vattenfall to be responsible for the development portfolios in IT. So he wants to use the model we are using in AOT in the other BU's as well.

That's a big change, since in the past they always had their own BU strategy budget and they could do whatever, and they had an IT budget. And then it was up to Demand & Supply to manage the interface. Now they will just have one budget in the BU's and they will also be responsible for the IT-related BU spend, which is new.

I think that's definitely a correct step. If you want to be value-driven – and that's a nice term -, then there's only one thing that counts, and that is that you need to be close to wherever business thinks the value is to be captured. Again maybe a sticky example, but why would you drive for application reconsolidation, I mean getting from 3000 applications to 1500 does have a cost base, but if 2500 of them make a very good turnaround, then why would you mess with them? This could be conflicting. It could even be that you might endanger some of these profits by touching these applications.

- **Which would you say are the most important enablers and inhibitors of BITA?**

I think it has a lot to do with interaction, communication, understanding each other's language. In my experience, pure IT-related persons do not understand a bit from business terminology when business starts to talk about where the value is captured and vice versa. There is a real gap there, hence what you see is all these demand-driven IT functions, which are able to bridge that gap between real, hardcore supply and the business process. I think that already is a gap that most companies are not able to bridge.

I think then that understanding that the opportunity is really there to drive much more of your business through technology. I think there are not too many business departments that really see there is added value to be captured if you take it as a full chain change, from what you want as a business to the technology setup. There are so many things possible to change that can bring you more flexibility. Not only the technical options, there is a lot of cooperation that needs to happen.

- **Are you familiar with the existing BITA related academic theory, like the Henderson & Venkatraman model?**

No.

- **What do you think about the establishment of a "champion" to enforce BITA?**

It's a lot about interaction, doing this in a respectful way and being able to, let's say, pull a group out and look to the whole spectrum, where you want to try and use each and every person's strength, in order to come to a total result. And it's not always successful, but I think that's still in theory the process. In general, we use BA's here to help business with the real complex work packages, and break down a project into all the requirements, and we "marry" these persons with a solution architect, who is much more technical and could think from an infrastructure perspective. The solution architect is responsible for the solution design that is brought forward, and the BA is responsible for the fact that this design covers all the requirements. Hence, they form the overall design together. In the end, a project manager is responsible for the fact that it all mounts up to the business case and is able to get acknowledgements in order to go forward with the project.

- **I understand you use Enterprise Architecture. Is that a company-wide architecture, or is it on a BU level?**

We have one Enterprise Architect, and he is actually the lead of a virtual team of solution architects. These solution architects are in all my teams, they are people able to create these solution designs, and the enterprise architect is, let's say, the virtual manager of this solution architect team. And this is also where the application, infrastructure, in general the Enterprise Architecture principles are being set.

- **Enterprise Architecture is generally considered a very important enabler for BITA. What is your opinion on this**

I think what the Enterprise Architect does with regards to BITA is that he drives the discussions of TO-BE Architecture. So, even before you have a project, or even before you have the wish to have something new, you create your TO-BE Architecture for a few years ahead. And that could be done either by wishes, so running costs down, less complexity, or some functional wishes, or maybe at some point applications run out or vendors go bust or whatever the driver is.

In the end, we also create heat maps, meaning "where does it hurt?". We have about 200 different applications, and for some business processes you might use 30 in a certain logical stream. And in some of those streams there is a lot of hurting. Tools are getting old and need renewal, or they are late with maintenance patches or what have you. These heat maps also drive your TO-BE Architecture. And from those we try to plan project portfolio, but I have to say that in this company, when push comes to shove, and the environment is not friendly anymore and we are not making the business cases as fluidly anymore, the focus starts to get off that again. That's because everyone wants to do business growth projects, since that's the lifeline. But in the past 2-3 years, we have been able to run an integration growth map almost purely based on this TO-BE Architecture. Mapping out business capabilities to applications, and then making a Heat Map on where the pain is and where we should focus our development budget first. That's ongoing in the high-level overviewing, whereas the SCRUM methodology is on the low-end, operational level, steering the current priorities.

In essence, what you want is that these two are interconnected. So, I want to do a lot of changes and I want to end up steering my TO-BE Architecture with all the principles and where we want to be. It may take 10 years for certain things to be rolled out and other things to be introduced, but that's also the vision.

- **What do you interpret as "Business" in the term "Business-IT Alignment"?**

I think Business in this term is often a unit or at least a management team, which is striving to create value through a certain activity. And this business is relying on supporting factors and units, to make sure they are able to capture this. So, for me it's very clear, my Business is a trading business, so it's like working in a bank, whereas Vattenfall IT in general has many businesses to serve. So, if it is a nuclear department running nuclear plants, or it is Sales which is involved with personal customer home

situations, the dynamics are different, you know. One takes investment decisions and writes them down over 40 years, and the other one wants to have the latest app tomorrow etc. So it's a lot of different business needs.

In the end, the word business, what it means, is the value-adding activity which you choose to pursue as a company.

- **A goal is defined as the end toward which effort and action are directed or coordinated – *the What*, while a strategy as a thoughtfully constructed plan/method/action, that will be employed to reach this end – *the How*. Some researches claim that a very low percentage of employees actually understand their company's goals and strategies. Also, very often, the separation between what is a goal and what is a strategy appears to be unclear. What is your opinion on these arguments?**

In theory, in the proper world, if you're doing it right as a company, then your strategy is pursued by all the sub-strategies and goals that are being set in the different BU's. So, let's say if your main strategy is to be a more environmental friendly energy-supplier and producer, and thereby also want to increase your profit, some Sales department should have a goal to develop more green-oriented products probably. Because that helps the business goals in both ways. And of course IT should enable them as well in realizing the parts which they are contributing to the corporate goals.

So, there is a corporate strategy saying we want to be like this in 5 years, and then to say the goals of my direct business partners are different, that should not be the case. Then your company is in big trouble, because there are a lot of activities then, which are not contributing to the overall strategy. And, in essence, what you want to do with them is cut them out. Because, why would you do non value-adding activities. It doesn't make sense.

- **One definition of BITA claims that "*BITA refers to achieving maximal IT value-add to the corporate goals*", and not the various business strategies. What is your opinion regarding these arguments?**

If only IT realizes this and not the various business units, then there will be conflicts, because IT will have to make them realize that the goals are where they seek to add value. And that's not easy.

That's the Governance issue there. Sometimes as IT you are pulled into starting off a lot of things, which in the end should be prioritized. What do you do, as a CIO? Do you start prioritizing through IT or do you try to have your businesses talk to each other and have them prioritize it again to give the right focus and lean set of times to IT to be successful?

In my experience, I've never seen that last part working. We're struggling with this as well on the highest level, so again my answer to that would be to turn it around again and make my IT competences and capabilities leading and force my business to work with that. This is an always ongoing battle, because CFOs always want to cut down on costs and thereby prioritize through IT, because it's easier. But in a perfect world, in your own company, you would always have your Business Department heads come

together, let them prioritize based upon the capacity and the capabilities that you have, then go to that other room where IT is waiting and say “This is our top-3 value-adding items. Go and create them”. I’ve never seen that happen.

- **Do you think that, for this to happen, it’s important that the CIO/Head of IT is more appreciated and has a seat in the strategic decision-making table?**

It depends again. In a smaller company, then it definitely makes sense to do that. You need to have the one who represents the capabilities and the competences in the board, where you take the business decisions, you have to create the strategy together. What happens though in bigger companies, is that – especially when the times are rough and costs have to be cut - , suddenly CIOs report to CFOs, and CFOs are in the board and CIOs are not. And then actually the CIO is just representing a lot of costs. And this is where the vicious circle starts going down again.

