JÖNKÖPING INTERNATIONAL
BUSINESS SCHOOL
JÖNKÖPING UNIVERSITY

Time is Money!

Time Lag Managements in Business-IT Strategy

(Empirical Validation of theories)

Master's Thesis in Informatics

Authors: Raymond Tarabay

John Paul Opara

Tutor: Ulf Larsson

Jönköping May 2010

Master's Thesis in Informatics

Title:	[Time Lag Managements in Business-IT Strategy]
Authors:	[Raymond Tarabay and John Paul Opara]
Tutor:	[Ulf Larsson]
Date:	[2011-05-30]
Subject terms:	Strategic Alignment, Time lag, Business/IT strategy

Abstract

For today's organizations to fully optimize their two major priorities, which are reducing costs and increasing revenue, they need to be involved in continuous modifications and constant renewals of right mechanisms towards alignment between business-IT strategies.

This paper investigates issues in strategic alignment, the specifics were: what causes time lag in business-IT strategy implementation, how can organizations manage this time lag better and finally how alignment can be achieved in business-IT strategy. Thorough literature review has been performed by the authors to come up with the causes of time lag in business-IT strategy. Then, two case studies together with three experts' interviews have been conducted in order to validate the causes of time lag in business-IT strategy.

The results show that, lack of understanding of IT departments by business department, lack of understanding of business departments by IT departments and protocol rigidity are the major causes of time lag that exists between business-IT strategies. While the lesser factors were: not using the IT department in defining the business strategy and usage of business terminologies by business departments in communicating to IT departments.

Table of Contents

Figures

Appendix

1 Introduction

In this chapter, reader will be introduced to the research at hand, i.e. the research this paper will embark upon, together with the background of the study. More also, problems discussion showing the gaps the study intends to investigate will be brought forward, narrowing it down to the purpose and research questions that this paper hopefully should be able to provide answers to and finally, follow by the outline showing the remains of this thesis.

This thesis investigates the "Time Lag" in Business and IT alignment strategy. Alignment has been described as a goal that can never be completely achieved, and one that will often necessitate frequent adjustments within the organization (Baker & Jones, 2008). Thus, as argued by Henderson & Venkatraman (1993), there should be processes that continuously adapt alignment change over time. Chan & Reich (2007) highlighted that most of the alignment research is too mechanistic and theoretical, therefore, have failed to capture real life situation. In light of the enduring interest in alignment among both practitioners and researchers, the authors were challenged by this fact, recognizing that gaining more insight into this area will require more real life scenarios.

More also, the authors observed some questions remained unanswered, some of which was cited by Van Der Zee & De Jong (1999),"*time lag between business and IT planning processes*". In Van Der Zee & De Jong (1999) paper, they highlighted the level of dynamism in today's environment when it comes to business environment and technology, due to this dynamism; they stressed that there is high possibility that a firm might not realize their plan towards technology even before the plan is enacted. This gap has drawn the authors to want to investigate issues relating to strategic alignment, and hopefully, provide bridge to this gap.

1.1 Background

Arguably, businesses are still faced today with two major priorities: to reduce costs and inturn, increase revenue. The implication of this reality as argued by Archibald (2010) is that, IT departments need to understand business challenges, and as a result, emerge as a strategic partner rather than a cost centre or support function. Nonetheless, most organizations still view and treat IT as a cost, rather than something that is capable of providing value (Venkatraman, 1997). Research reveals that achieving these goals (i.e. maximizing profit and minimizing cost) requires alignment (e.g. Archibald 2010; Venkatraman 1997; Ledere & Mendelow 1989). In fact, this was also highlighted by Ekstedt; Jonsson; Plazaola; Molina & Vargas (2005); their findings reveal that the prerequisites for organization to improve on performance, depend on level of organizational alignment. Therefore, they further see alignment as a necessity for any organization that intends to realize benefits from its IT investment.

In this light, Archibald (2010), contend that achieving competitive advantage requires mutual collaboration between the IT executives and business leaders, to come up with potential possible ideologies in respect to project developments. According to Archibald (2010), doing this will achieve relationship between IT and the people who hold the purse strings; enhance learning, because taking a strategic role will require getting acquitted with business goals and objectives, and it will create strategic thinking. In fact, Avison, Jones, Powell &

Wilson (2004), argue that when an organization is aligned, it stand the chance of recovering returns on IT project; since aligned organizations often posses competitive edge, which gives them the benefits of reacting to any new opportunities. In short, Ledere & Mendelow (1989) further argued that alignment increases the likelihood of developing a system that could be critical to the organization, therefore, they see IT role in corporate strategy development, increasing and facilitating competitive advantage.

Nonetheless, according to Avison et al. (2004), strategic planning and alignment, maintain a dominance structured strategy process, which might serve as hindrances in achieving alignment. Even, Ciborra (1997) questioned the potency of structured strategy to function in an era where uncertainty and flexibility dominate and the articulation of the strategic intent is difficult. No wonder, Maes (1999) termed the concept of strategic alignment to be an illusion, claiming the possibilities of achieving it to be near zero. According to Mckay and Marshall (1999), since every individual is endowed with different idiosyncrasies, applying strategies in real life scenario might actually not be an easy task. More also, Mintzberg (1987), also argued that strategic planning is capable of distorting creative thinking and can misguide organizations that embrace it without reservation. The fact remains, strategic alignment presumes that management should structure information infrastructure that will align with emerging management insights, since, the concept strategic alignment originated when firms discovered they were developing an IS that did not support their business strategies.

All these aforementioned, made strategic alignment interesting topic, one that worth investigating and venturing into. This in turn, has attracted the authors to be interested in investigating this area, and will hopefully, be bridging more gaps in these areas, particularly the issue of time lag between Business and IT alignment.

1.2 Problem Discussion

According to Smaczny (2001), no studies focus on how organizations actually achieve alignment; although, that has argued it several researchers (Smaczny, 2001; Reich & Benbasat, 2000; and Baker & Jones, 2008) that organization strive to achieve alignment. A good example, is the research done by Tallon & Kraemer (2003), which reveals that, the level of alignment is higher in production, operations together with customer relations and low in sales and marketing. Nonetheless, their work (i.e. Tallon & Kraemer 2003) did not show the process of alignment and how it can be achieved; their findings highlighted that alignment in organizations might lead to organization having higher returns on IT investment.

According to Reich & Benbasat (2000) there are some elements that are capable of enhancing alignment, though, they will only yield short-term alignment, they are: *shared domain knowledge between IT and business, IT implementation success, communications, connections between IT and business, and business direction*. These elements identified by Reich & Benbasat (2000), was partly highlighted also, by Luftman, Papp & Brier (1996); Luftman, (2000); and Luftman (2003), although, it was not considered as short-term alignment, instead they explained and stressed, that organizations should persistently pursue the goal of strategic alignment. In turn, neither, Reich & Benbasat (2000); Luftman (2000) and Luftman et al. (1999), actually state how companies achieve strategic alignment, instead, they show how companies can achieve alignment.

Hitherto, alignment is still treated by many organizations as something that has an end point instead of seeing it as a continuous process (Baker & Jones, 2008), this poses problems and irregularities in strategic alignment areas, although, as argued by Barker & Jones (2008), how alignment is treated depends on how organization actually sees it. According to Sabherwal; Hirschheim & Goles (2001), alignment evolves over time, and if this model applies, then a static contingent models are unlikely to be appropriate for strategic alignment. In light of that, since this work will be focusing more on strategic alignment, thus, the authors will treat alignment as a process rather than a static state.

Furthermore, researchers have confined themselves to theoretical issues and practical generalizations (Smaczny, 2001). Bergquist, (1993); and Ciborra, (1993) both argued that contemporary organizations are built on a mechanistic foundation, Bergquist (1993) further argued that contemporary management uses structured, planning oriented approaches to achieve business aim. Although, Bergquist (1993) and Clegg (1990) both recognized that the rules to operate in a contemporary organizations have changed, due to the fact that the mechanistic foundations are not in a position of helping today's organization, to cope with the external environment. In most cases, the dynamic nature of today's environment can result to organization defining strategy in a "hurry". In addition, according to Smaczny (2001), the word alignment can be understood to be "in step" or "following", which often result to "master-slave", "leader-follower" relationship. In turn, this kind of relationship will create "follow up" tensions where a quick or rapid execution is very difficult. Therefore, the time to react between a business decision made and the IT decision becomes too short for IT organization to respond. The truth remain that the shorter the response times required between decisions and actions the shorter the resources required to execute.

The strategic alignment model developed by Henderson & Venkatraman (1993) sees alignment as a two way process, which requires business strategy to be developed separately to IT strategy, and then synchronized together. Meanwhile, the latest development in alignment model requires a continuous synchronization among business strategy, IT strategy, and business-IT operational plans (Baker & Jones, 2008; Coleman & Papp, 2006). What this implies is that, there will be a delay in processing and adjusting, given that such process requires perfect communication and lack of bottlenecks. Ironically, perfect communication is not even possible where internal and external environment remain unchanged, how much more, in today's environment that is continuously changing.

With the aforementioned, this thesis will be addressing strategic alignment related issues and specifically will be looking into the causes of the time lag that exists between business strategy and IT strategy. On the same path, try to investigate the basic questions of how an organization can achieve alignment between their business and IT strategy.

1.3 Purpose and Research Questions

The purpose of this thesis is in three folds: First, to draw more light to the concept of strategic alignment in business and IT strategy, second, and most importantly, the causes of time lag between business and IT strategy, third, to investigate how organization can manage the time lag that exist in business and IT strategy. Other specific issues this thesis will examine will be within the strategic alignment mainstream. The objectives are to close up more gaps in the field of alignment, specifically, strategic alignment. With the aforementioned, the main questions this thesis will be addressing are:

- What are the causes of time lag between business and IT strategy implementation?
- How can organization manage the time lag between business and IT strategy better?
- How can organization achieve alignment between business and IT strategy?

1.4 Delimitations

Most of the empirical findings in Business and IT alignment have been on larger-scale (Luftman & Mclean, 2004; Van der Zee & De Jong 1999), consequently, by multinational corporations. However, this thesis focus was on companies that belong to group in a multinational company, together with the expert in the field of strategic alignment, making this different from most often used empirical findings as highlighted by Luftman & Mclean (2004). Nonetheless, since the novelty of this thesis lies on investigating the issues of time lag in business and IT strategy in those companies, the findings will span from theoretical views and empirical study. However, the outcome of this thesis is not expected to exhaust every aspect in regards to strategic alignment or lags managements, in particular time lag, but rather to give more insights into the field, and hopefully bridge some gaps in the field of business and IT. In this light, this thesis can serve as a platform for knowing those factors that are capable of causing time lag between business and IT strategy and probably a possible way to manage those factors.

1.5 Outline

The rest of the report will be divided in these headings: methodology, theoretical background, thesis analysis framework, empirical findings, discussion and analysis, and conclusion. Under the heading 'methodology', there will be a description of the methods used to achieve the purpose and answer research questions. The 'theoretical background' will define and explain the basic concepts, theories and models that will be used in this thesis. The "thesis analysis framework" is a construct from theoretical background and will serve as a framework for analysis in the later chapter, while, 'empirical findings' will show the outcome of findings from different companies and experts, and the 'discussion and analyses will discuss and analyze the research questions, using the findings together with the framework. The final part will be the conclusion where the authors will reflect and reiterate the research questions, evaluates the methods used, answers found and give suggestion for further studies.

2 Methodology

Presenting a new knowledge to a novel area requires methodology, i.e. tools and techniques for analyzing collected data (Holme & Solvang, 1997). Applying the right methodology, will guide researchers and not only that, also help to achieve a relevant contribution to what they are investigating (Home & Solvang, 2007). This chapter constitutes the methodological framework for the whole thesis. In this part, issues relating to methodology is discussed, issues such as how the authors carry out their investigation in relation to the research aim. It is consisted of the types of research approach adopted, the nature of knowledge the research will yield together with the kind of data collection method used. Furthermore, presentation of how the interviews were collected in relation to the chosen research questions, together with the credibility of the study.

2.1 Knowledge Approach

Three types of studies can be generated from thesis writing, namely; descriptive, exploratory and explanatory. Each study is distinctive in its nature and cause, because it leads the researcher to different kind of findings. According to Goldkuhl (1998), it is of great importance analyzing which knowledge to be use in a paper due to its influence on the generated knowledge. Therefore, Goldkuhl (1998) suggest that the knowledge approach should be chosen carefully in order for a paper to be validated in practice.

According to Saunders, Lewis & Thornhill (2007), studies following the exploratory knowledge involve searching out the current situation; (e.g. to know what is happening in an organization) and trying to have a deeper understand, in order to be able to propose relevant questions, which might probably result to new insight (Robson, 2002, p.59).

Descriptive study is based on describing an existing situation or condition, where the case at hand should be detailed by the researcher and properly described (Patel & Davidson, 1994).

While, according to Saunders, et al. (2007), explanatory studies have their root in causal relationships between variables. In other words, in explanatory studies, the researcher seeks to investigate a particular situation and thereafter draw lines between the variables.

Having considered the different types of studies, the authors of this thesis chooses to adopt the "exploratory" study approach, since according to Saunders, Lewis & Thornhill (2007), this kind of study involves seeking insights and assessing phenomena in new light which is exactly what this thesis will be doing. Because, the formulation of the thesis problem is as result of literature review of papers in strategic alignment, which Ghauri and Gronhaug (2005, p.58) refer to as getting information and construct explanation (theorizing), this was later adapted to a framework from other theories and models, in order to provide new insights to different phenomenon, which is causes of the time lag in business and IT strategy.

2.2 Research approach

There are mainly two approaches when carrying out a research of empirical study; inductive and deductive approach. According to Saunders et al. (2007), a deductive approach can be define as a "research approach involving the testing of a theoretical proposition by the employment of a research strategy specifically designed for the purpose of its testing", while,

inductive approach is defined as a "research approach involving in the development of a theory as a result of observation of empirical data" (Saunders et al. 2007, p.599).

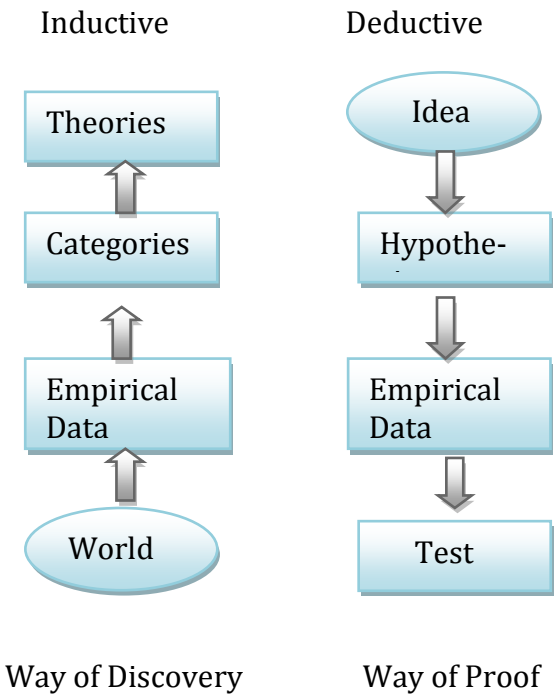


Figure 1 Research approaches (adapted from Lindh, 2009)

Thus, in this thesis the authors argue for a deductive approach, since the analysis was built from existing knowledge and framework (Ghauri & Gronhaug, 2005), by this the authors mean, all the concepts, for instance business strategy and IT strategy, the models, for example, Henderson & Venkatraman (1993) strategic alignment model and Luftman (2000) strategic alignment maturity model and the theories, for example, Miles & Snow (1978) organizational profile were all built from existing knowledge. All these had helped us to narrow and shift to specific part of this thesis which was later used to build a framework, which later served as the analysis framework for the causes of time lag between business and IT strategy.

2.2.1 Qualitative and Quantitative method

The difference between qualitative and quantitative method is not just of quality, rather of procedure. According to Robson (2002), one of the things that make qualitative data unique is that it gives the author the opportunities to explore and gain deeper insight to a phenomenon. While, Holme & Solvang (1997), states that quantitative study is based on reasoning and hypothesis testing. According to Ghauri & Gronhaug (2005, p.110), in qualitative research, findings are not arrived at by statistical methods or other procedures of quantification, although, the difference between quantitative and qualitative methods is not

just a question of quantification, but also on how they reflect to different perspectives on knowledge and research objectives.

According to Ghauri & Gronhaug (2005, p.110), the main reasons for doing qualitative research and using qualitative methods are the objective of the research project and the background and previous experience of the researcher (Ghauri & Gronhaug, 2005, p. 110), and Saunders et al. (2007) stresses out the importance of clearly distinguishing the method being used, qualitative or quantitative, due to its importance on outlining what is required to analyze the data in a more validated way.