In our case, within my department, I think the board needs to have the CIO and the BU owner and then come up together with a statement and take the decisions. But within Vattenfall, there are 3000 IT employees and it is big. So you start to see that representing the capabilities and capacities is hard and doesn’t happen, and the CIO person is not really able to do this representation. That’s why I think in big companies, the CIO alone being a part of the board is not enough, there needs to be a structure a level below him that gathers all the information he might need to properly represent IT in the board.

- **According to recent surveys, the BITA challenge is one of the top concerns for top management in the current business world. Do you believe there is enough awareness and acknowledgement in the business world, apart from top management, regarding the importance of BITA?**

Yeah, definitely. I think everyone in an IT environment knows that they are doing this for the business. It’s also very clear that over there is where the money is made, and over here, we might be a cost center, but we are driving their costs. So, people know this.

Also from the business side. They often have a problem understanding why there are so many people in IT, what are they doing there, who to call and for what, that’s pretty much always the same. We very much need to know over here who to work with over there, and we can even explain their processes to them let’s say, whilst there is not the same interest from their side.

- **Do you believe Business understand the importance of BITA?**

Yes, definitely. I think in Trading, it’s probably more known, since 90% of their capabilities to earn money relies on IT infrastructure. They are so dependent on IT, it’s a very clear and direct relation.

But yeah, I think if you go to an energy plant, the relation with IT is quite different. But in our environment, high dynamics, high dependency, lot of swear words flying around, but this is also where relations are built!

- **In your professional experience, can you tell me how BITA is perceived?**

Well, very troublesome. It's really tough, Business needs to learn to work with IT. I think Business management really needs to learn how to work and be successful with us. And I can really recognize the differences, comparing some business managers over here, one being very capable in feeding the right stuff into our machine and making it easier for us to perform and have a good output for him. While other are just very ignorant and are not cooperating and engaging with IT. It happens.

- **Do you think organizations in general perceive IT more as functional, or also as a strategic resource?**

I think it's a growing trend. In the current markets, you're more and more depending on IT, regardless of what Business you're in. 15 years ago, who would have thought that everyone was about to create an Internet site for their company. Now, if you don't have mobile apps and you're not into media or whatever else, you are so much behind.

It signals the importance of using IT, and understanding it will go faster and faster.

- **Are you familiar with BITA-related theory? Do you make use of any theory in your work?**

My experience is more management related theory. I did an MBA 8 years ago, and brought some management theory to the floor. What we tend to use from theory is SCRUM methodologies and Agile mainly, more applied theories. It's not like I'll go to the study books and take a model for something. An operations type of department is not so much in touch with universities anymore. I think if you go to a Research department or Analytical department, you'll find more theories there.

Regarding BITA theories, no, I don't know any. I think it's more like common sense what we are trying to do.

- **Why would you say theory is not being used that much? Do you think it is because there is not enough evaluation and "proof of concept" on what it proposes?**

It's either that, or the fact that it is engraved in the way that we are set up. I mean, if you look at our organization, we do have BA's, Architects and all these functions, we have businesses stating a business plan which will then need to turn into a development budget. So, you might actually say it's all set up for BITA, in the end that's what makes us successful, but it's not like there are many people running around with BITA as a single goal. It's a carrier for a lot of ongoing things.

I even think we use another word for it. I mean, BITA, what we want to strive for, we usually end up talking about how to set up the governance. So, how is the Governance set up here? This is the question you are being asked. How do we create strategic plans, how do we translate them, how do we get budget authorizations, and if we get it authorized, how do we get the right to spend it?

This is all around meeting structures and in project portfolio agreements, it's the rules of the game. How to bring changes forward in the organization. So, I think 9 out of 10 times, people talk more about the governance around BITA, not so much about the alignment itself.

If you'd ask me to deliver you the Governance document, it's about 65 pages, it describes a whole lot about the role of the CIO and the role of the developer and who does what and who is expected to do what. It's all in there. So, it always comes down to Governance. It doesn't say Governance makes it work, because it doesn't. But it refers to the structure you use to make BITA succeed.

- **Is this Governance document you talk about communicated to employees?**

That's a good question. I'm not really sure. I'd say that 55 slides of the 65 existing have never seen the light of day. The essence of it is only shown to higher management, and it's not really distributed down the ladder.

I also think that not a lot of people, especially outside the IT department, are even interested in this kind of thing. But, within the IT department it should be well communicated, and that's not always the case. This could be improved.

- **What about BITA Assessment? Do you have a setup to assess your BITA state?**

One of the elements of the performance contract agreements I have with each and everyone here in IT is that we should score, out of a scale from 0 to 10, at least a 7 on how our performance is judged. And our performance is judged on how we enable business, because that's our mission and vision. And business makes this judgement.

We ask our responsible business counterparts to judge us. This happens via an interview, we have a small questionnaire comprised of 8 questions, and we go and sit down with them and learn their opinions. They answer to questions we create, so it's a quite direct score that comes back.

The grading is conceptual though. And if one day before that interview, they had an enormous breakdown and the service desk refused to help them for example, that wouldn't help.

- **Are you familiar with any BITA Assessment tools from theory? Do you use any of them?**

No, neither.

- **What about the Luftman model? (explanation of the model)**

I don't know it, but it's like a maturity model. I can relate to it, and it looks like it's pretty much logic. But we don't use anything like this literally. In a way, we are asking them to ask us on the pillars Luftman uses, but in a different way.

- **To sum it up, can you describe your BITA process to me?**

I'll use an example that matches reality. We have a new CEO. He comes up with a new strategy, by the end of this year, which is a corporate strategy. In the business planning process, every BU will try to deliver as much value as they can from their line of business, contributing to this corporate strategy. And in the case of AOT, we are at the table of creating the BU strategy, so we identify the best business cases. We try to judge the most promising projects, identify the risks etc. The setting of that strategy is

done together, IT and Business, and then you need to get your budgets authorized, bring it into a project delivery wish list and get your budgets agreed to be spent. Then feed them to the development machine.

- **Is the budget assigned to you, or asked by each department?**

Between business and operations, we share the budget. Then it's a lot about business cases. So, there are of course some must-have projects, like maintenance things you need to do, and other than that you try to plan together sort of a good balance between business growth items, risk reduction items, maybe governance and market change, which you also cannot neglect, and then of course some technology items. So there are quite a lot of items there, and again when times are tough, business growth is in priority.

The AOT budget comes from the board directly, and then we, the AOT management team, allocate it internally.

Of course there are conflicts and complaints about the budget, but that's where we come in and balance things.

- **Is the process you described a yearly one?**

Yes, we do it every year. And the assessment is done also yearly, towards the end of the process.

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- **Can you tell me how many years of experience you have with BITA?**

9 years at my current position, and 10 years before that in the telecommunications industry. But that role was more about network architecture. It was mainly based on customer requirements and the way you embed them into your R&D program. Which is a big theme when it comes to alignment, regarding what Business wants and what you can produce as a solution.

- **Can you tell me how you personally view BITA? How do you understand it?**

In the end of the day, it comes down to that the part of the Business that is responsible for the primary processes of an organization is best supported and guided by the ICT function. So they have a specific goal, processes, customers, competition etc. When it comes down to BITA, it should be cased that from an operations point of view, they are best supported by the ICT departments, and also consulted and advised by the ICT department. Business of course sets the requirements, but sometimes they don't know what the possibilities are. And they have to be guided due to this.

As far as I am concerned, in IT there is always a technology push. And that's not a bad thing I believe, since it stimulates innovation. For some part BITA has to do with the regular operations, where you

need to have BITA as well – think about service levels and reliability etc. -, but it also has to be aligned at the innovation cycle.

The innovation cycle is a thrilling one, because there you see that the ICT innovation is meeting the Business innovation. That's always difficult to predict, and I think it's always a process to see where the two meet each other.