This thesis chose a qualitative method, because of its richness and fullness that provide possibility of exploring the subject at hand and since this thesis will not involve any quantification or testing of any hypothesis, then, qualitative seems to be suitable for this thesis. More also since what this thesis will be doing is collecting data and analyzing it in parallel (Holloway, 1997), therefore qualitative seems justified in order to investigate the time lag management.

The distinctions between both methods are presented in the figure below:

Quantitative data	Qualitative data
Based on meanings derived from numbers	**Based on meanings expressed through words**
Collection results in numerical and standardised data	**Collection results in non-standardised data requiring classification into categories**
Analysis conducted through the use of diagrams and statistics	**Analysis conducted through the use of conceptualisation**

Figure 2 Quantitative and qualitative studies (Saunders et al., 2007, p. 472)

.

2.3 Case Study

According to Robson (2002), a case study can be defined as follow; "a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple source of evidence" (Saunders et al. 2007, p. 139). A case study answers "why", "what" and "how" questions. Since this thesis will be answering questions with "how" and "what" and also will be covering a real life situation, then case study was considered to be suitable for this thesis. Furthermore, authors of this thesis gathered information from different sources, such as literature, scientific articles and studies of secondary data to stress out the existing knowledge on what concerns business/IT alignment and time lag. In other words, this thesis will be answering questions of 'what' and 'how'.

In addition, according to Ghauri and Gronhaug (2005, p.116), "a case study is to be conducted if we want to follow a theory that specifies a particular set of outcomes in some particular situation, and if we find a firm which finds itself in that particular situation". The authors used the case study method to test theories and its applicability to the organization

that was chosen. Taking in consideration these guidelines, the authors of this thesis inspected whether the theories in this thesis are applicable in real life cases. The research also tried to validate existing theories, by using empirical findings.

Furthermore, case studies can take two different directions; single cases or multiple cases design. The first mentioned, according to Yin (2009), is highly justified under certain conditions, for instance, when the case represents " a rare or unique circumstance, a critical test of existing theory, a representative, typical case, revelatory or longitudinal purpose" (Yin, 2009, p. 52). On the other hand, when the study contains more than a single case, it is referred to as multiple-case design. According to Herriott & Firestone (1983), the data from multiple cases is often considered more compelling, and the generated result is regarded as more robust (Yin, 2009). The authors of this thesis conducted a multiple-case study, which involves two companies and three experts; this was done, to enhance the robustness of the expected result of this thesis.

2.4 Data collection

2.4.1 Literature review

According to Saunders et al (2007), getting a reliable data by reviewing literatures require fulfillment of some certain perquisites (e.g. reviewing an article that has been peered reviewed and checking on academic database). Reviewing the most relevant and noteworthy research on the topic of focus can attain achieving this purpose. The authors of this thesis did define and re-defined the keywords of the subject at hand based on the research questions and objectives of this study. Sets of databases were used in order to get the most valid and reliable data.

Databases:

- Emerald
- Science Direct
- ABI/IFORM Global
- Library, Information Science & Technology Abstracts (EBSCO)

2.4.2 Designing the questionnaire

The questionnaire questions were derived from our theoretical framework, to be precise, from Luftman (2000) and Luftman el al. (1999) paper respectively. The questionnaire had two main aims; first the authors wanted to validate the causes of the time lag in business and IT strategy in the developed analysis framework, second, the authors think it will also be interesting to capture those aspects that has not been specified or mentioned in literatures, but that could be important for organization. According to Ghauri et al. (2005), the questionnaire construction should hold certain characteristics. The first step in the construction of a questionnaire is 'to specify what type of information is required' (Ghauri et al., 2005, p.127). Our questionnaire contain semi-structured questions that addresses the aspects of causes of the time lag between business and IT strategy, to enable the authors gather different view relating to time lag.

2.4.2 Interview

The data needed in this paper was collected using interviews. The authors of this thesis choose this methodology in order to get a better understanding from real life cases on how to achieve strategic alignment in business and IT strategy, also to investigate how organization can manage the time lag that exist in business and IT strategy, more specifically, the causes of time lag. There are three types of interviews that could be conducted namely; structured, semi-structured and unstructured interviews.

According to Saunders et al. (2007), structured interviews "use questionnaires based on predetermined and standardized or identical set of questions and we refer to them as interviewer-administered questionnaires" (Saunders et al. p.132).

While, semi-structured interviews are conducted with a set of varied interview-themes, without following a certain order on how the questions will be posed. The flow of the interview will depend on the conversation (Saunders et al., 2007). Semi-structured interviews are used in research papers in order to generate qualitative data.

In addition, Saunders et al. (2007), unstructured interviews is not predefined, rather, it gives the interviewee room to answer questions freely in respect to the question being asked. The authors of this thesis used semi-structured type of interviews, knowing that qualitative data will be generated from that type of interview.

2.4.4 Justification of chosen companies for the thesis

Since the aim of the thesis is to validate the theories developed with the empirical findings, then for consistence, it is paramount to choose company with more or less similar features. In fact, apart from other features that justify why this companies were chosen, one of the main feature is that both Electrolux-distriparts and IKEA-components belong to group in a multinational company, they both handle more or less after sales services to their customers mainly in Europe, they are both located and have their headquarters in Sweden, they both make use of information technology (IT) to manage their business activities and finally, because the authors had access to interview the people in the strategic position.

2.4.4 Justification of chosen experts for the thesis

The reason for the chosen experts in this thesis is their experience and knowledge in the field of IT and business alignment. For instance, Dr. Ulf Seigerroth is an assistant professor with area of interest in the field of enterprise modeling and business-IT alignment, more also he has been involved in re-engineering of organizations business process, while, Kenneth Hellman had served as CIO and currently he is acting as a management consultant at Capgemini, dealing with alignment issues, and finally, Jan Wåger who has worked as an IT consultant and a current CEO of F4energy Company.

2.5 Analysis Method

In particular, analyzing case study evidence is difficult, because there are no existence of pre-defined strategies and techniques. Nonetheless, according to Yin (1988) there are three dominant analytic techniques: pattern marching, explanation building and time-series analysis; however, one analytic strategy is to rely on the theoretical propositions (Yin, 1988). According to Yin (1988), this proposition is guiding the case study analysis theoretically. In this light, this thesis will rely on the thesis analysis framework developed, since this framework has also shaped how the data for this thesis was collected.

In the same light, according to Saunders et al. (2007), there are two methods that can be used in the analysis body of a paper, deductive or hybrid approach. The deductive is likely when the researcher is using a theoretical framework against which he will analyze the data obtained, in other words from theory to data. On the other hand, a hybrid approach according to Saunders et al. (2007) is when using an established theoretical construct to help the researcher make sense of the findings. However, Saunders et al. (2007) mentioned that both methods, deductive and hybrid are *making assumptions about the appropriateness of the theory that you are using (Saunder* et al., p.159). In both methods the theory chosen will shape the conclusion of the work. However, this research follows a deductive way of analyzing the empirical obtained from the firms and the experts interviewed, since authors are establishing a theoretical construct that will help the authors make sense of their empirical findings.

2.6 Research credibility

Research credibility is concerned with the degree on how much the information collected and analyzed is right. According to Saunders et al. (2007), in order to reduce the possibility of getting wrong answers, the researcher should pay attention to reliability and validity when designing the research. Therefore the authors of this paper took in consideration the research credibility as a main concern when undergoing the data collection and analyze.

2.6.1 Reliability

According to Saunders et al. (2007), reliability can be defined as "the extent to which data collection techniques or analysis procedures will yield consistent findings'. In addition, According to Robson (2002), there are three threats to reliability. The first is participant error, Saunders et al. (2007) stressed out the importance of choosing the right day for data collection or study, due to obtaining different results when it is conducted in different day of the week. For instance, Fridays afternoon and Monday mornings might not be appropriate to conduct interviews or research due to the employee's high expectation on Friday because they will be looking forward to the weekend and low on Monday, having a working week in front of them. Therefore the authors of this thesis were aware of not conducting interviews on non-neutral days; all interviews were conducted on Tuesday and Wednesday. More also, interviewees were also informed before the interview was done, to give both party room to prepare, in order to avoid or at least minimize participant error.

The second threat is the participant bias, when collecting data from an organization; interviewees may say what their bosses want to hear in cases where the employee feels insecure (Saunders et al. 2007). The interviews conducted in this research were directed to top management personnel in companies.

The third threat is related to observer error, where there is more than one researcher conducting the study, different results can be attained due to different ways of conducting it. The authors of this thesis did conduct their data collection together, in order to minimize the observer error and to ensure and enhance the reliability of this research.

2.6.2 Validity

"Validity is concerned whether the findings are really about what they appear to be about" (Saunders et al., 2007, p.149). Validity is concerned about the relationship between variables and whether it is a causal relationship. In this thesis, the data collection was conducted within the frame of the thesis research questions. In other words, the research methodology was conducted in a way to measure and describe what is supposed to, which are mainly the causes of time lag in business and IT strategy of an organization.

According to Kidder (1981), there are four tests to judge the quality of research design. Those are construct validity, internal validity, external validity, and reliability. According to Ghauri & Gronhaug (2005, p.83), construct validity is the extent to which an operationalization measures the concept which it purports to measure, while, external validity relates to what extent the findings can be generalized to particular persons, (e.g. settings and times), as well as across types of persons, while, reliability is all about how the outcome of collected and an analyzed data will be consistent (Saunders et al. 2007).

Nonetheless, according to Yin (1988) external validity refers to the domain to which a study's findings can be generalized. According to Yin (1988), external validity could be obtained using replication logic in multiple-case studies. For this reason, the authors of this thesis used two cases in the empirical findings; this was done in order for it to predict similar results, since this kind of selection leads to literal replication. According to Ghauri & Gronhaug (2005, p.83), to achieve construct validity require the researcher to develop adequate measures, to capture that which the author intend to capture. In light of this, the authors have developed a framework to measure what they intend to capture. Therefore, the author can claim that this study has fulfilled the highlighted validity.

2.6.3 Generalizability

Generalizability refers to whether the findings in the paper may be equally applicable to other research settings. In other words, we mean to what extent the findings from a study can be generalized to other settings (Ghauri & Gronhaug 2005, p.218). Yin (1988) differentiates analytic generalization from statistical generalization, in analytic generalization; a previously developed theory is used as a template with which to compare the empirical results of the case study. Therefore, if two or more cases are shown to support the same theory, then replication may be claimed (Yin, 1988). In this thesis, analytic generalization was used, because we have used two cases in order to be able to generalize our study by replication.

2.7 Summary for the Chapter

This chapter has presented the research strategy that the authors have chosen to use in this thesis together with the approach, which is depicted in figure 1. The approach used in this study is multiple case studies because it increases the generalizability of the findings of this thesis.

3 Theoretical Background and Basic Concepts

In this chapter, three major frameworks will be introduced, first, the time lag concept developed by Fischer and Pardey (1979) where time lag is conceptualized to comprise three components, second, the framework developed by Henderson and Venkatraman(1993), dealing with strategic alignment together with the perspectives, third, organization profile developed by Miles and Snow (1978) dealing with different organizational profiles. Then, brief description of the basic concepts of strategies and alignments together with its types were described, and how they are related to each other's since they constitute the general interrelated terms of this thesis.

3.1 Time Lag in Business-IT strategy

Organizational lag model might be used to explain the lag in strategic alignment, although, this model was used originally by Evan (1996), to explain the existence of lag in accounting organizations, and the causes of this lag on how organization can align their accounting department to their information system. According to Evan (1996), organizations tend to lag behind Information Technology (IT), in turn, IT also tends to lag behind organization, although, Evan (1996) claimed that this might not occur frequently. According to Evan (1996), organizational lag can be defined as "a discrepancy in the rate at which new technical and administrative ideas are implemented in an organization". The idea behind Evan (1996) assumption is that organizational IT is likely to be perceived by management as being more tangible and more closely associated with profit objectives of industrial organizations, than administrative. In contention, Evan (1996) argued that the potential benefit of administrative is less certain than for information technology; however, they are likely to need more time to have any recognizable impact. The Oxford dictionary (Oxforddictionary.com) defined lag as failing to maintain a desired pace or to keep up; fall or stay behind. However, the lag this thesis is dealing with is the time lag that exists between business and IT strategy implementation.

According to the Oxford dictionary (oxforddictionaries.com), time lag can be defined as time during which some action is awaited. Fischer & Pardey (1979) conceptualized time lag in three component, first, the discovery state lag, which is the time from when an idea is available and is made aware to decision maker; second, the evaluation state lag, this refer to the time lag from awareness to first use and finally, the trial lag, which is the time lag from initiation of trial use to acceptance by the decision maker.

Lindner, Pardey & Jarret (1982) acknowledged that the duration of the time lag in each mentioned state, will be directly related to the minimum amount of required information, and will be inversely related to the rate at which it is collected. Furthermore, collection and evaluation of information plays a central role in all the stages and the differences in the nature of the information collected distinguishes the first stages from the other two stages. According to Fischer & Pardey (1979), organization decision regarding an idea will depend on the actual profitability of the idea and initial belief about the idea's profitability. In fact, there are empirical studies, mainly conducted by sociologists, which has been discovered that there is typically a considerable time lag from the point when a decision maker learns of the existence of an opportunity until the adoption.

Organizational lag model has been used as part of the building blocks to time lag, to explain the lag in strategic alignment, although, this model was used originally to explain the existence of lag in accounting organizations, and causes in aligning accounting department to information system. Therefore, the authors acknowledge the novelty in this area, in respect to time lag in business-IT, thereby, they wish to elucidate that the prior model was used in order to give more insight to time lag.

3.2 Strategy

Different scholars and researchers have widely used the concept "strategy", both in management's disciplines and military based research. Hitherto, strategy has not yet gained a universal definition. Various researchers depending on the field they are researching upon have used the concepts in diverse ways, Mintzberg; Lampel; Quin, and Ghoshal (2003), argued that some authors use the concept when relating to goals and objectives. According to Chandler (1962); Mintzberg et al. (2003), strategy is a management-planning concept, which defines, elaborate and systematically plan a long-term action, design to achieve a long-term aims or a specific goal for an organization.

Strategy is a plan that integrates an organization super goals, policies, and action sequences to form a cohesive whole. This plan is often the top management responsibilities, although, it is constrained to the nature of organizational business, resources, capabilities, structure and environment within which it operates. Mintzberg et al. (2003) identified five definitions of strategy; *plan*-conscious course of actions, set of guidelines to deal with a situation; *ploy*-ways of outplaying a competitor; *pattern*- a pattern in a stream of action; *position*- means of locating an organization in a dynamic business environment, where the mediating force between organization and its business is strategy; *perspective*- this refer to deeply and thoroughly worked way of perceiving the world.

The most interesting of all is the conceptualization of strategy by Hofer & Schendel in (1978) which received ample consensus among researchers in business strategy. According to Hofer & Schendel (1978), they contend that strategy provides directional cues to any organization that allows it to achieve its objectives, while responding to the opportunities and threats in its environment, while; Chandler (1962) sees strategy as a determinants factor of pursuing or achieving organizational goals.

In fact, it has been argued by (Chandler 1962; Mintzberg 1988), that strategy states clearer goals and objective in precision to organization mission and aim, including what they want to achieve. Although, considering the dynamism in today's environment, the essence of strategy will be to build a posture that is capable of giving an organization a sense of direction in achieving its goals. Although, Mintzberg (1988) acknowledged that strategy is quite complex and difficult to foresee, due to the fact that it works in retrospect. However, Mintzberg (1988) further argued that strategy is capable of dealing with unpredictable and unknowable. Acknowledging that even managers that are successful one way or the other might still find it difficult to define how they manage to build their strategy.

Meanwhile, according to Porter (1996) strategy is simply creating fit among company activities, though, Porter stresses that strategy success depend on doing so many things right. According to Porter (1996), without fit among organizational activities, then there is no distinctive strategy and little sustainability. Nonetheless, in this research, the strategy that the authors will be focusing more on is corporate strategy. Since, it deals with the overall pur-

pose and directions of a firm. Corporate strategy refers to the firm's choice of business, market and the future directions and performance, defining the overall business scope and directions.

3.3 Alignment

There are no encapsulated definition for alignment, therefore it becomes difficult to apply in all settings, according to Baker & Jones (2008), several specific types of alignment, is addressing not only organization's strategy and competitive context, but also put into consideration the organization's resources, IT strategy and resources. Alignment is a broad topic, the concept that has strive to match organization resources to the competitive context in which the organization is situated (Chandler, 1962).

The description and summary of different types of alignment is shown below, in order to be able to narrow down the focus and draw attention to the specific alignment that the authors will be dealing with in this thesis.