- **Do you believe that IT should drive the Business sometimes?**

Yes, sometimes. I believe that BITA should be done. I believe you are familiar with the model from Henderson & Venkatraman. They basically designed 4 paths in which you can do BITA, which I think is a way of giving language to a strategy. So, they proposed 4 ways to do your strategy. Technology Push is part of these 4 trajectories, and I think that sometimes it's very fruitful. Think about companies like Dell or Apple for example, who basically thought "technology allows me to innovate my business model". And they made a big leap. Both of them did, in a different moment in time.

BITA requires that people who are involved in ICT really try to understand what the Business they are supporting is about. And of course the people who are doing it from an operations point of view should look at things like service level, reliability etc, and the people who are supporting the innovation cycle should have a good understanding of what innovation in the Business is. But the Business really has to embrace the fact that there are very few organizations at this point of time that don't heavily rely on ICT.

I still meet many people who are involved in the primary processes of an organization who basically give up their attempts to understand things when it comes to ICT. They believe they don't need to understand. Well, they should understand. They really have to have at least a drive to try to understand ICT related things. Not just the technology, but also the impact of technology.

Let me explain the distinction between a project and a program for a moment. A project is a temporary attempt to build something and take it into production. A program can consist of multiple projects, and overall has the aim to change the way things work. To basically generate the benefits, really realize them. That also can mean organizational change, procedural change, change in culture. So, the main difference is that a program is about change, and a project is about delivery.

Many of the people who are involved in the Business are key persons in the governance organization of a project or a program. Because they are stakeholder number one. The new thing to be built is for them, they have to implement it and use it in a good way. And they simply can't get away with a poor understanding of ICT. In my mind, when it comes to BITA, it's people's work. The interest has to come from both sides, IT has to understand the business and vice versa.

- **Do you see this happening in the real world?**

I think there are individuals and also organizations that do a good attempt in trying to achieve that. But I think we can agree on the fact that BITA is a complex and broad area, also impactful, and I think sometimes it lacks time, attention, priority on both sides to do it in a good and structured manner.

Let's take the model of Henderson and Venkatraman, which is a kind of simplification. *[I show the images depicting H&V model].*

This is a kind of model that is basically built on reality. It's an idealization of how it can work. Also the 4 strategies that are described are not how the world really works. It's all conceptual. So, in real life, there are organizations and individuals that are trying to make this work, but it's a messy place. On many instances it fails here and there.

- **Yes, it's more like the ideas and the foundations to build on. It's not exactly a roadmap. Do you think anybody has managed to present a solid roadmap so far in theory?**

Well, there are quite a few follow-up literature works based on this. One of them is of a guy named Chiborra. You should read his article, it's really interesting. He's also an academic, so he makes observations as well. Basically, what he says is that all the conceptual models coming from Business schools are kind of ideal pictures of how practice should work. But practice doesn't work that way. It's muddling through, it's tinkering, it's not that ideal.

What I do believe however, because this is all since the end of the 90s, is that in the last 10-15 years many good practices have been developed, which basically give our professional group guidance. And a firm, well thought through methodology and knowledge base, that shows how you can improve. There are many management standards (e.g. ITIL), there are governance frameworks (COBIT) etc. There are many things. So when you take a look at the wealth of material, that by now we can build our experience and practice on, I think there is quite a good selection available.

Rick Maas, a professor of Amsterdam University, has published a lot of very good related articles. He has developed a model, which is basically an evolution of the Henderson & Venkatraman model. He basically takes into account all the comments that Chiborra and others make about the theoretical base of the H&V model. It's called the 9-Flux model, from the Primavera Group. This model is crucial, and it's widely used within the Netherlands in all kinds of discussions.

- **Do you use any of the known theory tools/frameworks for BITA or BITA assessment (e.g. Luftman)?**

We never use any tools. We use, let's say, the best practices as they've been described. Also, given a specific assignment we have, we take into consideration what part of these best practices is relevant for the problem that we need to solve.

A colleague of mine once made a nice comparison. He said if you take any best practice, and implement it as is, that is comparable to going to a grocery and using the inventory list of the grocery as your shopping list. It's way too big. You have to make selections. And I think that's the professional judgment that you do together with the people involved in the assignment. Determine what is relevant, what really needs to be solved, and how we can best do that. Best practices of course offer guidance in achieving that.

- **What about enablers and inhibitors of BITA? Can you tell me which you consider the most important?**

I take a very pragmatic view on this. I think an important inhibitor is the reluctance to have an understanding from one side to the other. I think that's a big problem. Another thing is that the impact and the strategic importance of IT is undervalued in many organizations, and this also means that when it comes to the levels at which decisions are taken, they are not taken high enough in the organization. And this also means in practice that decisions can be challenged or done another time, many delays can happen etc.

Another thing, many times there is a lack of a simple but good methodology to link the innovation cycle of the business with the IT innovation. I think then about Portfolio Management, project management, program management, these kind of things. In order to have a coordination on top of that, you have to think about something called IT architecture. Which is a word I myself hate, but I think you have to have some form of design, and principle and rules that you need to apply. It's not the case that they are never there, particularly in the government area there are many architecture documents (e.g. Nora, Hema etc), but really applying them and doing something with them in a meaningful way and having your individual projects aligned with your architectural principles is not happening that adequately. It many times lacks the correct procedures, government bodies, guidelines etc. So that's an inhibitor and an enabler together, they are opposites eitherways. If it's done in a good way, it's an enabler, if not, an inhibitor.

I saw some work a few years ago in a municipality, where they did a good work in having the different sectors in the organization connected. They had a concern level information management team which basically took care of this connection. They had a good overview, they had a concern level IT program, and a good portfolio management for it. For each significant project or program, they had a good governance on the project itself, so they had an owner, senior supplier, senior user etc. It was clear where the budget responsibility lied. So, from a governance point of view, I think they did a good attempt.

At the same time, you see that progress it's difficult. It's difficult to prevent project delays, to make sure that people really adhere to the idea and to the goal that a certain program or project has. And then you're back to real life again. Of course you can have a governance structure and people who have an understanding of how that structure works and they know how to let it work for them (make the right decisions for example), but the organization is bigger than that. There are many people who are not aware or not interested, and you have to deal with that as well.

- **A lot of surveys show BITA as one of the top concerns for CIOs in the past years. Do you believe there is enough awareness and interest for BITA in the lower levels of an organization as well, and also do you think it's important that this awareness and interest exists?**

They do for the most, on an operational level especially. They care if it is not taken care of in a good way. But they are hardly in a position to influence. And you see that the people who are able to influence maybe don't care. It's a strange dilemma. It would be great if everybody cared, but that's a kind of idealistic situation again, as I mentioned earlier.

From my perspective, I cannot be equally interested in each and every detail of the business operational processes. It's impossible, I cannot conceive it or comprehend it, I'm too busy already. And it goes the other way around of course as well.

So BITA isn't and it can't be a top concern for everyone. I think the key enabler is that at the appropriate level in the organization, with a good level of respect of his peers, there has to be somebody called a CIO or an equivalent, that can be made responsible for managing the information challenge in an organization. And that means that he has to have certain disciplines underneath him, like a knowledge of information security, knowledge of portfolio and project management, architectural function needs to be in and I think he also needs to have the responsibility for budget. So that he's really in control. If you don't control the budget, you're not in control either.

You see that in the example of the police here in the Netherlands. They have a long history of decentralized IT budgets, and the IT there is a big anarchistic mess. That's why it takes them so long to organize it. They made a CIO office, a big one since it's a big organization, and one of the first things they did was to centralize all the budget. This way, they prevented the decentralized police organizations doing their own IT things. You have to centralize that. So, I think that's a very key thing.