3.3.1 Types of Alignment

There are five different types of alignment, the business alignment; IT alignment; contextual alignment; structural alignment and strategic alignment. Among the first descriptions of alignment is the idea of aligning organizational resources and organizational strategy. Sabherwal; Hirschheim & Goles (2001) referred to this type of alignment as business alignment, the idea behind this kind of alignment is that organization structure and resources will evolve to support organization strategic mission. In short, Chandler (1962) contends that organizations should have a long-term coordinated strategy rather than allowing the individual functions within the organization to operate independently. The summary of Chandler's (1962) arguments is a structure "follows strategy". According to Chandler (1962), when business alignment occurs, the organization is well positioned to execute its strategy and performance benefits will accrue.

As business strategy begins to gain acceptance, within the business disciplines, the same logic was applied within IT department to describe a second type of alignment (Baker & Jones, 2008). Thus, it was observed that if alignment between organizational resources and strategy yield performances benefits, then alignment between IT resources and strategy should also be able to yield good results. Sabherwal et al. (2001) referred to this form of alignment as IT alignment. The idea behind this type of alignment is that when IT strategy is developed when deploying the resources, then IT strategy will serve as guidance, then the organization will be in a better position to execute its IT strategy.

The third type of alignment is contextual alignment, which stresses that organization should strive to align their resources with the competitive context in which they exists. This context includes the industry context, macroeconomic context, and other national and cultural factors (Chan & Reich, 2007). The fourth type of alignment describes the congruence that exists between organization resources and IT resources; this form of alignment is referred to as structural alignment. Structural alignment has been investigated in strategic management, where performance benefits have been observed. Finally, the fifth strategy

known as strategic alignment, which is the strategy this thesis is based upon, examines the link between IT strategy and organizational strategy (Sabherwal et al., 2001). According to Baker & Jones (2008), when managers in organization and IT strive for strategic alignment, they develop a fit between IT strategy and organizational strategy, then, potential exist to improve organizational performance. No wonder the research on this form of alignment has remain a major focus of IS researchers. (Figure 3) shows the brief summary of definitions of strategic alignment.

Table 1. Definitions of Strategic Alignment

Definition	Source
"…the degree to which the information technology mission, objectives, and plans support and are supported by the business mission, objectives, and plans."	[Reich and Benbasat, 1996] quoted in [Reich and Benbasat, 2000, p. 82]
The strategic fit (between the internal and external business domains) and functional integration of: business strategy, IT strategy, organizational infrastructure and processes, and IS infrastructure and processes.	[Henderson and Venkatraman, 1993, pp. 6-9]
"Applying IT in an appropriate and timely way and in harmony with business strategies."	[Luftman and Brier, 1999, p. 109]
Using IT in a way consistent with the firm's overall strategy.	[Palmer and Markus, 2000, p. 242]
The organization of the IS function within a given firm should be contingent upon the internal and external factors specific to the firm.	[Brown and Magill, 1994, p. 372]

Figure 3 Strategic alignment definitions (adapted from Baker & Jones, 2008)

3.3.2 Definition of Strategic Alignment chosen in this thesis

As previously stated, there are no encapsulated definitions for alignment; because it is difficult to apply in all settings, due to the fact that, several specific types of alignment is addressing organization's strategy. Nonetheless, despite the many fictitious that strategic alignment has, this thesis will be using the view of Luftman, Papp & Brier (1999), which is application of IT in an appropriate and timely way and in harmony with business strategy. Luftman, Papp & Brier (1999) definition was embraced, because they highlighted the "timeliness", which is the pinnacle of this thesis.

3.4 Strategic Alignment Model (SAM)

Lately, IT customary role has been capacitated toward administrative support. These days, this role, has evolved far beyond the earlier stated, i.e. clerical oriented activities, electronic communication and office maintenance object, to a more strategic role, which is to be incorporated into an organization vision and mission. Nonetheless, this evolution of IT has left opaqueness in ascertaining the present role of IT, for instance, in an organization that had formerly treated and use, IT as mere administrative support. There have been several frameworks that endeavored to propose explanations in recognizing the present role of IT in today's organization (Henderson & Venkatraman 1993). Nonetheless, as stated by Henderson & Venkatraman (1993), these frameworks are useful in terms of description and pinpointing the emergence of interconnectivity between organizational action and their IT capabilities. While, failing to articulate the basic logic, which is, deriving benefit from IT capabilities and its complexities.

Notably, as argued by Henderson & Venkatraman (1993), previous framework also failed to address, the business and organizational requirements, in terms of transformation that could enable change and simultaneously shaped brand-new and powerful IT capabilities. In

this light, Henderson & Venkatraman (1993), developed a framework that could be considered as a framework that align business strategy with that of IT strategy, that could be used to conceptualize and direct managerial role of IT, and more also, a framework that will aid in leveraging IT continuously toward competitive advantage.

According to Henderson & Venkatraman (1993), this model is conceptualized in two fundamental parts: strategic fit and functional integration, the former is the interrelationships between the domains (internal and external), while the later is the integration between business and functional domains. This model is made up of four different entities: business strategy, information technology strategy, organizational infrastructure, and information technology infrastructure. While, each of the quadrants comprises three components: scope, governance and distinctive competencies (Henderson & Venkatraman 1993). As far as alignment is concerned, these aforementioned components define each quadrant (Coleman & Papp, 2006). More also, every of the components are essential, to enable seamless alignment between business and IT. Thus, every component in the quadrants demand equal attention (Luftman, 2000), below gives description of the quadrants together with each of the components.

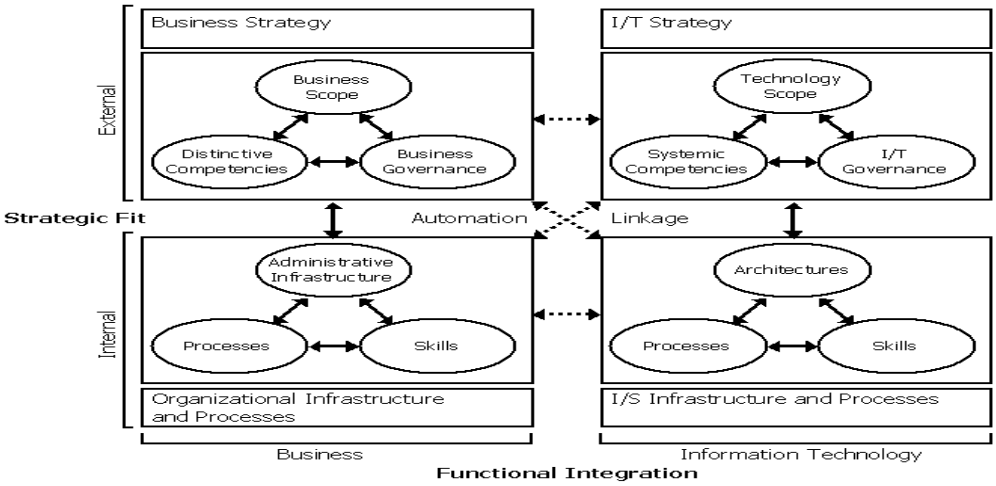


Figure 4 Strategic Alignment Model (adapted from Henderson & Venkatraman, 1993)

3.4.1 Business Strategy

The concept of strategy is comprehensive with definitions that cover vast terrain with different meanings and conceptualizations (see chapter 3, section 3.2). As argued by Henderson & Venkatraman (1993), if the transformation of organization is viewed as relying on voluntary action, instead of deterministic, then business strategy could be regarded as a central concept. There are three central questions associated to business strategy: Scope i.e. choices that relate to product offerings, distinctive competencies, for instance product quality and added value, while, business governance, characterized the choices of articulated mechanisms to organize business operations, for example, joint ventures and strategic alliances, which is capable of creating balance between markets and hierarchy (Henderson & Venkatraman, 1993). According to Coleman & Papp (2006), anything that affects the

scope affects the entire business, while, distinctive competencies represent success icon that leads business toward success in the market place.

3.4.2 Organizational Infrastructure

Henderson & Venkatraman (1993) argued that, there should be no ground of justifying the relevance of organizational infrastructure, in respect to business transformation. Although, organizations are faced with frugality challenges (e.g. minimizing resource allocation), in respect to this, Henderson & Venkatraman (1993) considers administrative infrastructure i.e. organizational structure, roles and relationship; processes, which deals with structural workflows together with information flows to carry out an activities and skills, for instance, individual ability together with organization to carry out a task that is in accordance with the business strategy. In fact, as highlighted by Coleman & Papp (2006), organizational infrastructure is all about how the business is up and running.

3.4.3 Information Technology Strategy

The components in this quadrant are analogous to business strategy, although, the concept is relatively still new (Henderson & Venkatraman, 1993). Nonetheless, Henderson & Venkatraman (1993), conceptualize IT strategy in three categories: first, IT scope, which refers to types and range of an IT systems and capabilities. For example, the local and wide area networking, robotics and expert systems that is available to an organization, in fact, all the information technologies that support or create strategic business opportunities for an organization. Second, IT competencies: the thing that propels IT to create business advantage, which might be distinctive attributes of IT competencies. For example, flexibility and interconnectivity together with system reliability, which positively contribute to co-creation of a new business strategy, or that acts as a support to an existing business strategy. Third, IT governance: relating to choices of structural mechanisms for instance, the external relationships IT depends on e.g. research and development (R&D), joint ventures, outsourcing and vendors (Henderson & Venkatraman, 1993).

3.4.4 Information Technology Infrastructure

According to Henderson & Venkatraman (1993), this last quadrant is analogous to organization infrastructure; it is defined in terms of architecture, process and skills. Architecture: These are choices regarding hardware, database, networks, software, application and even the configuration. According to Coleman & Papp (2006), this component ensures integration. Processes: concerns, development, operations, maintenance, monitoring and control systems. All these are processes central to operations of IT infrastructure; this involves the personnel or an organization. While, Skills are, choices regarding the skills to maintain architecture, and execute the processes within the organization.

3.4.5 Strategic Fit and Functional Integration

The dimensions of strategic alignment, can be conceptualize into two categories (Henderson & Venkatraman, 1993), "Strategic fit and "Functional integration". Strategic fit involves different levels of progressions, which represent the vertical relationship in the SAM framework (Henderson & Venkatraman, 1993). The concept emphasizes and establishes management of choices, in respect, to external business positioning in the market place together with how they are internally structured for a better business positioning. Reiterating, those choices are external (business strategy) and internal (organizational infrastructure) together with the processes. The concept "fit" denotes knowing the circumambience of alignment and how to achieve it i.e. the things an organization need to do, and the process that is required.

The functional integration is closely related to IT and business alignment. The rationale behind this integration is that, technology must change in accordance to changes in business, in order to be able to keep up with business process. The former (strategic fit) represents the vertical linkage, the later (functional integration), represents the horizontal relationships. In this linkage, organization adapt and leverage IT to determine, how, technology can be positioned in the market place. Therefore, the concept provides an organization with competitive advantage opportunities (Henderson & Venkatraman, 1993). Nonetheless, the model subtends mere acknowledgement of different dominant quadrants, Henderson & Venkatraman, (1993) argued for "fit" of all the components (interrelationships between external and internal).

3.5 Strategic Alignment Perspectives

The question that has lingered for long is how can business be conceptualized, and achieve alignment. It has been argued that effective management of IT requires a balance among choices made across the quadrants. Henderson & Venkatraman (1993) even suggest the simplest approach; which could be seen as minimum requirements to attain alignment. According to them, the minimum requirement deals with combination of any two domains. They referred to this as "bivariate fit perspective", for instance, fit between business and IT strategies. However, as argued by Henderson & Venkatraman (1993), this perspective (bivariate fit) does not apply to firm that cannot swiftly adapt their internal process to support possible market positioning strategy. The challenges are how many firms actually adapt easily without any internal inconsistencies. Therefore, Henderson & Venkatraman (1993) concluded that bivariate perspective is one sided and argued that strategic fit separately is dysfunctional and call for the recognition of multivariate relationships or more precisely, cross-dominal relationships.

Henderson & Venkatraman (1993) classified alignment perspective under two major categories (see figure 5): business strategy perspective and IT enabler strategy perspective. The first two cross-domains arise when business strategy serves as the driving force, to be more precise, business strategy driven perspective. These consists strategy execution and technology transformation, while, the IT strategy driven perspective consists competitive potential and service level (Coleman & Papp, 2006).

Interestingly, Coleman & Papp (2006) extended Henderson & Venkatraman (1993) perspectives, and argued for eight perspectives. Although, Henderson & Venkatraman (1993)

perspective was dominants in Coleman & Papp (2006) new perspectives, guess that is why it is an extension of Henderson & Venkatraman (1993) perspective. The Coleman & Papp (2006) added four perspectives include: Organizational IT infrastructure, IT Infrastructure strategy, and IT organization infrastructure and organization infrastructure strategy. Although, Avison & Jones (2002) shared the notion that the added perspectives by Coleman and Papp (2006) concentrated more on IT instead of strategy, and they are working on the same level as organizational level on Henderson & Venkatraman (1993) model.

Furthermore, Avison & Jones (2002) also observed that changes could not occur in isolation, without affecting the rest. Apart from the eights perspectives created by Coleman & Papp (2006), they also formed what they refer to as fusion perspective. These fusion perspectives are formed from the combination of two of the individual perspectives, this was previously shared also by Smaczny (2001), where Smaczny (2001) argued that there might not be any need for strategic alignment, since fusion can create an integrated strategy that could change and adapt to different external and internal condition. Below show the detailed explanations of Henderson & Venkatraman (1993) fundamental perspectives, since it is the perspective that the thesis is based upon.

3.5.1 Strategy Execution

This perspective anchors on business strategy, and act as a driver for organizational design choices and their infrastructural design, Henderson & Venkatraman (1993) argued that this form of perspective is common and widely used, due to the fact that it corresponds to the classic, hierarchical view of strategic management. Although, they stress that for this perspective to be successful, management must take a role of strategy formulator to articulate the logic and choices pertaining to business strategy, while, the role of the IS manager will be the implementer, i.e. one who efficiently and effectively designs and implements. According to Coleman & Papp (2006), the IS architecture will undergo changes, when there are changes in business processes.

3.5.2 Technology Potential

This alignment is also driven by business strategy, it involves the assessment of implementing the chosen business strategy through appropriate IT strategy and articulating the required IS infrastructure and processes (Henderson & Venkatraman 1993). The contrast of this perspective is that it is not constrained by the current organization design, but instead it seeks to identify the best possible IT competencies through appropriate positioning. According to Coleman & Papp (2006), the pivot of this perspective is information technology strategy.

3.5.3 Competitive Potential

The competitive potential perspective is concerned with the exploitation of emerging IT capabilities to impact new products and services. According to Coleman & Papp (2006), the anchor in this perspective is IT strategy and the pivot area is business strategy and organization infrastructure is the impacted domain. In contrast to the previous perspective, that sees business strategy as constraint for organizational transformation. Instead, this per-

spective seeks to identify best strategy alternatives for business strategy, and adapt it to decision pertaining organizational infrastructure and process. In short Coleman & Papp (2006) argue that this perspective bring a competitive advantage to the business in the marketplace. Nonetheless Henderson & Venkatraman (1993) contend that it is left to management to envision how strategy will enhance numbers of emerging IT capabilities.

3.5.4 Service Level

This perspective is the fourth individual perspective, according to Coleman & Papp (2006), the anchor of this perspective is information technology strategy, while, the pivot is IT infrastructure. Nonetheless, the impacted area is organizational infrastructure. In short, Henderson & Venkatraman (1993) argued that businesses need this perspective to build a world-class IS. Although Henderson & Venkatraman (1993) stresses that it requires an understanding of the external dimensions of IT strategy with corresponding internal design of the IS infrastructure together with processes to achieve the world-class status. Furthermore, in this perspective, the role that business strategy plays is more indirect, instead, it gives directives to stimulate customer need and probably that is why is viewed as necessary but not sufficient to ensure effective use of IT. According to Henderson & Venkatraman (1993), IS organization must deploy resources and respond to fast changing demand.