I also think that respect is a cultural thing. If people do not respect their peer in his responsibility, then it will be a difficult journey for the CIO to get in control of IT, both in an operational way, as in an innovational way.

To get back to awareness, I think it can be improved. Awareness, as in how aware is the Business of the impact and importance that IT has. To some extent, that is kicking in an open door. There was recently a report from commission ALIAS, from the Dutch government. One of the conclusions that were drawn was that both on a political level, which is of course important in the public domain, but also in senior management level there is a lack of interest and maybe even energy, to get an understanding of IT.

I think that's the crucial thing. It's not the fact that people have to be interested in IT, because they have to. I mean, I'm not interested in the details of my car either. But if you are in the driving seat of a program or a project or whatever, you have responsibility to ensure that the right things happen. So you should have an understanding. It's the way of thinking that needs to be improved here.

By the way, at this point in time, together with some colleagues, we are doing a series of seminars for a Dutch municipality. And the people we are teaching are business people, they don't know anything about ICT. But it initiates very nice discussions and incites awareness. So, they hear about all these developments in ICT, project management, program management, but they have no understanding how this is organized where they work. Who is responsible for this, they never see them, what they are doing. They don't know how to scan the environment and gain an understanding in what the important

innovations are. How they select which innovations they need to adopt, and which they can ignore. What are the connections between the corporate level and their specific departments/sectors. So, such a thing triggers the right question. They at least gain some interest. The interesting thing here is that it is the CIO of the municipality who initiated this training cycle. He said it would be a good idea if business has a better understand of what is happening in the IT landscape. So, education is crucial.

- **Do you think centralization is always important in IT?**

I think if you're coming from a situation of immaturity, then yes, centralization is a good step. If you have a big back-log in applications for example, it would be beneficial to centralize. It simplifies the mess.

- **Regarding the CIOs, do you think they are being involved in strategic decision-making at the moment? Do you consider it important?**

Depends on the organization. It's a silly answer, I know, but that's simply the case.

In general, I'd say that it's growing. And I think it's crucial.

My take is not so much in the theoretical perspective. I don't believe the job title CIO by itself is very important. It's more about what this person is standing for, and what he/she is representing. There are two main things. The CIO has a coordination role in things we just mentioned, like how can you ensure that the Business Requirements are going to the operational IT organization doing the day-to-day operations of the IT systems, and he's also responsible for the technology push. So you need to have a function underneath him, which is aware where the market is going, what the competition is doing for example. If the organization is lagging behind, then that can cost them their competitive edge. The CIO has to help the business in getting that organized. And that's related to strategy, he needs to be involved in this game.

It's also a good thing about having a responsibility like that, separate from the Data Center. The CIO should also be in the position to make the strategic sourcing decisions. Sometimes it's good to have a certain IT functionality in your own organization, e.g. if it's a very specific competitive asset, and sometimes it's simply better for efficiency or cost reasons to move it outside, into the cloud or outsource it. We always call the Data Center the turkey for Christmas, because they don't know every time if it's going to be them on the menu or not. You need to have an independent organizational body looking at it.

- **Do you think that sometimes the CIO is perceived as the Information Manager of an organization in the real world?**

Sometimes. Unfortunately, they basically see him as a supplier, or sometimes as the head of the helpdesk.

- **It's usually observed that where things seem to fail is not on the planning phase, but on the implementation phase. What is your opinion on this?**

I agree. I mentioned the municipality which was doing a lot of nice things in order to get their portfolio management team in order. Well they have huge problems, for instance supporting the business cycle, making a multiple year plan and having that being agreed upon by the municipality council, including budgets etc. Also, huge problems in matching their own yearly cycle with the overall cycle of the municipality, they don't get the information from the sectors, they have difficulties designing their own program. So, there you go. The conceptual idea is there. But the execution is extremely difficult. And it's not that individual people don't want to.

Execution concerns all levels, not only on the operational level. Execution is also related to implementing the governance model.

- **Do you think this is more relevant to large organizations, due to bigger complexity?**

I have worked with big organizations in the public domain for the last 8 years or so. The last couple of months I did a consultancy job for a small organization (120 people or so). They really have a problem with their Information Systems. What you see there, is that they don't have any clue about BITA, while the professional IT people in large organizations know the story exactly, maybe too well even. In small organizations they are also not interested in all kinds of Information Security policies, Governance models etc. There you see a different kind of difficulty, a kind of impatience I'd say.

They also act chaotic. So, they have a poor supplier, or systems that work poorly together, fuzzy ways of determining which employee is entitled to which devices/applications/authorizations etc.

- **What is your point of view regarding the state of mutual understanding and harmonic cooperation between Business & IT?**

I think that the people who are doing the primary business of an organization have a lot of difficulty understanding the way of thinking of IT people. It's not only that they don't care, even if they do, I think IT doesn't make it easy for them to understand. And that might be a way of thinking, or a language problem.

I am not an IT specialist myself, I have a business administration background, but I have always worked within IT. I have affinity with it. And it can be very complex. If I see all the architecture documents, and the whole conceptual idea about the fact that you build your policies on architecture, or information security and so on, it's such an abstract and complex way of thinking and documenting. And then also taking the decisions, like shall we do this project this way or shall we do it differently because it does not adhere to our architectural principles or our standards or anything, that gets pretty complex for a business person.

And also, technical people don't know business terms. Therefore, explaining all these in the business language can be pretty complicated. But it's also deeper than that. The way I see it, it's even more than

terminology and technology and business understanding how important IT is. Even if they do understand that, there are also other issues.

IT and Business think about different things. For example, business thinks in terms of customers, products, services, service models (how they serve their customer), pricing, competition, mission in the market etc, and IT thinks in terms of architecture, standards, best practices, technology in general, portfolio and programs or projects, product life cycles etc. If you put these in a framework all together, like how you control your business, you can see the tensions. They think in different ways. Different things are important for each one, and they have different understandings and perspective of the world.

Also, my opinion is that there are few structures in an organization that really matter and help organizing alignment. And don't get me wrong, I strongly believe in using architecture frameworks, having a good portfolio management, having good practices for outsourcing IT and running processes. But I think that to a certain extent these have to be simple, lean and easy to understand. And the most important thing, they have to be followed up and executed.

- **Do you think monitoring could help towards BITA? How do you think it could be done?**

Many times there is a lack of discipline. Monitoring can help, but you have to identify the mechanisms that you implement to do your alignment. For example, communication can be one of these mechanisms, telling what you're doing and why you're doing. In many organizations there is really poor communication about IT projects and why they are relevant to the business. Another thing is that, if you have a couple of architectural documents as guidelines, you have to ensure that they are also used and are not just hung on the wall and no one looks at them. If you don't use them, for instance as a testing policy for the products that you develop, then they're worthless. The other way around, if you have a project which demonstrates that your architectural guidelines are not matching anymore, change your architecture documents. Do something with it, it's not carved in stone. Make it living.

If you have a project, ensure that it is on your portfolio list. If your projects are delivering benefits because your organization needs to change, then ensure that it is approached as a program. Ensure sufficient representation on the program/project from the business. So, ensure that the governance is really balanced. You have the owner, the supplier, the user. It's not that difficult, but it has to be done.

Also, when it comes to the decision cycle – do we start projects, do we deliver projects, do we continue projects, do we stop projects etc -, ensure that there is a governing body where the senior level, suppliers, users and owner are in place. But in a governance cycle, if the representatives of the business are not present during project and program meetings or they are not doing their share in the organization, particularly when it comes to changing the way things are working, it falls apart. It's their innovation, they need to feel it. Also if the IT department cannot explain to the Business why certain things are important, and people don't care anymore, it falls apart as well.

I really think that's the base of everything we discuss here. Communication, good project governance, good portfolio governance, steering committees, architectural guidelines. But they need to be light.

When I started with the municipality I mentioned earlier, I looked at the architecture documents. I didn't understand them, and there was no way I could link them to the projects that were in place when I got there. There were a couple of projects which fitted into my program, but I had no clue about how they supported the architecture principles. The documents were really fuzzy and unclear. So, you have the mechanism, hence in theory it should work, but the quality of the documents is really poor and they don't function as they should, they don't give any guidance. And also, no one there could explain them to me. Documentation should be supportive to the things you are doing.

I think that, particularly when it comes to architecture, which is an important instrument for BITA, there is not a single language even in the Architecture professional group. There are many methodologies, there are very stubborn people doing this kind of job, and they are stuck in their personal position or opinion on how things should work or be described etc. I noticed that during my time in that municipality, there were so many debates about virtually nothing, it was amazing. There are also many frameworks, you have NORA which is the government framework, you have HEMA which is for municipalities, there are many standards coming from the standardization forum, to which you need to adhere etc. There are many things to take into account, I am not saying it's an easy thing. It's complex. But I think that the complexity reduction is where the power and the added value should be.

- **What is your opinion on the current education regarding BITA?**

I think that even if you do not do an IT training education or study, you still have to have an understanding of ICT. You can do it in two ways. For instance, let's say I want to be a civil engineer, so I'll need to build dykes and bridges etc. You can teach me ICT because I need to know what a computer and a network etc is, but the chances are big that I don't care about anything beyond that.

You need to have some basis, some interest about what IT is, but the most important thing is experiencing IT in order to get interested in it. You can extrapolate this to every study that is not an ICT study, and also from primary to secondary school, and then to the university as well. I have two children in high school, and it struck me how poorly IT is taught in schools. It's so optional in the curriculum, and I really don't understand it. Kids don't really learn about IT. I really appreciate the initiative of Mark Zuckerberg and other people about programming. Even if it is for 2 days in your whole curriculum. You'll at least get an understanding of what it is. It's basic, but it's a way of growing people's understanding about what IT is. Most people don't even know what an algorithm is. You can't expect everybody to be interested of course, but at least you'll give them the chance.

- **Let's talk about BITA assessment. Have you had any experience with it?**

No, I've never done any assessment.

- **Are you familiar with any theory regarding BITA assessment, or with the academic tools related to it?**

No.

- **Let me show you Luftman's model. *[explanation of the model]***

This looks like a maturity model. But what I wonder about is what is the underlying model. Because, you know, you have a control framework like COBIT, and that is also focused on governance. And that can be a good underlying model to base your assessment questions on, check whether certain controls are in place etc. Luftman's model has some important levels, but also some that could be considered trivial.

- **What about benchmarking? Do you think it could be used for BITA assessment?**

You need something to compare yourself with. And it has to be relevant for you. It makes no sense benchmarking a small enterprise against a government organization. For alignment however, you'd need to execute a specific assessment method yourself, and then get the results of the same assessment method executed from competitors.

Also, your control parameters might not be the same as for competitors. I think using benchmarking for BITA assessment is very difficult.

- **Do you view BITA as a process?**

I do, I absolutely do. It's a process on all kind of levels.

- **Would you say it is a structured process?**

I see the structure in it. But it would be silly to neglect the fact that many things are working in an emergent matter, that's innovation. So to some extent you can control some things like frameworks, but for the rest, there are all kinds of unexpected things happening around you and your structure should help you to accommodate all these events. Whether they are good ideas, or resistance against innovation, that's the way I think it should work. Of course that implies being dynamic, but I believe an organization is by definition dynamic. Even very static organizations are in a way dynamic. Look at the banking and insurance industries for example. They have a rocky time in the last couple of years. We all tend to look at them as dull business, but it's far from that. They have to change, and adapt. It's generic, sometimes an organization or a market might be in a stable condition, and then all of a sudden something might change rapidly.

- **Do you believe that people know the difference between a goal and a strategy?**

I think senior management does. They are aware of at least the conceptual elements behind these terms. But if you go lower, they simply don't understand the whole idea, and don't really care about it. That's another thing, we really have to realize that a large part of the population is not interested in the things that we are.

- **Do you believe the lack of clearly stated and well communicated goals affect BITA, and do you think that everyone within an organization needs to know and understand its goals?**

I think that if you are a mature adult, you should have an understanding of what the company you are working for is trying to achieve. But from a mechanic that does car maintenance for example, you expect a different kind of understanding than from a senior management in a large organization. It makes sense.

I believe at least some understanding is required and expected, but its extent depends on the education level, the level of hierarchy, the type of organization etc.

For me, the important thing is that everybody who is at a level that matters needs to know and understand the goals.

- **What do you think about “BITA refers to achieving maximal IT value-add to the corporate goals, and not the various business strategies” as a definition for BITA?**

I think that every single definition that tries to frame BITA is a bit short on reality. BITA is basically taking place at many different levels. So, yes, this definition is not wrong, but it doesn't cover everything, there is always something that will be missing.

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- **How is your role related to BITA?**

The BIO(Business Information Officer) role is a role between Business and IT. I am on the demand side, I get all the demands from the Business and I support the business as best as possible, and then I translate that to IT Supply. In the best case, the management of BU Distribution is not at all in contact with IT Supply, they only communicate with IT Demand. So, I am like a liaison between Business and IT.

- **How many years have you worked in a position related to BITA?**

In my current role I've been for 2,5 years. I started working within IT in 1985.

- **Can you give me your personal definition of BITA? What does it mean to you?**

IT working close together with Business, IT understands the Business and translates the Business requirements to IT solutions.

- **Which do you believe are the most important enablers and inhibitors of BITA?**

You always need someone who is really engaged, and also understands the Business and IT both. That's really essential, being able to understand both. Also, that person has to understand the needs of the Business and be able to transfer that to IT supply, the really technical people.

- **In the term Business-IT Alignment, what do you interpret as “Business”?**

For me Business is all the Business Units together.

- **Do you believe that people are familiar with the term BITA?**

Some of them, who are more interested in IT, yes. And these are usually management. But most of the workers don't know about it at all.

- **Do you believe people appreciate the importance of the BITA challenge, and what achieving BITA can offer to the organization?**

No. I also think it's not necessary for everyone to know this complicated word. I think if we from the IT Demand deliver what they want and make sure that they get support when something goes wrong, then they are happy. Therefore I think they don't know this word, especially those who haven't had higher university education.

- **Do you believe that, in order to successfully align Business and IT, everyone should be involved?**

No, I don't think that's necessary. In our organization, I believe that if we, the BIOs, take care of the business people needs, then they don't need to have any further involvement.

- **Recent studies have shown that it is perceived that collaboration between Business and IT has improved, and confidence in IT's ability to respond to business needs is rising. However, the same studies have found out that the reality is different, and that people do not really appreciate IT as much the perception says. Would you say this finding is reliable? How would you explain it?**

When I started in my current position, it was common that Business would not involve IT in projects from the beginning. Today, they never start a project without IT. I think we, from IT, need to make it happen, since we are the role model to show that IT is beneficial to them. However, all this depends on the people that deal with it.

In my department, we are involved from the beginning, if something strategic starts from the top. I am always involved from the beginning in such cases. But as I said, that always depends on the people who are responsible for IT.

In our organizational structure, IT is not low, but on the top of the organization. Therefore, people are aware that IT is a part of the normal business structure and organization.

- **IT Governance is considered one of the most important factors towards achieving BITA. Do you agree with this position?**

Absolutely, it's really important.

- **Do you believe that IT Governance alone can lead to successful BITA?**

No. It's a part of it. And then of course, the people who are in the organization have to build up the connection and the confidence to the Business. You have to be really engaged and try to understand the Business. See what the Business is doing and how they are using IT, that's also necessary. It's important to be visible.