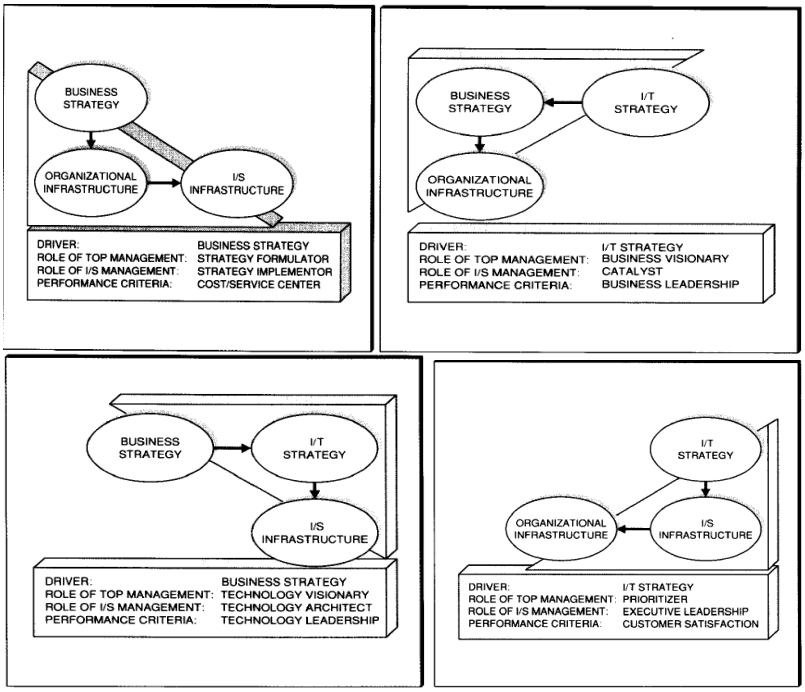


Figure 5 Strategic Alignment Model (adapted from Henderson and Venkatraman 1993)

3.6 The Implication of section 3.1-3.5 for the thesis

The implication of the various concepts discussed in the section above is to provide more information regarding different kinds of concepts pertaining to what this study is about. This in turn, creates building blocks to the subject in focus, by narrowing it down to the specifics of this research thesis. For instance, alignment is a broad topic, which could easily be misplaced, therefore, it is paramount to lay more emphasis on the kind of alignment this thesis will be dealing with, which in this case is, "strategic alignment". More also, the concept strategy have been widely used, in management disciplines and military based research, currently, the concept has not yet gain any universal definition which has lead to diverse ways it has been used. Then, the implication of that to this thesis is to give the general overview of the concepts and how different researchers have perceived it, since this concept serve as one of the core parts in the model developed by Henderson & Venkatraman (1993). And off course, the strategic alignment model (SAM) is the back-bone model to this thesis, therefore, the authors deem fit, to stress out and explain the constituents of this model, together with its perspective since the model serve as the background model for this research. Therefore, we outlined all the components patterning strategic alignment in order to get a better theoretical understanding of the concept.

3.7 Strategic Alignment Maturity Model

The basis of this model is the strategic alignment model developed by Henderson & Ventrakemen (1993), which deals with "linking", i.e. the four domains and its components (see section 3.4.5). The SAM-model describes aspects that needed alignment (Leonard, 2008). According to Leonard (2008) and Smaczny (2001), how an organization can attain alignment has received less consensus. Nonetheless, the SAM-model developed by Luftman (2000), gives capacity to gain insights and intuitive understanding of how alignment can be improved. This model is conspicuous in virtually, every research dealing with framework, for alignment assessments within an organization.

The composition of SAM-model is in accordance with the enablers and inhibitors (see figure 6) (Luftman & Brier, 1999); this formed the platform of which the SAM-model was built upon. The SAM-model consists of six different distinctive areas that need to receive attention, for an organization to stand the chance of achieving alignment.

	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 6 Enablers and Inhibitors of Business and IT (adapted from Luftman, 1999)

Luftman (2000) developed maturity assessment model (see figure 7); the model was based on the twelve elements in Henderson & Venkatraman (1993) model (see appendix 2). This model can be used by organization to see their position in respect to maturity, and when this is ascertain, it can then provide the organization with a roadmap that identifies opportunities in order to enhance the relationship between business and IT. Luftman (2000) maturity model consists of six alignment areas, which is described in detail below, and each area is made up of multiple attributes. There are clearly defined maturity levels and Luftman (2000) argued that all the areas required attention, in order to enhance alignment maturity between business and IT. These areas are communications, competency/Value measurements, governance, partnership, scope and architecture and skills.

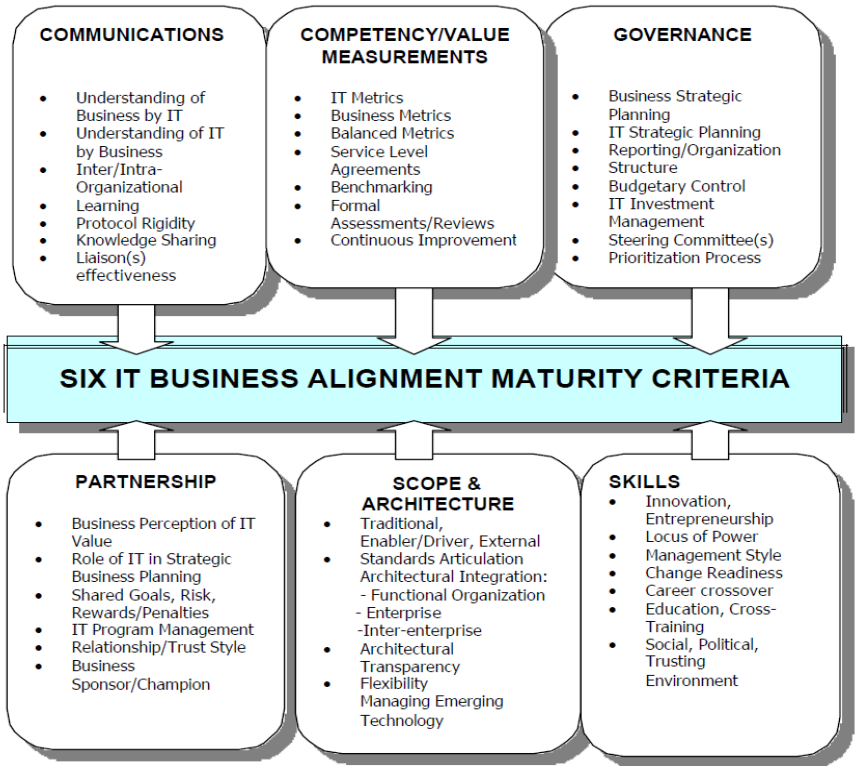


Figure 7Business-IT Alignment Maturity Model (adapted from Luftman, 2000)

- **Communications**

The Oxford dictionary (2011) defines communication as the act of imparting or exchanging information. These exchanges of information could also imply the means of connection between people or places. This communication can be "hard" i.e. the physical components that aids communication (e.g. phones, emails and satellites), while the "soft" might be embedded in the relationships that exist between individuals in an organization. Nonetheless, the communication refer to here represent communication between the IT and the business staffs, understanding one another, together with the frequency they converse (e.g. consultants and vendors), with the intent of disseminating internal organizational learning. According to Luftman (2000), inadequacies in communication between the business and IT

will have effect on the maturity of an organization. Therefore, as argued by Luftman (2000), the centre of interest should be to improve the relationship that exist between staffs in organization, for instance, reducing protocol rigidity.

- **Competency/Value Measurements**

Paramountly, there should be a demonstration of organizational values to business in a way that is understood by business (Luftman, 2000). In most cases, organizational value metrics defers between the business and IT. Nonetheless, as highlighted by Luftman (2000), in order for organization to attain maturity, they might need to create a "dash-board" that reveals and demonstrate their values. Luftman (2000) suggested the service level that assesses IT's commitment to business. However, it should be done in a way that is clear for business to accept and comprehend. The service level assessment should be tied to a criterion that enumerates rewards and penalties (Luftman, 2000). Literarily, what this implies is, how well the organization measures their performance and the value of their project, when it is completed. Then, how is what went right and wrong evaluated, together with how they learn from it, to improve in order to have a better outcome next time?

- **Governance**

This consists two folds, although analogous to each other. The business governance and IT governance, the former represents how organization set roles and relationship between management (e.g. the board of directors and stockholders). While, the later, deals with how the authority for resources, are allocated and shared (e.g. conflict resolution and resources planning) among the stakeholders i.e. business partners and services providers (Luftman & Brier, 1999). Nonetheless, government rules and regulations are not excluded in the governance, together with how alliances with strategic partners are managed (Luftman & Brier, 1999). In order for both supposedly governance to work as an entity, there should be clarity in decision making, in respect to resources allocation (Luftman, 2000). Does an embarked project flow from a pure understanding of business strategy and support the strategy.

- **Partnership**

The focal of this area is "relationship", which should exist between IT and business within an organization. In fact, this was ranked high in enablers and inhibitors of IT alignment (Luftman, 2000). This partnership area advocates for equal opportunities given to business and IT, a situation where IT enables and drives changes to strategies and business processes, forging true partnership between both business and IT, i.e. the one that will be based on trust, together with risks and rewards sharing.

- **Scope And Architecture**

This is the extent of how technology has evolved to something with the potential of helping an organization to carefully designed structure. This might involve integrating standards across organization and likewise, integrating enterprise architectures. It set a platform to evaluate the improvement of IT in the organization, in light of the traditional role, i.e. back and front office role (Luftman, 2000). More also of how it has helped an organization to minimize cost, maximize profit and compete in the market place.

- **Skills**

This area deals with the human resources consideration for an organization; nonetheless, Luftman (2000) argued that it surpasses the traditional skills (e.g. training and performance feedback), thus it subtends to adequate skills needed by staff to be effective and how well they both speak each other language, i.e. business and IT department, more also, how the technology concepts is perceived and understand by the business department.

3.8 Organizations Profile

The effectiveness of an organization depends on how they can carve out and maintain a viable market for their goods and services. According to Miles, Snow & Meyer; and Coleman (1978), organization should be able to articulate their purpose and simultaneously establish right mechanism to achieve it. Most organizations are caught up in evaluation, verifying and questioning phase, instead of actually calving out on how to maintain a viable market. In fact, Miles et al. (1978) suggest that organizations should be involved in continuous modification and refining the right mechanism to achieve their purpose. This modification can involve rearranging structure of roles and relationships and managerial processes. Efficiency entails establishing the mechanism that complements market strategy (Miles et al, 1978), instead of struggling with structure.

Although, the dynamism in today's environment has made adjusting to environmental changes quite difficult to attain. Thus, maintaining effective alignment with the environment (external) while managing internal interdependencies had proven to be complex, because it involves decisions and behaviors at several organization levels. Nonetheless, Miles et al. (1978) argued that the complexity could still be penetrated; by searching for patterns in organizations behavior.

Miles et al. (1978) through research and interpretation of literature shows that there are essentially four strategic types of organizations, which the authors of this thesis have chosen to refer as organization profiles. Miles et al. (1978) stated four different profiles of organization: Defenders, Analyzers, Prospectors and Reactors. Each of organizational profiles has its own unique strategy for relating to its chosen markets, technology, structure and process that is consistent with its market strategy (Miles et al., 1978). Interestingly, Miles et al. (1978) formulation encompasses relationships among strategy, technology, structure, and process, viewing organizations as an integrated and dynamic system, which interact with their environment. The inclusion of technology and processes in particular in Miles et al. (1978) formulation, made it relevant and important for the authors to adapt it to business and IT strategy alignment. Below gives detail description of each of the profile.

3.8.1 Defender

In defender organization, top management deliberately enacts and maintain environment for which a stable form of organization is appropriate (Miles et al., 1978). In fact, Evers (2010) view defenders as organizations established in a narrow but secure products domain, they define their problem and how to create a stable domain. They achieve this by producing limited set of products directed at a narrow segment of the total potential market. Nonetheless, in this limited domain, they strive to prevent competitors from entering its "turf" (Miles et al., 1978), according to Evers (2010); they seek to improve existing operations by expanding into new opportunities.

Defenders are less concerned about developments and trends outside their domains, instead, prefer to grow through market penetration. According to Miles et al. (1978) a true defender can carve out and maintain a small niche within its market, making it difficult for competitors to penetrate. Defenders involve high level of resources in solving engineering related issues, by developing core technology that is highly cost-efficient. Efficiency is central to their success since its domain creates and absorbs outputs on a predictable continuous basis.

In fact, defender extend technological efficiency to its limits through a process of vertical integration, they incorporate each production stage, although, this is solved through combination of structural and process mechanisms that can be generally described as mechanistic (Miles et al., 1978). Conversely, defender face the risk of ineffectiveness, due to the fact that they are unable to respond to a major shift in market environment, because of their single and narrow domain. Furthermore, if market shifts dramatically defender has little capacity for locating and exploiting new areas of opportunity. They suit better in today's world, but in danger if tomorrow's world defers from today.

3.8.2 Prospectors

The manner by which prospectors respond to their environment is almost the opposite of Defender (Miles et al., 1978). Although, in high degree of consistency the Prospectors are similar to the Defenders, according to Evers (2010), they continually look for new opportunities. Prospector enacts environment that is more dynamic that other types of organizations within the same industry, instead of deriving success from efficient servicing of stable domain like the Defender.

The capability of Prospectors is finding and exploiting new product and market opportunities, according to Miles et al. (1978) maintaining reputation, as an innovator in product and market development is quite important, even more important than profitability. In short, Evers (2010) shares the view that these types of organization operate in less than optimal conditions due to the uncertainty caused by continual change.

Prospector has broader domain and often involve in continuous development and maintain the capacity to scan a wide range of environmental conditions, trends and events (Miles et

al., 1978). In fact, the authors think this kind of organization can invest in IT and perhaps not see Information Technology as cost, because according to Miles et al. (1978) this kind of organization invests heavily in individuals and groups who scan the environment for potential opportunities. In fact, Prospector managers perceive more environmental change and uncertainty in order to serve its changing domain. They require a good deal of flexibility in their technology and administrative system. Prospector is quite open for emerging opportunity, which is part of what IT gives. Furthermore, Prospectors have flexible technologies; therefore, they focus on how to facilitate rather than control organizational operations.

3.8.3 Analyzers

The third type of organization is the Analyzer; they are combination of the previous two-organization type. They represent a viable alternative to Defender and Prospector; an organization can be termed Analyzer when they attempt to minimize risk while maximizing the opportunity for profit. In one piece, they combine the strength of Prospector and Defender into a single entity (Miles et al., 1978). According to Evers (2010), analyzers maintain a stable domain of operations just like defender, but they also hunt for new emerging market opportunities similar to prospector.

Analyzer moves only venture into new opportunities only when the viability has been demonstrated. This kind of organization is highly standardize, routinized, and mechanized in order to attain cost efficiency. In real sense, the administrative problem of the analyzer is how to differentiate the organization structure and processes to accommodate stable and dynamic area of operation (Miles et al., 1978). The key characteristic of the analyzer administrative system is the way they differentiate organization structure and processes in order to achieve balance between stable and dynamic areas of operation.

3.8.4 Reactors

Evers (2010), consider reactor as organization that react poorly to change and adapt only when forced by external forces. According to Miles et al. (1978) defender, prospector and analyzer can all be proactive with respect to their environments although proactive in a different way, but a reactors wait until a major circumstance happens. The pattern that reactor exhibits in adjusting to environment is inconsistent and unstable; it lacks response mechanisms that can consistently put into effect when an organization is faced with changing environment. "Reactors exist in a state of almost perpetual instability" (Miles et al., 1978), although there reasons why organizations become reactors, first, top management may not have clearly articulated organization's strategy; second, management does not fully shape the organization's structure and processes to fit a chosen strategy; third, management maintain current organization strategy structure relationship despite changes in environment conditions.

3.9 The Implication of Section 3.7-3.8 to the thesis

The Luftman (2000) strategic maturity model was where the causes of time lag was theoretically drawn out for this thesis, while the Miles & Snows (1978) model regarding organizational profile, gave the authors on how to view organizations in respect to strategic alignment. As a matter of necessity, the theories such as organizational profiles and time lag are crucial for this thesis in order to understand theoretically what the different types of organizational profiles are, and to see how the different profile types affect the alignment process in organizations.

3.10 Summary of the chapter

Strategy is a management-planning concept that can enable an organization to have an elaborate and systematic planning, for a long-term action, in order to achieve a specific goal. Although, using strategy to achieve a goal depend on the nature of the organization business, resources, capabilities, structure and environment. As argued by Hofer & Schendel (1978), strategy provides directional cues to any organization that allows it to achieve its objectives, and can determine factor for pursuing or achieving any organizational goals.

Although, for an organization to achieve organizational goal, they might have to consider aligning their business and IT by matching their resources to the competitive context in which the organization is situated. One way of doing this suggested by Baker & Jones (2008) is aligning business strategy with IT strategy known as strategic alignment. Henderson & Venkatraman (1993) claimed that performance is directly related to how well the business and IT strategy is linked and work together, together with managerial ability to create a strategic fit and proper allocation of structure to support its execution. Furthermore, to create fit which will be inherently dynamic, making the external and internal domain consistent and balancing it with effective management.

4 Thesis Analysis Framework

The previous chapter presented the overview and descriptions of different theoretical views and frameworks that shows the interrelationships of business and IT strategies, alignments and types of alignment. In this chapter, discussion will be narrowed down to a more specific research model that deals with a subsection of this study, which is strategic alignment. The research model of this thesis will be introduced, which presents the theoretical background to answer the research questions of how organization achieve alignment between business and IT strategy and how organization manage the time-lags between business and IT strategy together with the causes of time lag. It identifies the different components of the proposed research model in this study, and draw more emphasizes to the focus of this research, which is strategic alignment. This model is derived from the combination of Miles and Snow, (1978); Fischer and Pardey, (1979), Luftman (2000); and Henderson and Venkatraman (1993).

The analysis framework that has been constructed in this thesis is based on the time lag issues in Business and IT strategy alignment. In this section, we will explain and focus on each component that needs to be addressed in order to align business and IT strategy and in order to reduce the time lag. This framework comprises organization profile, alignment perspectives, business domain, IT domain, causes of the time lag and strategic implementation.

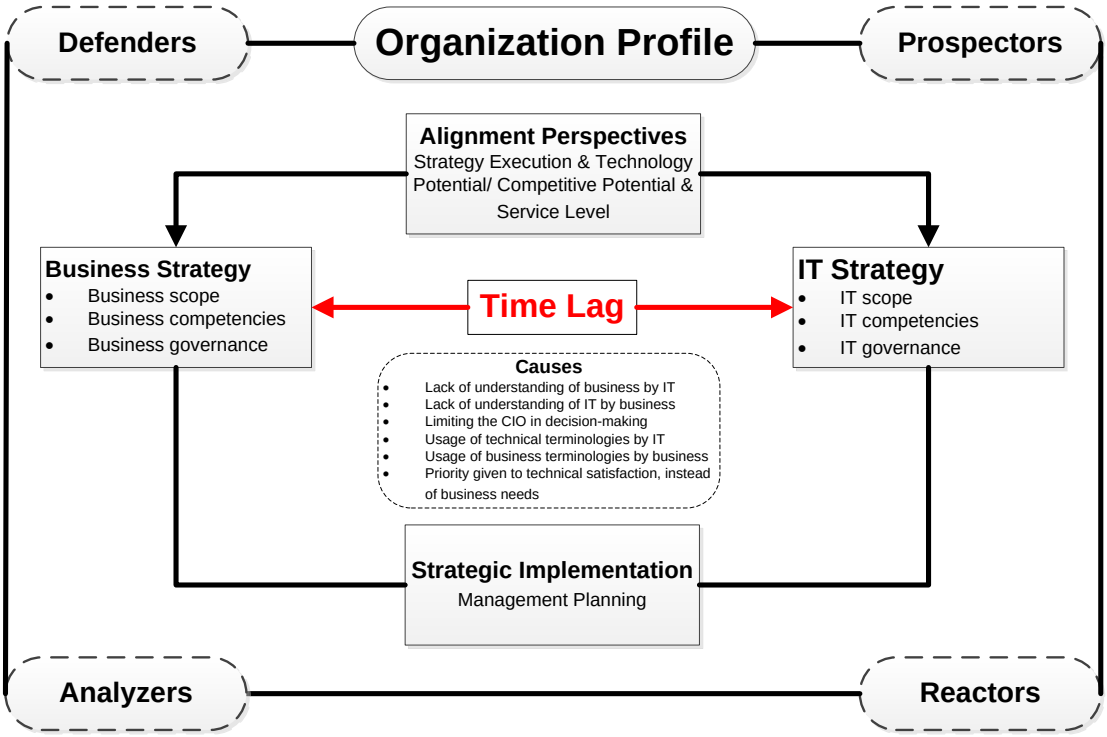


Figure 8 the Thesis Analysis Framework

Basically, the analysis framework (figure 8) is organised as follows:

- **Organization profile** consists of defenders, prospectors, analyzers and reactors; it defines the differences in how organizations achieve alignment between business and IT. Achieving alignment depends on the profile of the organization, because

different profile, react to alignment issues in different ways, even when they share something in common But in most cases, organizational profile is a determinant factor that determine the attitude shown towards business and IT alignment. Therefore, organization profile goes a long way in determining how much organizations are able to articulate their purpose and simultaneously establish right mechanism to achieve alignment between the two strategies.

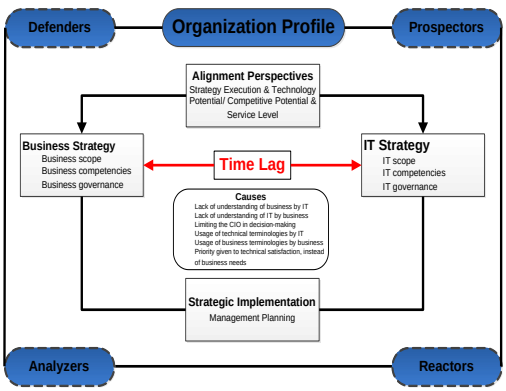
- **Strategic alignment perspectives** alignment perspectives are under two major categories, the business strategy perspective and IT enabler strategy perspective. The adopted perspectives by any organization will be characterized by their core business activities, i.e. if they are IT oriented, they might adopt any of the perspective that befit them and likewise if they are business oriented.

- **Business strategy** is the business area that comprise the components that make up the business strategy, each of the components in the business strategy define every aspect that need attention as far as alignment is concerned.

- **IT strategy** is the Information Technology area that comprises the components that make up the IT strategy, quite similar to the business strategy components. Each of the components in the IT strategy also defines every aspect in IT that need attention when alignment is to be achieved by an organization.

- **Causes of the time lag** factors that is capable of hindering business and IT strategy from align, for organization to reduce the time lag that exist between the business strategy and IT strategy during implementation, they need to pay attention on how to minimize these causes, because not paying attention to the causes might possibly increase the time lag in business and IT strategy.

- **Strategic implementation** remains the remedy to minimize and manage the time lag that exist between the business and IT strategy. Since strategy provides goals that help organization when it comes to selection of best process for instance, and most importantly, strategy is crucial, because a clear strategy harmonizes organizational activities and when it is clear, would minimize time lag.



4.1 Organization Profile Influence on Alignment

As earlier argued in the previous chapter that organization profile determines how organization will react to issues relating to alignment, because their reaction towards IT related issues will affect how they can carve out and maintain alignment between business and IT. According to Miles; Snow; Meyer; & Coleman (1978), organization should be able to articulate their purpose and simultaneously established right mechanism to achieve it. However, the point is that organization profile will in one sense influence the

purpose of the organization in respect to their IT strategy. There profile will determine how they calve out on how to maintain alignment, which includes, knowing when to evaluate, verify and question each implementation phases, although, Miles et al. (1978) suggest that organizations should be involved in continuous modification and refining the right mechanism to achieve their purpose. This modification could involve rearranging structure of roles and relationships and managerial processes. Therefore, the uniqueness in the different profile will have impact on how the organization will react to technology, structure and processes. In fact, according to Barker & Jones (2008), how alignment is treated and perceived depends on how organization actually sees it.

The following will list and describe each of the organization profile and how their profile impact their attitudes towards IT and business, which will in turn, affect how they align IT strategy to their business strategy.

- **Defender**

  Organization in this profile deliberately enacts and maintain environment for which a stable form of organization is appropriate, since they are established in a narrow and secure products domain, therefore, they feel secure, as a result, not often concern about developments and trends (Miles et al, 1978). In fact, they spend most of their resources in solving engineering related issues; they extend technological efficiency to its limits through process of vertical integration by incorporating technology in each stage of their production. However, as argued by Miles et al, (1979), they suit better in today's world, but in danger if tomorrow's world defers from today. Since alignment is a continuous process, the organization in this profile will in a way lag behind in aligning IT and business. Thus, as argued by Coleman and Papp (2006), they cannot compete in potential perspective that concerned exploitation of emerging IT capabilities to impact new products and services. Because, for that to be achieve, the organization need to anchor on IT strategy while their pivot area will be business strategy.

- **Prospectors**

  This organization profile responds to their environment almost in the opposite direction from defender, although; when it comes to consistency they are similar to defender (Miles et al, 1978). In contrast, they continually look for new opportunities, they enacts environment that is more dynamic in nature, they have capability to find and exploit new product and market opportunities (Miles et al, 1978). They could be regarded as innovator in product, services and market development. This profile will definitely show different attitude toward IT strategy due to how they react to emerging opportunities, since prospector is open for emerging opportunity, then achieving alignment between business strategy and alignment strategy might easily be attain.

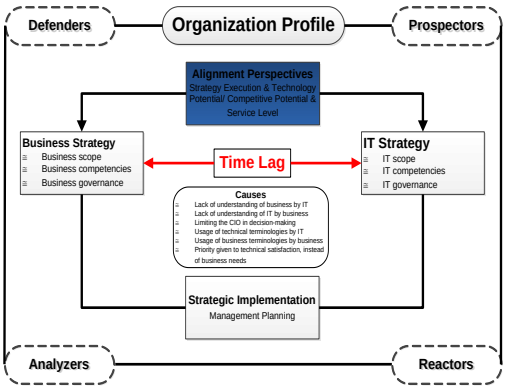
- **Analyzer**

  This third profile is the combination of defender and prospector; they minimize risk while maximizing the opportunity for profit, as defined by Miles et al. (1978), they combine the strength of prospector and defender into a single entity which is hunting for new emerging opportunities, while maintaining a stable domain of op-

erations (Evers, 2010). In most cases, they only venture into new opportunities only when they are sure it is viable, more also, that this viability has been demonstrated. Though, this profile might be regarded as the profile that suit attaining alignment between business and IT strategy, since it comprises of two profile, however the challenges lies in how to actually have a clear and a demonstrated benefit of a project when it has not even been implemented. Thus, if an organization has to wait for a clear cut benefits and not only that, a demonstrated benefits, then achieving alignment between IT and business might be a challenge and in turn result in delays.

- **Reactor**

  Organization in this profile reacts poorly to change and adapt only when forced by external forces (Evers, 2010), in fact, Miles et al. (1978) stressed that defender, and prospector and analyzer can all be proactive with respect to environments, though, in different ways, but for reactor, they wait until a major circumstance happens. They possess pattern that is inconsistent and unstable, which also lack mechanisms to respond to environmental changes. The main reasons why organization often find themselves, in this stage is when they lack clear articulated organizational strategy, when their management cannot fully shape the organizational structure and processes to fit their chosen strategy and when organization maintain their current organizational strategy structure despite changes in environment conditions. In real sense, it is difficult for organization in this profile to align their business strategy with IT strategy, even to manage the time lag that might exist between the two strategies might be a challenge for such organization.



4.2 Alignment Perspective

Henderson & Venkatraman (1993) classified alignment perspective under two major categories: business strategy perspective and IT enabler strategy perspective. The first two cross-domains arise when business strategy serves as the driving force, to be more precise, business strategy driven perspective. This consist strategy execution and technology transformation, while, the IT strategy driven perspective consists competitive potential and service level (Coleman & Papp, 2006). Nonetheless, for organizations to be effective then they need to effectively manage IT and business, since, the degree of how organizations align depends on the balance they make among the domains. According to Henderson & Venkatraman (1993) the minimum requirement to achieve alignment is to combine two domains. Although, they see two domains perspective as dysfunctional and instead they argued that organization should be a multivariate in their perspective.

Meanwhile, choosing the right perspective by organization depends on how they can swiftly adapt their internal process to support their strategy positioning. Below describe each different perspective and how these perspectives determine how organization aligns their IT strategy to their business strategy.

- **Strategy execution**

The anchor of this perspective lies on the business strategy, and the business act as the driver for both organizational designs and infrastructural design (Henderson & Venkatraman, 1993). This perspective is widely adopted, because it is in accordance with most organizational structure, due to the fact that the perspective corresponds to the classic hierarchical view of strategic management. Nonetheless, achieving alignment with this perspective requires management to formulate strategy that will articulate the logic and choices pertaining to business strategy, while the IT manager take care of implementing the strategy effectively and efficiently (Henderson & Venkatraman, 1993). Therefore, achieving alignment is quite possible with this perspective if organization posses a clear articulated strategy. This perspective focuses on information technology planning or transformation of the business, with the aim of reducing delays and errors, while enhancing services and saving time.

- **Technology potential**

This perspective is also driven by business strategy; but it involves assessment, before implementing any chosen business strategy through appropriate IT strategy and articulating the required IS infrastructure and processes. Although, this perspective is different from the strategy execution perspective, because it is not constrained by organization current design, instead, it seeks to identify the best possible IT competencies through appropriate position.

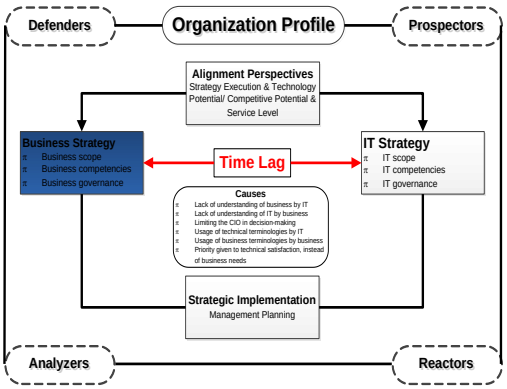
- **Competitive potential**

This perspective deals with exploiting emerging IT capabilities to impact new products and services. The anchor lies in IT strategy while the pivot area is the business strategy; basically, this perspective is different from the earlier explained perspectives, because this is driven by IT strategy, it identifies best strategy alternatives for business strategy and adapts it to decision pertaining organizational infrastructure and process. As argued by Coleman & Papp (2006), this perspective will suit organization that want to strive for competitive advantage.

- **Service level**

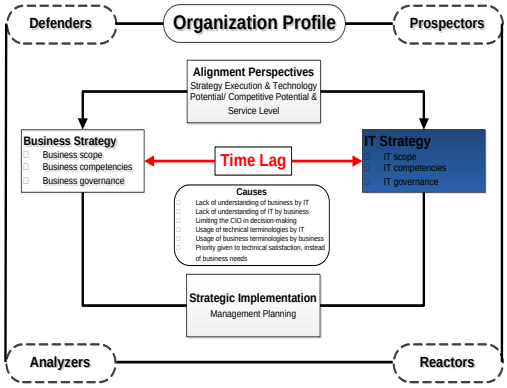
The service level perspective anchor is also similar to that of competitive potential which is information technology, in short, Henderson & Venkatraman (1993) argued that business need this perspective in order to build a word-class Information System (IS), however, for this to be attain, a clear understanding of the external dimensions of IT strategy which corresponding to internal design of the IS infrastructure should be achieved in order to build a word-class IS.
The point is that, each of the perspective highlighted will yield alignment, however the

adoption of any perspectives by organization depends on the kind of business they are operating. For instance, an IT firm might want to dwell more on the perspectives that anchor on IT strategy, while a firm strictly into more business oriented activities might anchor on business strategy. Although, as argued by Henderson & Venkatraman (1993), most firm often embrace the strategy execution because of the classical nature. However, to fully achieve alignment and to manage time lag might require organization to be flexible towards any of the perspective they adopt.



4.3 Business strategy

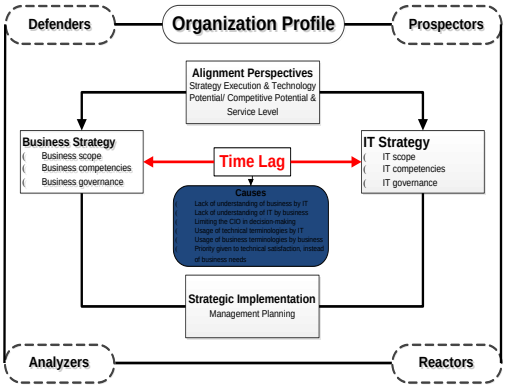
According to Henderson & Venkatraman (1993), business strategy comprises of three components, namely, *business scope*, *distinctive competencies* and *business governance*. Business scope revolve around everything that has an impact on the environment, in which organization is operates, this include: potential customers that organization might get, the present or potential suppliers (Coleman and Papp, 2006), competitors, buyers and as well the location of the business. Distinctive competencies refers to whatever that makes the business successful in the market place, according to Coleman and Papp (2006) it includes the core competencies of the business that allows it to compete with other business, branding, research, cost and pricing structure, sales and distribution channels and product development. While, the business governance argues about how companies should manage the relationship between the stakeholders, senior management, alliances and strategic partners in short, according to Coleman and Papp (2006) it should include government regulations.



4.4 IT strategy

The components in this strategy are similar to business strategy, but it is on the IT side. According to Henderson & Venkatraman (1993) the IT strategy comprises of three components, namely, *technology scope*, *systemic competencies* and *IT governance*. Information technology scope is all the essential information applications and technologies that the business uses (Coleman and Papp, 2006), for example, Enterprise resource planning (ERP) solutions software. The systematic competencies components comprise all the capabilities that set IT services apart from the rest (Coleman and Papp, 2006), for example technical knowledge and ability to perform an activity better. And the IT governance describes the makeup of the authority behind the information technology and how the risk, resources and responsibility are distributed accordingly between business partners, IT management and services provider. According to Coleman and Papp (2006), selecting and prioritizing of information technology projects in the business belong to this component.