We have the same IT Governance model across the whole organization, that happened 4 years ago. We decided it is important that we all do it in the same way. I believe this is a very good approach.

- **What about decision-making and ownership of IT projects? Who is responsible for them?**

That would be me. I am responsible for the Project Portfolio, the budget of projects and I also take care of the prioritization. But I don't prioritize by myself, I do it together with the Business. I only know how much budget we have, and I have to keep an eye on targets and the money we have available. Together with the Business, we decide what is the most important to do first. Within the Distribution BU, we are 4 legal entities, and you have to decide between those as well. And of course you have to be fair. In order to prioritize and decide better, you need to understand what is important for the Business and what is possible to be done.

- **What about formation of IT Strategies? Where in the hierarchy does this take place?**

The CIO forms the IT strategy, and then we have a Business strategy as well. Taking both into consideration, we develop our IT Strategy for our BU, Distribution. Of course the BU IT strategy is dependent on where you are in the organization. Therefore, it is possible to adapt the overall IT strategy because of this, but you always have to keep the business strategy in mind.

- **Is the CIO involved in the board of directors?**

No, the CIO reports to the CFO, who is a member of the board.

- **Do you believe CIOs should be more involved in the strategy formation within organization?**

I believe it's OK the way it is within Vattenfall. The CIO has the freedom to mention what he thinks and give his own perspective to the board, if he thinks it is necessary. In general, IT is respected in Vattenfall.

- **One of the main reasons behind unsuccessful or sub-optimal BITA that I have identified from reviewing existing literature appears to be lack of clearly stated corporate goals. Moreover, one definition of BITA claims that "BITA refers to achieving maximal IT value-add to the corporate goals", and not the various business strategies. Do you agree with this definition?**

I believe that both goals and strategies are important, but in general I do agree with it.

- **Who is in charge of stating the goals in your organization?**

They come from the top, so the board of directors.

- **Are they communicated across the whole organization?**

Well, I hope. We have a very good intranet, where you can read everything. It is really important that everyone reads them and understands them, but we can't be sure they do. And there are also meetings and presentations to inform people about these things.

- **Do you believe that goals are clear to the people?**

Overall, I think they do. I am not totally sure if everyone is in favor of the goals though.

- **A goal is defined as the end toward which effort and action are directed or coordinated – the What, while a strategy as a thoughtfully constructed plan/method/action, that will be employed to reach this end – the How. Do you believe people are familiar with these definitions and the separation between these two terms?**

It depends again on the people and their role. The people who work in the field for example, they are not even interested in these. And you can't expect that they understand the difference. The people who work in the offices, I think they do know about these in general, but of course it depends on the education they have received.

- **What about BITA Assessment?**

We have a customer satisfaction index, which is measured each month, and also the stakeholder satisfaction index, which is measured once a year.

- **What exactly is meant by “customer” in the “customer satisfaction index”?**

The Business is the customer in this case.

- **Can you tell me which are, in your opinion, the most important factors that need to be considered when assessing BITA?**

The most important is finding out where we should improve and where to focus on for the next months.

- **How do you understand where you are now? How do you assess your position?**

We have to see where the Business thinks IT is. IT might believe it is there, but if Business doesn't recognize it, then they are right. And IT has to reflect and improve, and see what can be done better. Like communication, support, better training etc.

- **Can you explain how the indexes you mentioned work?**

The Customer Satisfaction Index is a questionnaire on the intranet, and the stakeholder satisfaction index is an interview together with someone from IT supply. There is a short questionnaire which is used in the interview, and there are also open questions. At the end the stakeholders have to rank where they think we are, in a ranking between 1-10. The ranking refers to how satisfied they are overall, and how reliable they believe IT is. The ranking is done only from the stakeholders, not the customers.

- **How else do you get feedback and recommendations for improvement regarding BITA?**

Within the Distribution BU, I have an initiative where I from time to time sit down together with a key user to get some information about what they think the Distribution BU should improve and where they need some additional help. But this is our own initiative within our BU, it doesn't take place across the whole organization.

- **Are you familiar with any academic theory related to BITA and its assessment?**

No.

- **How did your organization come up with the existing BITA assessment method (indexes)?**

It's initiated from the top, from the CEO. And it is done for all BUs across Vattenfall.

- **How would you personally evaluate these indexes? Do you believe they are sufficient, or do you think they could be improved somehow for better contribution?**

To be honest, I am so close to the Business that I know what they will answer, so I think it's not necessary to change something regarding the indexes.

At the corporate level, they are not that interested in these results. They do get the information, but they trust that the IT management takes care of BITA by itself.

- **Can you describe your organization's process for BITA?**

We develop our IT strategy before summer, and then we have a planning period. From August until October we have the so-called IT counsels, where we sit together with the Business and inform them of what we are doing in IT. We are totally structured regarding our communication to the Business, but also internally. We, the BIOs, are a small team that works closely together; we have frequent meetings to discuss alignment and possible improvement areas during the year.

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- **How many years of experience do you have with BITA?**

Since 2001, so approximately 13 years.

- **Can you give me your personal view and understanding of BITA?**

Sure. There are multiple aspects on this, let me first explain how I see the responsibility of my organization within Vattenfall.

When I look at the BIO role – or IT Demand manager role, it has a big role in translating the Business strategy into IT strategy. That's one of the starting points. We very much work on a yearly basis, we have a yearly process which starts in the middle of the year, when you make your business planning for the year after, and that starts with the Business who are making the business plans. I think it's very important for IT Demand to be linked to this process right from the start, to translate the business demands into IT demands. That's one thing. But what I also think is very important is that IT also pushes the business, or it's actually more the pull towards it, by providing insights and advising on new IT trends. What we see at competitors for example. So it's important to not only wait for the business demands to come in, but also be proactive and pick up an advising role, and more or less create the business demand for your IT.

- **So, IT is involved strategically?**

Yes, and I think that's very important. So, that's more in the start of this process, then we are responsible for IT budgeting. We put together with the Business the project portfolio for the coming year, and the IT budgets that are needed. And of course there is a lot of prioritization in that, which is more a business responsibility, but I think IT Demand has the responsibility to advise the business on setting the priorities, especially when you have a specific order in running the portfolio. Because the Business will look at the project portfolio from a functional perspective, so they see the functional demand in the portfolio, and don't care about the IT landscape that's behind it. And from the IT landscape perspective there might be a logical order in which you have to run your projects.

On the other hand, it might also be that we have to have a closer look into some functional demands, because they have an impact on the IT architecture in the IT landscape. I think that's a very challenging role for IT Demand, once we have defined the IT strategy based on the business strategy, we need to also be involved in defining the portfolio, the ordering and the dependencies within it. That's of course a very heavy discussion, because the business doesn't really care about IT. But they should care about IT, because if we don't advise them in a right way, they will spend their money on the wrong initiatives, or forget about spending money on some initiatives that are really important to build the future more or less.

A simple example, they can build functionality right now in a system which can become obsolete within half a year, because we are starting a bigger project and we'll just set up a new architectural framework. Then we are really spending the money on the wrong projects. So, I think those kind of discussions are very important and need to take place.

Getting back to the process, once the budgets are defined for the Business plan for next year, SLA budgets also need to be defined. We are involved in that, but more in an advising role. It concerns more the IT organization (IT Supply) and the business. In the ideal world, business would be able to make some kind of check-up on the external IT markets. To be honest though, in most cases, what I see with big companies like this, business and IT are more or less stuck to each other. So the business can argue that with this IT performance, at this cost level, we are not satisfied and will look outside instead of using the IT organization. However, in practice, the business doesn't really have that option, because their complete landscape is managed by this big IT organization. There are also synergies between the different IT departments, for example my department and Distribution might have the same solution together. So, if one of us decides to go outside with that solution, then the other one will lose the synergy.