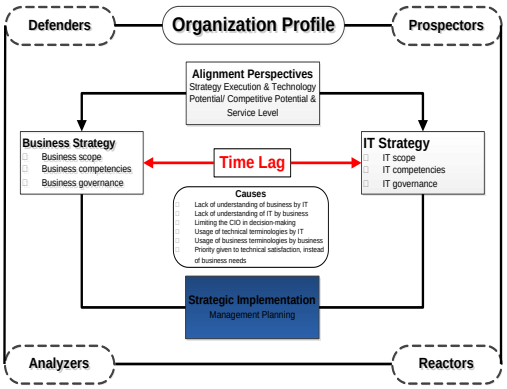
4.5 Causes of the time lag between business and IT strategy



The causes of time lag were adapted from Luftman, Papp & Brier (1999) inhibitors of alignment and on Luftman later work in (2000). Luftman (2000) together with Luftman et al. (1999) paper provides insight into identifying areas that can help or hinder business–IT from aligning. They identified the most important enablers and inhibitors to alignment. Nonetheless, our argument in this view is that the business-IT inhibitors highlighted by Luftman (2000) and Luftman et al. (1999) could also cause the time lag between business and IT when implementing the business-IT strategy.

For instance, when there is no mutual understanding between business and IT there is bound to be delays in both ends, according to Luftman (2000), the *business understanding information technology* and IT not understanding business can have negative effects on IT, and the same goes for when *business does not understand the IT*. *Limiting the IT leaders in decision-making* might also cause the time lag in business-IT strategy, because according to Henderson & Venkatraman (1993), IT manager should have a strategic role in order for alignment to be achieved, since they are supposed to play the role of one who takes care of implementation of strategy effectively and efficiently. The authors are also of the opinion that usage of *business terminologies* by business people might leave the IT people bewildered, the same goes for IT people also using *IT terminologies*. Therefore, we argued that there should be clear communication skills between both strategies in order to reduce the time lag and to give room for proper management of alignment. More also, given *priority to technical satisfaction*, instead of business needs might lead to the organization realizing that they have spent more than enough time on technical satisfactions, which might then leave the organization one sided and having to retrace their step backward which will cause time lag.

Furthermore, *protocol rigidity* of the company was also considered to be capable of causing the time lag between business and IT alignment, in fact, Clegg (1990) recognized that mechanistic and bureaucracy might not help organization in today's environment in order to cope with the external environment and according to Luftman (2000), protocol rigidity need to be relaxed, thus, this might help in minimizing the time lag between business and IT strategy. And lastly, *not having the head of IT department in defining the business strategy*. The authors think, since attaining alignment involves strategic planning of both business and IT, therefore, as argued by Henderson & Venkatraman (1993), organization should strive to achieve success in alignment, by paying equal attention to every component, instead of setting priorities on one aspect. More also, IT leader should also be able to partake during the definition of business strategy before implementation, this might lead to successful execution of appropriate implementation strategy, which according to Smaczny (2001) would give organization room to achieve their goals.



4.6 Strategic Implementation

The authors have argued in the previous chapter that strategy provides direction to organization, and as argued by Mintzberg et al. (2003) that it is a management-planning concept that helps organization to elaborate and systematically plan their long-term action, or a specific goal. Strategy is often top management responsibilities (Hofer & Schendel, 1978), which implies that the issues of alignment between business and IT strategy might also be top management responsibilities. Therefore, top management should be charged with the responsibilities of ensuring that they have strategy that integrates organization goals, policies and action sequences that will form a cohesive whole.

Though, strategy is constrained to the nature of organizational business, resources, capabilities, structure and environment within which they operates, this constraints might also have impact on how business and IT align. However Hofer & Schendel (1978) contend that despite this constraints, strategy is still capable of providing directional cues to any organization that allow it to achieve its objectives, and they could respond to environmental opportunities and threats. In fact, Chandler (1962) sees strategy as a determinants factor of pursuing or achieving organizational goals, in this case, the organization goals might probably be to achieve alignment and manage time lag within the business and IT strategy. More also, Bergquist (1993) & Clegg (1990) both recognized that the rules to operate in today's organizations have changed, due to the fact that the mechanistic foundations are not in a position of helping today's organization, to cope with the external environment.

Therefore, the dynamism in today's environment requires a strategy (Mintzberg, 2003) that will build a posture that is capable of giving an organization a sense of direction in achieving alignment between business and IT strategy. Since according to Chandler (1962), & Mintzberg (1988), strategy will state clearer goals and objective in precision to organization mission and aim, which also will include what they want to achieve. Although, strategy is complex and difficult because it works in retrospect, however, as argued by Mintzberg (2003), even strategy is capable of dealing with unpredictable and unknowable which is the complexity and difficult, therefore the authors argued that organization should implement their strategy in a strategic manner, which is starting involving everything that has the capabilities of affecting the organization in the beginning.

4.7 Summary of Analysis framework chapter

This chapter has highlighted the importance and the links connecting to the factors that causes the time lag between business and IT strategy together with how this time lag can be managed. It was shown that the inhibitors stated by Luftman, (2000) & Luftman et al (1999) could cause time lag, and the organizational profile with their perspective will define the path they will follow during implementation, however in order to finally minimize and

manage the time lag, then organization need to be strategic in their course of when they are implementing their strategy.

Nonetheless, this framework created is so far theoretically grounded; the next chapter provides more insights, in relation to empirical findings. So far, our idea is that all the causes of time lag together with how it can be managed remain just an assumption, until they have been validated empirically.

5 Empirical Findings

This chapter presents two case studies and 3 experts' point of view, which provide the reader with a practical view of causes of time lag and strategic alignment in the two companies. The units of analysis are from different industry but with more or less similar line of business activities, which includes after sale services (Electrolux- distriparts) and quality managements (IKEA-components). This chapter portrays for each case a general background, which aim to present the companies and experts point of view in relationship to time lag issues and strategic alignment.

5.1 Electrolux-distriparts

5.1.2 Background of the company

Electrolux is a global leader in household and professional use appliances, selling 40 million products in more than 150 markets every year. Electrolux focuses on innovative products such as refrigerators, dishwashers, washing machines, vacuum cleaners, cookers and air-conditioners. As at 2010, sales were estimated to SEK 106 billion. Axel Wenner-Green founded Electrolux in 1920, where he established the principles of the company on what concerns thoughtful designed products based on extensive consumer insight. The first origins of Electrolux products can be traced back to the vacuum cleaner and the invention of the absorption refrigerator (Electrolux, 2011).

Electrolux-distriparts AB, is a part of Elextroluxconcern, and is responsible for distribution of after-services products and parts for both Husqvarna AB and Electrolux. Electrolux-distriparts is located in Torsvik south of Jönköping. The company has 205 employees that handle after sales services for products such as grass clippers for Huskvarna and vacuum cleaners for Electrolux.

5.1.3 Electrolux-distriparts Time Lag issues

The interview conducted with Johan Johansson, the head of the IT department at Electrolux-distriparts gave us insights on the company present situation regarding issues concerning strategic alignment and how it is achieved in Electrolux. Johansson emphasized on the significance of his role as the middle manager between the business and IT, seeing it as a crucial role, which at least has been the key for aligning the business, and IT strategy in the company, in fact, he referred to himself as a 'leg in IT and leg in business'. Johansson mentioned and suggested that having a middle person between the business and IT is a necessity in every company due to the differences in both discipline, he highlighted the diverse technical terms (languages) in both fields, and stressed that someone need to be in-charge of the responsibilities, implying that this middle person could serve as the link that aligns the business strategy with the IT strategy. He went on emphasizing that both the IT department and the business department should look in the same direction, and that is business efficiency. Nonetheless, for both entities to be on the same paths, Johansson claimed that someone should act as an analyzer, analyzing the requirements of the business to IT

and also IT to business in order to have the most suitable solution for the customers and the business in general.

Moreover, the interview touched upon the main research question of this study, which is what concerns the time lag issues in achieving strategic alignment between the business and IT. The authors outlined eight semi-structured questions to Johan Johansson, (see appendix 4). The questions concerned whether he thinks that the mentioned factors are capable of causing time lag between business and IT strategy in Electrolux. The first factor was the 'lack of understanding of business by IT department'; Johansson said that it is a factor that can slow down a project when IT departments does not meet the requirements of the business and does not offer suitable solutions for their needs. He stressed out that both departments have different internal goals; the business is more towards profit, while, the IT is more towards efficiency of work through effective IT solutions.

In addition, another question was posed on whether the 'lack of understanding of IT by the business' is a factor of time lag issue while in the process of an IT project for instance. Johan Johansson stated that this is also a major factor for time lag issues at Electrolux. But since he is the middle manager between the business and IT, he always tries to demolish this issue by clarifying the business needs vision of the business to the IT department.

Moreover, when asked about the 'protocol rigidity' at Electrolux or the bureaucratic steps in order to make decisions. He stated that this is not a negative factor, though it has an effect on the time lag issue, but it is needed in order to understand how the project will be handled and for all the members of the project to grasp the processes and requirements needed. He recognized that Electrolux is a bureaucratic company and this is needed due to its size, else employees might sometimes be over ambitious and someone needs to keep them under check.

Another factor of time lag was touched upon on whether the 'business terminologies' or 'technical terminologies' used to communicate via the IT and business department, has an effect on increasing the time lag issue. Johansson, see this factor as what is capable of causing time lag in organization, and he smiled by saying, that is why he is here to bridge such gap. Another factor is 'not having the IT leader in defining the business strategy' and he acknowledged that as a possible cause, and stresses that it is a factor of augmenting the time lag issue in Electrolux-distriparts when the IT leader is not involved in defining the business strategy then it might result in lack of grasping the vision of the company from the IT department.

In addition to the questions regarding possible causes of time lag, another question was posed to Johan Johansson (see appendix 4), to answer how he would prioritize the causes of time lag between the business and IT strategy at Electrolux-distriparts. He 'strongly agreed' with the factors such as 'lack of understanding of business by IT department' and 'Lack of understanding of IT by the business' as a big influence on the time lag issue, and can affect the strategic alignment process at Electrolux-distriparts and the company in general.

Johan Johansson 'agree' on ' limiting the IT leader in decision making', protocol rigidity of the company and 'not having the IT leader in defining the business strategy', saying that these factors have less effect on the time lag management issue at Electrolux-distriparts.

Moreover, Johan Johansson was 'neutral' to factors such as 'Usage of business terminologies by IT department in communicating to Business department', 'Usage of business ter-

minologies by Business department in communicating to IT department' and 'Prioritization towards technical satisfaction instead of business needs'.

5.2 IKEA-components

5.2.1 IKEA- components background

IKEA-components develop solutions for products carrying the IKEA name. Their main business activities are to purchase and supply raw materials and furniture components. In addition, the aim of the business is to develop competitive solutions and concepts for raw material and components to furniture of the IKEA product line. IKEA-components' expertise is in components offerings. They are concern with giving IKEA a competitive advantage by creating optimal perquisites for the different suppliers' of raw materials, regarding price, quality, functionality, availability and traceability (IKEA-components, 2011).

The three main goals of IKEA-components is, to be a centre of competence for the different products, also, develop and trade different raw materials for the IKEA product range, and offer a global sourcing to IKEA suppliers.

IKEA-components started from the need within IKEA of lowering the costs at right quality of different components from IKEA suppliers. The business in the beginning was called 'Module Service' that started in 1986. The whole concept started for the sake of lowering the costs at an excellence performance for quality and availability. This Module services started as a separate company in Älmhult, Sweden to develop in year of 2007 and be renamed IKEA-components.

5.2.2 IKEA-components time lag issues

The data collected from IKEA components was from the Technical Manager, Jan Sandgren and Christian Aulosson the Global business Manager. However they had different point of views on what concerns the time lag issue at IKEA-components.

Jan Sandgren when asked about the validation of the factors affecting the Time-Lag at IKEA-components he agreed on the factors such as the lack of understanding between the business and IT department and vice versa, he also validated the factor concerning protocol rigidity of the company and the usage of technical terminologies by IT department in communicating to business department and the prioritization towards technical satisfaction instead of business needs.

On the other hand, Sandgren did not agree on some of the factors and their influence on the strategic alignment at IKEA-components such as the usage of business terminologies by the business department while communicating to IT department and not having the head of IT department in defining the business strategy. Moreover, he stated that he does not know whether limiting the IT leader in decision making in the company is a factor that can cause time lag.

Moreover when asked for prioritizing the factors in accordance to their level of effect on time lag between business and IT strategy at IKEA-components, Jan Sandgren strongly

agreed with the following factors: Lack of understanding of business by IT department, protocol rigidity of the company, usage of technical terminologies by IT department in communicating to business department and the prioritization towards technical satisfaction instead of business needs. Moreover, Sandgren 'agreed' on the lack of understanding of IT by the business. However, he was neutral on the factors concerning the limitation of IT department in decision-making and the usage of business terminologies by business in communicating to IT department. On the other hand, he disagreed on factor of not having the IT department in defining the business strategy as not causing Time Lag between business and IT strategy.

Nonetheless, Christian Aulosson had slightly different point of view on the factors causing time lag between the business and IT strategy at IKEA-components. Aulosson validated the factors such as lack of understanding of business by IT department and vice versa, also the usage of business terminologies by IT department in communicating to business department and the usage of business terminologies by business department in communicating to IT department. Also, the factor concerning the prioritization towards technical satisfaction instead of business needs. On the other hand, Christian did not agree on the following factors as possible causes of the time lag between the business and IT strategy, they are limiting the IT leaders to decision making in the area of IT, the protocol rigidity of the company and not having the head of IT department in defining the business strategy.

Also, when asked to prioritize the factors on their level of effect in affecting the time lag between the business and IT strategy, Aulosson agreed with the following: lack of understanding of business by IT department and vice versa also the usage of technical terminologies by IT department in communicating to business department and the usage of business terminologies by business in communicating to IT department, also, the prioritization towards technical satisfaction instead of business needs. On the other hand, he totally disagreed with the factors such as limiting the IT department in decision making, protocol rigidity of the company and not having the IT department in defining the business strategy.

5.3 Expert 1 point of view

Dr. Ulf Seigerroth, an Assistant Professor of "Enterprise modelling" at School of Engineering of Jönköping University. Seigerroth's research direction is concerned within the area of business-IT alignment and transformation. More specifically, in the area of enterprise modelling, enterprise architecture, information logistics, method engineering, co-design and, IT economics (Högskolan Jönköping, 2011). Since Ulf Seigerroth is an expert in the area of business and IT alignment, he contributed to this paper with his expertise on what concerns time lag in firms and how this in its turn, affect the degree of alignment between the business/IT strategies. The interview intention was to have an expert point of view on the time lag factors in firms.

Seigerroth did validate most of the factors as reasons for time lag between business and IT strategy such as the 'lack of understanding of business by IT', 'lack of understanding of IT by business',' protocol rigidity', 'usage of technical terminologies by IT in communicating to the business', 'not having the IT leaders in defining the business strategy' and 'prioritization towards technical satisfaction instead of business needs'.

In addition, Seigerroth seems not to be in accordance with some factors, such as 'limiting the IT leaders to decision making in the area of IT'. Also he did not validate the factor 'of

usage of business terminologies by Business in communicating to IT' saying that this factor is not a cause for time lag since the IT in most firms understand and should grasp the different business terminologies in the firm. Although, he stated that, the usage of business terminologies by business department might not be an issue, but for business to understand IT might be the issue.

Moreover, Ulf Seigerroth, also prioritize the causes of time lag and he 'strongly agreed' with the factor concerning the lack of understanding of business by IT' stating that this is a major factor in delaying decision making and thus affecting the alignment of business/IT strategy. In addition, he 'agreed' with the factors such as 'lack of understanding of IT by business',' limiting the IT leaders in decision making' 'protocol rigidity' 'usage of technical terminologies by IT in communicating to Business', 'not having the IT in defining the business strategy' and 'prioritization towards technical satisfaction instead of business needs'. However, Seigerroth did disagree with the factor concerning the usage of business terminologies by Business (CEOs) in communicating to IT leaders (CIO), saying they communicate on top level languages which in most cases might not include core terminologies.

5.4 Expert 2 point of view

Kenneth Hellman was the former CIO of Fagerhult lightning, and currently the Managing consultant at CapGemini. Hellman has been in the field of IT for decades. Kenneth has been working with business modeling for several years in order to achieve a higher alignment between the business and IT strategies in companies.

Hellman validated the factors of Time-Lag issue and their influence on the strategic alignment in companies. When asked about the time lag issue in general, Kenneth stated and stressed "that the business is always in the front, but after a while, business needs support from IT solutions to be more efficient; then the project is started, and when its running the "business is far away". Hellman said here is the time lag issue that comes into life in firms, saying that this gap causes some inefficiency and delays that cost firms lot of resources.

In addition, when asked about his opinion on the factors that can cause time lag between business and IT strategy he did validate most of them, such as, 'Lack of understanding of business by IT department', 'lack of understanding of IT by the business department', 'limiting the CIO to decision making in the area of IT', 'Protocol rigidity of the company', 'not having the head of IT department in defining the business strategy' and 'usage of technical terminologies by IT department in communicating to business department' . On the other hand, he did not validate two of the factors 'don't know'. These factors are the 'usage of business terminologies by business department in communicating to IT department' and the 'prioritization towards technical satisfaction instead of business needs'.

Moreover, Kenneth Hellman was asked to prioritize the causes of time lag by ranking them. Hellman 'strongly agreed' with the factor related to lack of understanding from the business to the IT department and vice versa stating that this is a very common and usual problem in firms, also that the business department takes the IT as a cost not as a support and enhancement to the business strategy. In addition, the factors such as the usage of technical terminologies by IT department in communicating to business department and not having the IT department in defining the business strategy as factors that can strongly increase the time lag issue in firms and thus reducing the business/IT alignment. However,

on what concerns the limitation of the IT department decision making and the usage of business terminologies by business in communicating to IT department, Hellman 'agreed' stating that the IT should be a member of the board in all decision making in order to minimize and eliminate misalignment between the business strategy and IT strategy.

In addition, Kenneth Hellman was 'neutral' on the factors related to protocol rigidity and prioritization towards technical satisfaction instead of business needs, saying that bureaucracy is needed in order to follow a set of processes so that the project is well planned.

Finally, Kenneth Hellman stated that as long as an organization have a clear strategy and direction, then time lag will be minimize, also he emphasized on 'better integration' of the business and IT strategy will enhance the reduction of Time-Lag issue in firms.

5.5 Expert 3 point of view

Jan Wåger is the CEO of F4ENERGY; Jan Wåger has been in the field of IT consulting for more than 10 years. In 2010 he started his own company known as F4ENERGY. The company offers support to real estate owners on what concerns energy and technical solutions. His background as a business consultant and current owner of F4Energy gave our empirical findings more valuable outcome.

Wåger did validate the following factors: Lack of understanding of business by IT department, lack of understanding of IT by the business department, usage of technical terminologies by IT department in communicating to business department, usage of business terminologies by Business department in communicating to IT department and prioritization towards technical satisfaction instead of business needs. On the other hand, Wåger did not agree with the factors such as limiting the IT leaders to decision making in the area of IT and protocol rigidity of the company. However, Jan Wåger was neutral on the factor concerning not having the head of IT department in defining the business strategy.

Moreover, when asked to rank the factors of time lag he 'strongly agreed' with five factors namely: Lack of understanding of business by It department, Lack of understanding of IT by the business, Usage of technical terminologies by IT department in communicating to Business department, usage of business terminologies by Business in communicating to IT department and Prioritization towards technical satisfaction instead of business needs. Also he did 'agree' with the factor protocol rigidity of the company and was 'neutral' on the factor concerning the limitation of the IT department in decision making.

5.6 Summary of the chapter

This chapter has described time lag issues in two companies, namely, IKEA-components and Electrolux-distriparts, together with three different experts in the field of strategic alignment and which some of them have previously worked as CIO in companies. A brief overview of the time lag causes relating to the two companies was presented. For respondents' results, see appendix 4 and 5. Finally, both the companies and the expert have validated the most important causes of time lag.

Therefore, based on the two case studies, expert's point of view and the research model developed in the previous chapter (5), the next chapter will analyze and discuss the causes of time lag and how it can be managed, based on the companies and expert point of view.

6 Discussion and Analysis

In this chapter, the authors will discuss and analyze the causes of the time lag in business and IT strategy, and how organization manages or can manage the causes, in order to minimize the time lag and finally, how they can achieve alignment between the business and IT. This analysis is based on the framework developed in the previous chapter 4.

6.1 The influence of organizational profile on alignment

Organization profile determines how organization will react to issues relating to alignment (Miles et al., 1978), in turn, their reaction towards business-IT strategy implementation will carve how alignment is achieved. According to Miles & Snows (1978), each profile will determine how an organization calves out and attends to issues of business-IT strategy alignment, things like knowing when to evaluate, verify and question every implementation phase. The level of dynamism in today's environment, especially when it comes to business environment and technology (Van Der Zee & De Jong, 1999) requires every organization that wants to maintain competitive advantage and business-IT alignment, to be in the right frame of profile, in order for them to achieve alignment between business-IT, especially, during the implementation phase. Therefore, organization should articulate their purpose and simultaneously, establish the right mechanism (Miles et al., 1978) towards the alignment of business-IT.

Having argued that the uniqueness in different organization profile will influence how an organization will react to technology, structure and processes, then, Electrolux-distriparts and IKEA-components could be regarded as companies that suit prospectors and analyzer profiles respectively. The reasons could not be farfetched, since; both companies are open to exploiting emerging technology, in order to have competitive advantage. As rightly stated by Johansson, the head of the IT department at Electrolux-distriparts, "A company should be in position to exploit emerging technology, but should also take time to analyze, and not make decision in a hurry, because sometimes delays could be a blessing in disguise".

Nonetheless, organizations that are involved in continuous modifications and that constantly refines the right mechanism to achieve purpose (Miles et al., 1978) will attain and experience success in alignment between business-IT strategies, although, these modifications and constant renewals, should involve rearranging of structures, roles, relationships and managerial processes (Miles et al., 1978).

6.2 The Strategic Alignment Perspective

Strategic alignment perspective is classified under two main categories, business: comprising strategy execution and technology potential, and IT: comprising of customer potential and service level (Henderson & Venkatraman, 1993); the first driving force is in business, while the second driving force is in IT. The effectiveness of organization depends on how they effectively manage these two categories, since alignment depends on how organization

can check and balance these categories. The minimum requirement should be to combine two domains, though this might not be sufficient, since it can lead to dysfunctional organization (Henderson & Venkatraman), therefore, organizations should be multivariate in their perspective, since choosing the right perspective by organization depends on how they can swiftly adapt their internal process to support their strategy positioning.

In this light, since Electrolux-distriparts activities, involves giving after-services in products and parts developed by Electrolux, that placed them in service level and customer potential perspective, however, Johansson the IT manager, relishable acknowledgement of bureaucracy and structure, affirms that indeed, strategy execution perspective seems to be common (Henderson & Venkatraman, 1993), and the dominant perspective in organizations. Meanwhile, IKEA-components activities in development of solutions, concepts for raw material and creation of optimal perquisites for raw material for IKEA placed them in service level perspective.

6.3 Causes of the time lag between business and IT strategy implementation

Lags in general are often discrepancies in the rate at which new technical and administrative ideas are implemented in an organization, this lack of similarities in most cases, leads to some action waiting for others in order to be implemented. These discrepancies in strategies often lead to time lag (Pardey & Jarret, 1982), thus, achieving alignment and reducing time lag demands focusing on maximizing those things that will enable business-IT and trying to minimize the things that will inhibit business-IT (Luftman, 2000).

The identified likelihood factors that can cause the time lag between business and IT strategies were adapted from Luftman (1999) "IT enabler and inhibitors and Luftman (2000) "strategic alignment maturity model" (SAMM). The eight probable factors that were identified are stated below.

6.3.1 Factors with most impact on time lag in Business-IT strategy

From the two case studies together with the experts' point of view, it has been shown that the most factors that causes time lag are: lack of understanding of IT departments by the business departments, lack of understanding of business departments by IT departments and protocol rigidity. These following sections analyses each of those causes of time lag.

6.3.1.1 Lack of understanding of IT by the business department

In accordance to Luftman (2000), indeed, for successful strategies, every organization should strife for mutual understanding between the business and IT departments. When organization lack clear understanding then attaining alignment between the business and IT becomes a difficult task (Luftman, 2000). Therefore, as argued by Luftman (2000), there should be a clear communication between business-IT strategies. The focus of every organization should be creating an atmosphere that encourages clear understanding between business and IT. In affirmation, Electrolux-distriparts and IKEA-components both

strongly agreed on this factor and emphasized that lack of understanding will leave organization lagging behind which in turn will lead to time lag.

The suggestion from Johan Johansson (Electrolux-distriparts) is that continuous exchange of ideas is always recommended, while in the process of IT implementation. He recognizes his role as middle manager as being a crucial role, since he creates common understanding between the two departments. In fact, Hellman (expert) added that this is the most common problem that he encounters in firms; the low level of communication between the IT and business department results in slowing down an IT project and hindering the desired outcomes. In addition, Aulosson and Sandgren (IKEA-components) and the experts strongly agreed with the factor, and indeed acknowledged that misunderstanding of IT by the business department could lead to time lag during implementation of an IT project.

6.3.1.2 Lack of understanding of business by the IT department

The misunderstanding of business departments by IT departments is a factor that has been validated by all the respondents, as a factor capable of causing time lag during the implementation of an IT project. In most occasions, the IT department tends to be carried away instead of keeping the business part abreast with what is going on. In short, as highlighted by Kenneth Hellman (expert), sometimes it is difficult for the IT department to explain the outcome solution of the IT project at hand, since the business department is more income oriented. However, Johansson at Electrolux-distriparts stated that the IT departments should communicate with the business departments about the expected outcome of an IT project and the support that it will offer the business, so the business departments understand the action flow of the IT department. More, Seigerroth, Sandgren, Aulosson and Wåger did also agree that this factor can lead to time lag, resulting in delays in the IT project due to lack of understanding of the business' vision and goals.

6.3.1.3 Protocol rigidity of a company

The rules to operate in today's organizations have changed (Bergquist, 1993; Clegg, 1990); mechanistic way of handling things might not be suitable for how the dynamism environment organization operates. Rigid protocol in an organization could cause time lag in business and IT strategy, no wonder Luftman (2000) argued that organizations should have relaxed and informal protocols. An organization with relaxed and less protocol rigidity stands the chance of achieving alignment.

In accordance, Seigerroth and Hellman (experts) highlighted that high level of protocols could slow down a project, although, Hellman affirms that sometimes bureaucracy is beneficial, since it allows reflections and analyzes. In addition, Johansson (Electrolux-distriparts) also strongly agreed that protocol rigidity would cause the time lag. However, he admitted that sometimes it is helpful, keeping the company from not making costly mistakes.

6.3.2 Factors with lesser impact on time lag in Business-IT

From the two case studies together with the experts, it has been shown that the factors with lesser impact on time lag are: limiting the IT department in decision-making, usage of IT terminologies in communicating to business, usage of business terminologies in communicating to IT, not using the IT in defining the business strategy, prioritization towards IT satisfaction instead of business needs. This section analyses each of those causes of time lag.

6.3.2.1 Limiting the IT department in decision-making

Since business and IT department consist of individuals servicing in different capacities, therefore, having a clear strategy (Luftman 2000), will facilitates proper allocation of resources, especially during project implementation. In other words, when the IT department is given authority to decision-making, this will lead to more efficiency, which in turn will minimize delays.

Johansson (Electrolux-distriparts) stated that the IT department should have part in decision-making, in addition, Hellman and Seigerroth stated that the IT leader should be a member of the board, and act as a key role in decision making, since his role in the decision-making will make the IT department more involved in the project and thus eliminating misunderstanding and delays. On the other hand, Sandgren and Aulosson did not agree on limiting the IT department decision making as a cause for time lag at IKEA-components.

6.3.2.2 Usage of technical terminologies by IT department in communicating to business department

The usage of technical terminologies by IT departments in relating to business departments can cause time lag between the two departments. Johan Johansson (Electrolux-distriparts) agreed to this factor, but he does not consider this a problem in Electrolux-distriparts since his presence in the company helps in breaking the terminologies down. In addition, Sandgren, Wåger, Seigerroth and Aulosson did agree on this factor as a cause for delays in IT project implementation.

6.3.2.3 Usage of business terminologies by business department in communicating to IT department

The usage of business terminologies to communicate to IT was another factor that could cause time lag; Sandgren, Aulosson, Hellman, Wåger validated this factor as a possible cause of time lag, while Seigerroth stated that in most cases IT understands the business, it is often the business that does not understand the IT terminologies.

6.3.2.4 Not having the IT department in defining the business strategy

Relationship should exist between business and IT (Luftman, 2000) since this relationship can either enable or inhibit attaining alignment. According to Luftman (2000), IT department should participate when defining business strategies. If the IT department is not included in the process of defining the business strategy, then, it might lead to lack of understanding and error in action, since they both need to share the same vision. Hellman, Seigerroth and Johansson agreed on this factor as a cause for time lag, Hellman stated that the IT leaders should be incorporated into the board in all decision-making, in order to minimize and eliminate misalignment between the business strategy and IT strategy. However, Aulsson, Sandgren and Wåger did not validate this factor as cause for delay while in the process of an IT project implementation.

6.3.2.5 Prioritization towards technical satisfaction instead of business needs

Prioritizing technical satisfaction will result in failure when not considering the business needs first; in turn this will put the company in a position of re-planning and re-implementing the project since it does not satisfy the needs of the business. In affirmation, Kenneth Hellman did agree on this factor, stating that sometimes there is some technical solutions that drive the business, but also if the IT project is solely on satisfying the IT, this will result in big project failure.

In addition, Sandgren, Aulosson and Johansson did validate this factor, as a cause for time lag since it has an effect on the outcome of the project when it is solely satisfying the IT departments' needs instead of supporting the business needs. However, Seigerroth did not agree with this factor as a cause for time lag, stating that it depends on the organizations' profile. Some companies are IT oriented and there is a need for technical prioritization in order to achieve their business goals.

6.4 Strategic Implementation

Strategy is meant to provide direction to organizations (Mintzberg et al., 2003); it should help organizations elaborate and systematically plan long-term action or specific goal. Often strategy is top management responsibilities (Hofer & Schendel, 1978), if this is true, then, it can also be argued that achieving alignment between business-IT strategies should also be top management responsibility. Therefore, how alignment is achieved in every organization depends on how their top management integrates organizational goals, policies and action sequences. Although, strategy is constrained to quite a lot of things, for instance, nature of business, resources, capabilities, structure and environment within which an organization operates. Thus, these constraints might have an impact on how business and IT is aligned. Nevertheless, as argued by Hofer & Schendel (1978), strategy is still capable of providing directional cues to any organization that allows it to achieve its objectives, giving them room to respond to environmental opportunities and threats.

In short, strategy still remain the determinants factor for pursuing or achieving organizational goals (Chandler 1962), which in this case, could be achieving alignment and manag-

ing the time lag between business and IT. In affirmation, despite the changes in today's environments, Mintzberg (2003) still claimed that even the dynamism in today's environment requires a strategy. Thus, we mean strategy that will build a posture that is capable of giving an organization a sense of direction in achieving alignment between business and IT strategy.

According to Chandler (1962) and Mintzberg (1988), strategy will state clearer goals and objective in precision to organization mission and aim, which also will include what they want to achieve, although, strategy is complex and difficult because it works in retrospect. Nonetheless, as suggested by Mintzberg (2003) organization should probably have a strategy set aside for the unpredictable and unknowable.

6.5 Suggested strategy for aligning Business-IT and Minimizing Time Lag

Arguably, Information Technology (IT) is still perceived by organization managements as something tangible and something that should instantly be generating profit. When this is not happening, they gradually start drifting away from IT, and by so doing time lag start evolving. Organization should realize that as IT consumes resources, so do people and machines. Therefore, instead of drifting away, diligence in management might be required, paying equal attention to business strategy and IT, aiming to intertwine both business and IT, since they both consume resources and in fact, it has been argued that IT need more time in order to have a recognizable impact (Evan, 1996).

More also, IT leaders and Business leaders, together with their decision-makers, when developing any projects or initiative that will help the organization attain competitive advantage, should focus on keeping it as clear and open as possible, since that will reduce ambiguity in their dealings with one another. Keeping a less ambiguous strategy will achieve alignment (Luftman, 2000) and in turn, reduce time lag. In affirmation, Kenneth Hellman (Expert) argued for organization to have conspicuous strategy, at least, the one clear enough to give both business and IT a sense of direction, which in turn, might reduce the time lag in business and IT would be reduced.

According to Henderson & Venkatraman (1993), success for both business and IT depends on how business-IT together with all its components is managed. Thus, instead of setting priorities on one aspect, all the components should get equal attention, since each component enables successful implementation of business and IT. What this denotes is that all components are crucial for alignment, which in turn, might get to reduce time lag.

In Electrolux-distriparts, something was striking, and that was the role Johan Johansson is playing, in short, he referred to himself as the leg in both business and IT, because he has education in both business and IT, "I break technical terms down for business people and let IT people grasp business". Johansson laid emphases on the significance of his role as the middle manager between the business and IT, seeing it as crucial role that has at least worked for the company in aligning the business and IT. Therefore he suggested, and the authors, share his view that every organization could emulate this since it seems to reduce time lag and keep business-IT aligned at Electrolux-distriparts.