So, I think that if you look at BITA formally, IT should also advise the Business and challenge the cost performance perspective, but there are many limitations as well in practice. Politics are also something to consider.

Back to the process again, during the year we are really starting with the projects. Regarding BITA, at the beginning of a project, we facilitate the process that Business and IT together come up with, so that IT understands the demand from the business, but also advise on the solution direction. Here in Vattenfall

that's set up very clearly. We, as IT Demand, have a responsibility to ensure that the architectural policies are taken into account when defining future solutions, also in respect to the existing landscape. As Demand organization, I think we should take the role of safeguarding architectural policies and always consider the existing versus the future/ to-be landscape. The reason why I think it's important that we take that position is that we have to bring more or less an objective message to both parties.

If you leave it only to the Business, they will focus on a short term functional demand, and IT typically will focus on existing solutions. That might give a tunnel vision to IT, because business demands might require new solutions and IT usually tends to try to deliver the functionality via existing solutions.

During projects, we tend to take a step back, since IT has to deliver and business needs to accept or reject the deliverable. We step in at this level, at the acceptance. In general, if there are escalations, IT demand steps in as an objective party, to push IT to really set the priorities right to solve a certain issue, and also to push back business if they are not being realistic or make demands that do not comply with the agreed service levels. In that sense, I feel many times like a referee.

I think these are more or less the formal tasks that are there. To add something to that, I think it's very important for BITA to have the right mindset, and that has to do with not only being objective, but also being perceived as someone who is objective by both Business and IT. I think that's very important. And it has to do with personality and soft skills. For example, I believe I fit to the job because I am not somebody who will push my own ideas forward. What I expect from my business partners is that they will have the vision & strategy of how they want to go forward with their business. And I have my own vision of how I want to set up BITA, but in the discussions with IT supply and the business, it's much more important that I mediate between with what the Business wants and what IT can deliver and bring those two together as much as possible. 21'35''

- **Apart from objectivity, do you think the mediator role should also include simplifying the communication between the two counterparts, and explaining things in a language they both can understand?**

Yes, that's exactly right. It's a very important part. Business needs and tries to discover the IT people that they can talk with and are able to understand what they are saying. When I talk to IT people, it tends to be a quite IT-related and technical discussion. But when Business is involved in a discussion with IT, I always keep in mind that the language used can be followed by both. That's a really crucial thing for BITA.

Also, real IT people who don't have the ambition or the responsibility to be involved in BITA, tend to not have this focus on saying something in a way business will understand it. That's where people responsible for BITA need to step in. That's about language, but also about soft skills and ability to reflect on yourself – am I understood and perceived the way I think I am? And again, politics come into play here quite often.

- **Is it necessary to do trade-offs sometimes, in order to make sure that balance is kept and the perception of objectivity is not damaged?**

Yes. I can add a little bit to that. I like that game, and I think that if you're in such a role you have to like that game. Lots of people hate politics. But I am not one of them. I am not saying I like being dishonest or anything, but sometimes it's necessary to keep both parties happy. So when I'm in a meeting, I tend to bring the message in an acceptable and understandable way. So meeting both parties' expectations and the way you bring the message through to both are key things for the mediator role.

It's really important how you put the message. You can bring through the same message in different ways, but you have to find the one that will be perceived positively by both. That also helps making you perceived as objective of course. It's also important in this role to not take things personally and let things go sometimes, since it's unavoidable that sometimes people might get frustrated with you.

- **Can you tell me which you consider the most important enablers and inhibitors of BITA?**

I think Architecture is very important, but it's a real enabler if it has a link to the Business Architecture and Business Capabilities. So, you can really bridge between IT architecture and Business Strategy in the end. We have set up a model this year within our organization this year, and I consider this a really good one. You can refer to the IT Architecture, and Business can have a good picture of it, because you have some kind of agreed vision of how this IT Architecture is linked to Business processes and capabilities and business vision. So, I think for Architecture, linkage to the Business is crucial.

There's also a lot of discussion about the way you are organized. I like BITA to be independent, but there are also models where BITA is part of either IT or Business. Ideally, I'd say BITA is independent, like it is here. But if this can't be the case, and you have to choose between Business & IT, I think it should then be part of the Business. Otherwise it makes your work really hard regarding BITA, since you're gonna be perceived as "one of those IT guys" by the business people. What I've seen very much in such cases is that you get some kind of informal BITA organization in the Business side, which acts like the Business Demand on the Business side, while at the same time you have BITA on the IT side. So, you have two structures for the same thing, and they don't really work together. We've had that in the past here.

IT Governance is also very important, but you have to have this governance also agreed with the Business, because they really tend to be far too fast with all their demands. This governance should really ensure that both parties have the same view on the process, how the demand comes in and how it becomes a project and what the timelines are. Also, it's very important that the Governance ensures that IT is linked and involved in an early stage. That's an enabler, but also a responsibility for those in charge of BITA. It works two ways, if IT is involved in an early stage, you get quality, and of course you can prevent the situation that IT just says "we weren't involved, so what can you expect?"

- **In connection to that last thing you said, recent studies have shown that it is perceived that collaboration between Business and IT has improved, and confidence in IT's ability to respond to business needs is rising. However, the same studies have found out that the reality is different, and IT people claim that they are still not appreciated enough. What is your opinion on this finding?**

Early engagement is crucial. It has to happen. For us it's easier to do it, since BITA is independent and it takes care of this.

At first, I worked at Heat, where I know that the perception is that Business and IT work close together. And I understand this perception; it also has to do with the enablers that we talked about. The reality over there is actually the same with the perception. However, I think that the main point here is this:

What these researches show is actually happening. The perception is getting better, but also the reality is improving. But, the reality is always behind the perception. On the management level, you can't get the proper perception. Simple example is that they had an external company to take care of our service desk. Then they changed this and moved it internally, and had different people handle it. Typically, with the outsourcing partners, they would always keep it short and it would appear as more effective and efficient. After the change, when it was moved internally, it was colleagues that answered the phone and the questions and conversations would get longer, but the problem would get solved earlier. So, the perception might be good, but the problem-solving might not be better.

I think perception and reality grow and decrease together, but they are rarely at an equal level. At the moment, in Sales there is a negative perception towards Business-IT collaboration, and they tend to avoid working with IT when they can. And we are working towards fixing this. You need to work on the perception and the reality all the time, otherwise they will both go down. It's not that you cannot solve the issue, but you need to work on it.

The ideal situation is to get the perception high, and try to keep the reality as close to that as possible. But I think reality will always be behind the perception.

- **How do you personally interpret the word "Business" in the term "Business-IT Alignment", and how do you think people in general interpret it?**

I see it based on vision and strategy. So, you have a company with its corporate mission, vision and strategy, then you have certain departments in the company with their own mission, vision and strategy, which are of course based on the corporate ones. It can be that the company has IT as a core business, but it's more common that it doesn't. Let's take the more common case as example first.

Let's say IT is not core. In that case, for me Business can be anything that is not IT. You have a BU or department within the company, with its mission, vision and strategy, and then the strategy of that BU is the Business strategy for me. It comes down to the internal customer that you have as an IT organization. That's my view in it, that's the Business. IT has to serve the processes of these customer, and there you have to do your alignment.

- **So, in your organization, does BITA take place only on a BU level, and not on the corporate level?**

Yes and no. That's a good question. What makes it very difficult in Vattenfall is that you have the BU level, and on this level you have your alignment with the BIO who is connected to the BU and to IT. Then you have Group IT, which is not a BITA organization, but they are defining the policies more on a group

level. And that sometimes interferes with the demands of a specific BU, and sometimes there is a conflict between Group IT and the BITA organization for a specific unit. But we don't have BITA for the whole group. What we do have, we are all reporting now in one manager. So, in that sense, there is some kind of common conscience over the BUs.

But the way the Group tries to make sure that we have some kind of group perspective now, is that they also set financial targets for IT. Because the Group expects that IT works internationally, over all BUs, and can provide some kind of synergy, because they are one IT organization. So they get demands from the Sales Organization, the Heat Organization etc., and IT has to make sure that the IT costs are low and do not surpass these targets. So, you have IT Demand & Supply, who sit together and make agreements on service levels and costs and on the Business Portfolio and costs. And on the other hand, IT gets a separate target from the IT Group concerning the IT costs. That is very frustrating, because I think that in order to have good BITA, you should have a transparent cooperation with IT Supply, which is not interfered by any KPIs or something forced on the IT organization and which you cannot influence. We've had that in the past a lot, but at the moment we are working towards a way of getting rid of that.

I think it's a disadvantage. We have a Business who is responsible for the Business plan, and wants to run specific projects to make sure this plan is achieved. But now IT can't fulfill it because they have some financial targets that limit them to certain IT costs. I can understand why you want to have some KPI on the IT organization, but this method in the end is working against us. Business can't deliver their plans anymore, because IT has limited resources and can't support them. So to do your BITA in a proper way, it is important that you have a full grip on the complete IT organization, and not have different KPIs and requirements on this organization that you can't influence.

- **So, to make sure I understand it correctly, within Vattenfall IT operates as a separate organization, and the various BUs are its customers?**

Yes, it's the same company, but it's a very different organization. It's quite a gap, they even have their own financial systems, which makes the whole situation more complicated. Sometimes you have the situation that the IT budgets, as they are administered in the Business Finance Systems, are different from the budgets that are on the IT side. So, the Business says we have this much to spend this year, and at the same time IT says no, we have that much to spend. And of course that's quite a problem, because the Head of IT, who is responsible for the whole IT organization, has a different target setting.

So, Business decides on a budget for IT. Then, the IT Group sets an additional KPI on the IT organization, and then because of this, the budget that's initially assigned by the Business naturally gets lowered. But the Business still expects IT to deliver a certain amount, which leads to a response from IT that they can deliver the same project portfolio for less money. That will be the official statement. Here, there is a management challenge for the IT organization to deliver what Business wants, for 20% (e.g.) less money.

I can understand that in hard times like today you want to challenge your IT management to do more things with less cost, but the expectations have to be realistic.

So, to get back to your earlier question about enablers, one that I consider important is that you need to have full grip on your target setting for IT.

- **Do you believe that there is enough familiarity and awareness regarding the importance and the challenge of BITA among an organization's personnel? Not only in the higher management levels, but across the whole organization.**

I think the nature of people is that they underestimate it. But, that's also related to my previous point about the organization of BITA. If you don't put it separately, but put it on the Business side – something that I have experienced myself – then it helps, because you are perceived like a colleague and it's much easier to show your value. For example, in my previous position, ordering of IT equipment required the BITA organization's approval. So the people that were in charge of BITA also had a responsibility to check whether each person needs the equipment that is requested. In that way, you get a certain respect and people see some value in you even in those simple things, because they concern them directly.

So, BITA needs to prove its added value to everyone, in order for them to be aware of it and appreciate it. Hence, no I don't think that people are neither familiar nor aware enough of BITA.

- **What is your opinion on the introduction of a "champion" for BITA? A champion is someone who is generally respected and appreciated within an organization, and acts as a mediator and facilitator for a specific purpose.**

When I look at the BITA within the Heat organization, my previous position in Vattenfall, my manager had the responsibility for all 3 countries, Germany, Sweden and Netherlands. But he was also in the management team of the Business, so he was reporting directly to the top level boss of Heat. When I was working with people here in the Business, who were at much lower levels in the Business hierarchy, and knew that my boss was reporting to their highest-level boss, they showed more respect and more doors were being opened. That gives you some kind of authority.

So I think that the position where you place BITA and the champion you mention in the organization, also in the hierarchy level, is important in order to get respect and assist in the champion's effectiveness. In conclusion, I do believe a BITA champion would be very useful, but the placement of that champion within the organization, as I mentioned above, is crucial to the effort's success.

- **How do you think organizations view IT's position and importance in the real world?**

I think that, in general, it depends on the Business. For example, Sales has become much more dependent on IT in the past years, since the way they make their business has changed. Now it's much more online, so IT and their core business processes are much more interlinked.

It's also possible to have the situation where IT pushes or pulls the business demand. When I look at other companies I've worked for, where IT is used as an administrative system or a system to do their operational control or maintenance, the situation is different. IT is much more on the background and it's not a hot topic. Here the IT people have much less opportunity to push IT and drive the business, and

it would make sense that such IT people that are proactive and interested in doing this will not be attracted to work for such an organization.

- **Do you believe it is important that the CIO/Head of IT is actively involved in strategy planning and decision-making, and holds a position in the board? Also, from your professional experience, is the CIO/Head of IT usually involved as described above?**

What I see at this moment is that our Head of IT is just reporting to the CFO. And the financial targets I mentioned a while ago, they are directly coming from the CFO. So, the CFO sets the KPIs and financial targets directly to the CIO. They are not taking it seriously at all, they are just looking at the money. So in our situation, IT doesn't have a say in the setting of goals and strategies, and the CIO is not a member of the board.

I must say that in the old setting of the organization, you had the CIO next to the CFO. And when I talk to people who experienced these days, they claim it was a much better setting. We had a direct link into the board and the CIO could put the IT vision in the table and that's something we are missing now.

- **One of the main reasons behind unsuccessful or sub-optimal BITA that I have identified from reviewing existing literature appears to be lack of clearly stated corporate goals. Moreover, one definition of BITA claims that *"BITA refers to achieving maximal IT value-add to the corporate goals"*, and not the various business strategies. What is your opinion regarding these arguments?**

This is the situation I mentioned, the old setting. And it seemed to be working much better, so I agree with this definition. But after Vattenfall acquired Nuon, the organization became much bigger and more complex, and many things changed. Keeping it all together became less important, and it has a lot to do with politics as well. We are now much more focusing on the BU and the country level than we used to before. So, this definition is not that relevant to our current situation.

- **Some researches claim that a very low percentage of employees actually understand their company's goals and strategies. Do you believe there is a clear separation between what a goal and what a strategy is within your current organization?**

I think it's clear that at this moment the overall goal is vague in our situation. It's not clear what it is, and we are all falling back to the more local goals. But this is because of the current state within Vattenfall, since the continental organization is being reviewed and the main goal is to be more profitable in order not to get sold.

- **Are you familiar with the existing literature regarding BITA? Do you know or use any existing tools/frameworks relevant to BITA?**

No, not really. I worked at a company that was advising on the BITA subject. It was very hard to get a theoretical moment to help them with their work, since they wanted something practical and not just conceptual.

- **Regarding BITA Assessment, how is it done within Vattenfall?**

We don't really do that. We have a Customer Satisfaction Index, however it's not really used for BITA. It very much focuses on the satisfaction regarding IT, and you could say that the general idea is that if this satisfaction is improving, then BITA is doing a good job. But BITA in the sense of how well we are doing in building the bridge between Business and IT is not being assessed. But I think that's a good question and it would be a useful thing, since as we said people underestimate the value of IT. It would be easier to get IT on the agenda if we had a measure that proves it is beneficial to the business.

- **Are you familiar with any BITA Assessment tools?**

No.

- **Do you believe that a reason theory is being ignored is that there is not enough evaluation and proof of concept?**

Yes, I believe that is a very important factor. However, it would be something I would be very interested in, knowing what is out there and seeing if it can help me with my job. So maybe this is something I can take out from this interview, paying some more attention to theory. At least in terms of reflection and inspiration.