7 Conclusion

This chapter portrays a summary of the results found during this thesis work. Then limitations of the results are discussed. Finally some recommendations for further research are given.

7.1 The causes of time lag between business and IT strategy implementation

Most of the research done on alignment has been theoretical and mechanistic; thus, fail to capture real life situation. In this light, the authors have tried not to make the research only theoretical, but have included two companies and experts in the field. Nonetheless, the authors have also tried to provide some clues relating to time lag between business and IT, which was raised by some researchers. The aim of this research is to draw more insight in respect to strategic alignment in business and IT strategy. To find out what factors could cause the time lag that might exist between business and IT strategy, and to investigate how organizations can manage this time lag that exists in business and IT strategy.

So far, the authors have been able to theoretically establish, and empirically validate eight possible causes of the time lag between business and IT which are: Lack of understanding of IT by the business department, lack of understanding of business by the IT department, limiting the IT department in decision-making, protocol rigidity of the company, usage of technical terminologies by IT department in communicating to business department, usage of business terminologies by business in communicating to IT department, not using the IT department in defining the business strategy and prioritization towards technical satisfaction instead of business needs.

Nonetheless, out of the eight possible causes of the time lag, three causes was outstanding, i.e. "lack of understanding of business department by IT department, lack of understand of IT department by business department and protocol rigidity". Therefore, the authors conclude by arguing for management to strife for a strategy that is clear, and to be flexible instead of having rigid protocols.

7.2 Management of time lag between business and IT strategy

Information Technology (IT) leaders and business leaders together with the decision-makers, should keep a clear and less ambiguous strategy, when developing or initiating any new projects. The success for both business and IT depends on how all the components are treated and managed, thus organizations should have an intertwined strategy that is well integrated.

Furthermore, organizations could emulate Electrolux-distriparts by having "a leg in both" someone that will help in enhancing understanding in both strategies and departments. Since the significance of understanding cannot be overemphasized, the authors conclude that organizations should strive for clearer goals and be less ambiguous in their dealings.

7.3 Achieving alignment between business and IT strategy

Achieving or maintaining alignment requires organizations to be in the right frame of profile that facilitates and encourages alignment, since achieving alignment, especially during the implementation stage, requires organizations to have an articulated goal and right mechanism towards the business and IT alignment. Furthermore, since alignment success depends on how business and IT components are managed; therefore, there should be equal attention, giving to each of the components that enable success. The authors conclude that achieving alignment between the two strategies is not "mission impossible", if both business and IT strategies are intertwine and treated equally.

7.4 Limitations

This thesis has been performed in collaboration with two companies (IKEA-components and Electrolux-distriparts), together with experts, all located in Sweden. The Strategic Alignment (SA) concept is not well known in companies, though all the experts are acquitted with the concept. Thus, it has been challenging, to translate the theoretical aspect to a more pragmatic view to the companies. More also, due to busy schedules of interviewees, each interview lasted one-hour. This time constraints have limited the depth of description as well as cases analysis.

7.5 Recommendations for further studies

This study has mainly investigated the causes of time lag in business and IT strategy, specifically in the implementation phase, due to limited time it was not possible to examine the time lag in strategy formulation, and a further research could be performed on time lag that might exist in strategy formulation phase.

The study focuses on a group of companies in a multinational company; it will be interesting to research if the causes of time lag will be different in the multinational company itself.

This research has validated some factors that cause time lag in business and IT, using two companies; it will be worthwhile, investigating more companies, since this might lead to having grounded theories for the causes of time lag.

List of references

Archibald, S.. (2010, September). IT Must Understand Business. Baseline,(106), 38-39. Retrieved March 2, 2011, from ABI/INFORM Trade & Industry. (Document ID: 2165437171).

Avison D. & Jones J., (2004), "Using and validating the strategic alignment model", *Journal of Strategic Information Systems, Vol. 13, Issue 3, p. 223 - 246*

Baker, J., Jones, D. (2008). "A Theoretical Framework for Sustained Strategic Alignment and an Agenda for Research," Proceedings > Proceedings of JAIS Theory Development Workshop. Sprouts: Working Papers on Information Systems, 8(16). http://sprouts.aisnet.org/8-16.

Bergquist, W. (1993). The Postmodern Organization, Jossy-Bass Publishers, San Francisco, CA.

Chandler, A., (1962), "*Strategy and Structure*", MIT Press.

Chan, Y. E. and B. H. Reich (2007) "IT Alignment: What Have We Learned" *Journal of Information Technology* (22) 6, pp. 297-315.

Ciborra, C., 1997. De Profundis? Deconstructing the concept of strategic alignment. IRIS conference (http://iris.informatik.gu.se/conference/iris20/60.htm).

Coleman P. & Papp R. (2006), "Strategic alignment: Analysis of perspectives", *Southern Association for Information Systems Conference*
Distance to Information Source and The Time Lag to Early Adoption of Trace Element Fertilisers … R. K. Lindner,

Electrolux (2011). Retrieved May 5, 2011, from http://www.electrolux.com

Evan, W, M,, 'Organizational Lag', *Human Organizations,* Vol, 25, No, 1, 1966.

Evers K.W (2010). Business-It Alignment: A Current-State Evaluation of Strategic Alignment within the Hospital Orga nization. Capella University.

Fischer, A.J. and Pardey, P.G (1979) The time to adoption, *Economic Letters*, Vol. 2, p. 187-90

Galliers, R. D. (2004) Reflections on Information System Strategizing, in 1st edition C. Avgerou, C. Ciborra, and F. Land (Eds.) *The Social Study of Information and Communication Technology*, London: Oxford University Press, pp. 231-262.

Ghauri P., & Gronhaug K., (2005), *Research Methods in Business Studies*, Third edition, Prentice Hall

Goldkuhl, G. (1998). *Kunskapande* Jönköping: Internationella Handelshögskolan

Henderson, J., Venkatraman, N., 1989. Strategic Alignment: A Model for Organizational Transformation, in: Kochan, T., Unseem, M. (Eds.), 1992. Transforming Organizations. OUP, New York.

Henderson, J.C. and Venkatraman, N. (1993). Strategic Alignment: Leveraging information technology for transforming Organizations*, IBM Systems Journal* 32(1): 4–16.

Holme, I., & Solvang, B. (1997). *Forskningmetodik- Om kvalitiva och kvantitativa metoder*. Lund: Studentliteratur .

Holloway I., (1997), Basic concepts for qualitative research, *Blackwell Science,* retrieved from, http://books.google.com/books?hl=en&lr=&id=yPU0ubJkpXcC&oi=fnd&pg=PR14&dq=Basic+concepts+f or+qualitative+research.&ots=ydhs1qcnAV&sig=Xfj7gKwbDkaJ5PbbTLKr4kJ4siA#v=onepage&q&f=false

IKEA Components (2011). Retrieved May 3, 2011, from http://www.Ikea-components.com/web/hem.aspx

Kidder, L.H (1981). Research Methods in Social Relations. New York Holt, Rinehart and Winston

Lederer, A., Mendelow, A., 1989. Co-ordination of Information Systems Plans with Business Plans. *Journal of Management Information Systems ,* Vol 6, N.2 , p. 5–19.

Lee, S., and Baskeville, L., (2003), Generalizing generalizability in Information Systems Research , Information Systems Research, Vol.14, No.3, p-221- 243

Leonard, J. (2008). What are we aligning? Implications of a Dynamic Approach to Alignment, 19th Australian Conference on Information Systems, Christchurch.

Lindh, J., (2009), *Lecture Research Methods and Academic Writing* .Retrieved March,24, 2009 from Jönköping International Business School: http://jibsnet.hj.se/default.asp?itemid=18799

Luftman, J., Papp, R., Brier, T., 1996. Business and IT in Harmony: Enablers and Inhibitors to Alignment, *Stevens Institute of Technology,* Vol 4, article 14. Retrieved from: Http://Hsb.Baylor.Edu/Ramsower/AIS.Ac.96/Papers/PAPP.Htm Oct 2000.

Luftman, J. (2000) "Assessing Business-IT Alignment Maturity," *Communications of the AIS* (4) 14, pp. 1-50.Luftman, J. (2003) "Assessing IT-Business Alignment," *Information Systems Management* pp. 9-15.

Luftman J. and Mclean E. R, (2004). Key Issues for IT Executives. *MIS Quarterly Executive* , Vol. 3 No. 2

Luftman, J. and Brier, T., (1999): Achieving and Sustaining Business and IT Alignment, California Management Review, No.1.

Maes, R., 1999. A Generic Framework for Information Management. Prime Vera Working Paper, Universitet Van Amsterdam http://primavera.fee.uva.nl/html/working_papers.cfm.

Mathias Ekstedt, Narcisa Jonsson, Leonel Plazaola, Enrique Silva Molina and Norman Vargas (2005). An Organization-Wide Approach for Assessing Strategic Business and IT Alignment. Industrial Information and Control Systems, KTH - Royal Institute of Technology Osquldas väg 12, SE-10044 Stockholm, Sweden.

McKay, J., Marshall, P., 1999. 2*6=12, or Does It Equal Action Research?, Australasian Conference on Information Systems

Miles, R. E., & Snow, C. C. (1978). *Organizational strategy, structure, and process*. New York: Hill Book Co.

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J. (1978). Organizational strategy, structure, and process. *Academy of Management Journal*, 3(3), 546-562.

Mintzberg, H., Lampel, J., Quinn, J. B., and Ghoshal, S. (2003); "*The Strategy Process: Concepts, Contexts, Cases*", Fourth Edition, Pearson Education Limited

Mintzberg, H. (1987); "Crafting strategy", Harvard Business Review, July-August 1987,pp.66-74

Mintzberg H., (1987), The Strategy Concept I: Five Ps For Strategy, *California Management Review,* Vol 30, No. 1

Oxford dictionary, http://oxforddictionaries.com/?attempted accessed February 5th, 2011.

Porter, M.E., 1996. *What is Strategy?*. Harvard Business Review Nov-Dec, 61–78.

Porter M. E. and Millar V. E., (1985), "How Information gives you competitive advantage", *Harvard Business Review*, Jul/Aug 1985, Vol. 63 Issue 4, p149, 12p

Porter M. E., (1980), *Competitive Strategy*, Free Press, New York

Porter M. E., (1985), *Competitive Advantage: Creating and sustaining superior Performance*

P.G. Pardey and F.G. Jarrett University of Adelaide, Adelaide, S.A. 5001. 1982

Reich, B., Benbasat, I., 2000. Factors that Influence the Social Dimension of Alignment between Business and IT Objectives. *MIS Quarterly* 24 (1), 81–113.

Robson, C. (2002), *Real world research (2de ed.).* Wiley-Blackwell

Sabherwal, R., R. Hirschheim, and T. Goles (2001) "The Dynamics of Alignment: Insights from a Punctuated Equilib rium Model," *Organization Science, Vol.* 12, No. 2, pp. 179-197.

Saunders, M., Lewis, P., Thornhill, A. (2007) *Research Methods for Business Students* (4th ed.). Harlow: Pearson Education.

Smaczny, T., 2001. IS an Alignment between Business and IT the Appropriate Paradigm to Manage IT in Today's Organisation? *Management Decision* , Vol. 39 , No.10, p. 797–802.

Tallon, P., Kraemer, K., 2003. Investigating the Relationship between Strategic Alignment and Business Value. Idea Publications, Hershy, PA, pp. 1–22.

Tarabay, R. and Eigibre, R., *To invest or not To invest, Factors affecting IT investment decision making, p. 16-24.* retrieved from www.diva-portal.org

Van Der Zee, J.T.M. and De Jong, B. (1999). Alignment is Not Enough: Integrating business and information technology management with the balanced business scoreboard, *Journal of Management Information Systems Vol.* 16, No 2, p: 137–156.

Venkatraman, N., 1997. Beyond Outsourcing: Managing IT Resources as a Value Center. Sloan Management Review, Spring 38 (3), 51–64.

Weill, P., Broadbent, M., 1998. *Leveraging the New Infrastructure*. Harvard Business School Press.

Yin,R. (2009), *Case Study Research, Design and Methods (4th ed.).* Sage publications.

Yin, 1988*, Case study research: design and methods (4th ed.).*, London: SAGE, Applied social research methods series v. 5,

Appendix

Appendix 1Components of Alignment

I. BUSINESS STRATEGY

1. **Business Scope** – Includes the markets, products, services, groups of customers/clients, and locations where an enterprise competes as well as the competitors, suppliers and potential competitors that affect the competitive business environment.
2. Distinctive Competencies – The critical success factors and core competencies that provide a firm with a potential competitive edge. This includes brand, research, manufacturing and product development, cost and pricing structure, and sales and distribution channels.
3.Business Governance – How companies set the relationship between management stockholders and the board of directors. Also included are how the company is affected by government regulations, and how the firm manages its relationships and alliances with strategic partners.

II. ORGANIZATION INFRASTRUCTURE & PROCESSES

4.Administrative Structure – The way the firm organizes its businesses. Examples include central, decentral, matrix, horizontal, vertical, geographic, federal, and functional.
5.Processes - How the firm's business activities (the work performed by employees) operate or flow. Major issues include value added activities and process improvement.
6.Skills – H/R considerations such as how to hire/fire, motivate, train/educate, and culture.

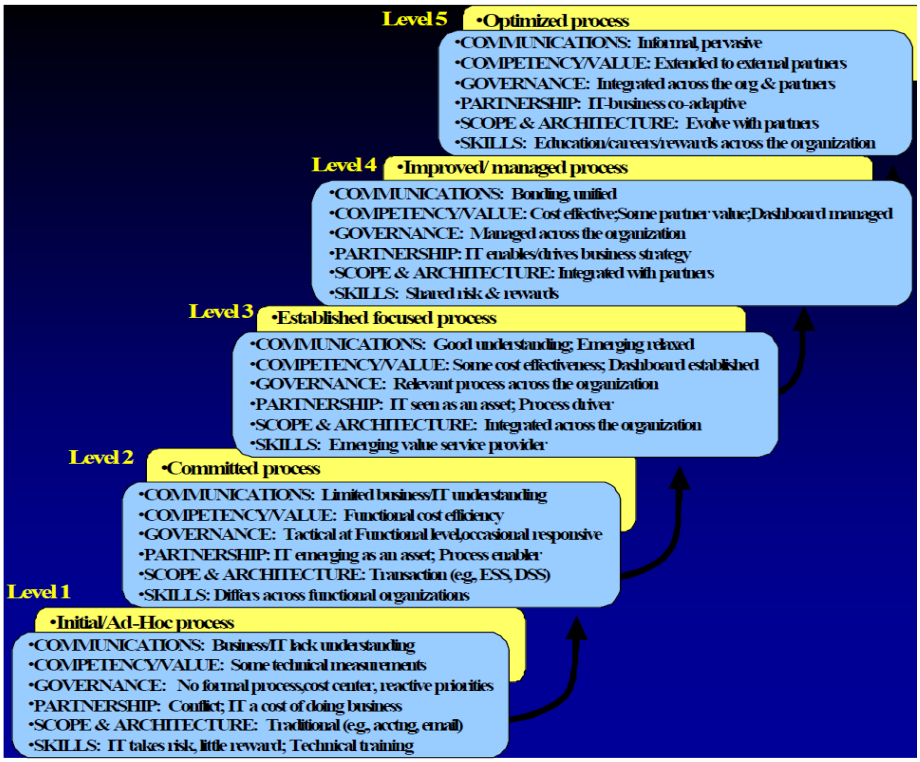
III. IT STRATEGY

7.Technology Scope - The important information applications and technologies.
8.Systemic Competencies - Those capabilities (e.g., access to information that is important to the creation/achievement of a company's strategies) that distinguishes the IT services.
9.IT Governance - How the authority for resources, risk, and responsibility for IT is shared among business partners, IT management, and service providers. Project selection and prioritization issues are included here (See Section IV).

IV. IT INFRASTRUCTURE AND PROCESSES

10.Architecture -The technology priorities, policies, and choices that allow applications, software, networks, hardware, and data management to be integrated into a cohesive platform.
11.Processes - Those practices and activities carried out to develop and maintain applications and manage IT infrastructure.
12. Skills - IT human resource considerations such as how to hire/fire, motivate, train/educate, and culture.

Appendix 2Alignment Maturity Level



Appendix 3 Research Questionnaire

Company's Name:
Current title:
Email Address:

Aim: The objective of this questionnaire is to get your company's view on the posed possibly causes of time lag between business-IT strategies and also to priorate the causes.

It will be appreciated if answers are provided to the best of your knowledge and experience, in respect to the company's point of view.

Note:

- The information collected will be confidential
- Provision of the result will be available for validation before final submission

Time Lag Managements

The rules to operate in today's organizations have change, these days, companies need to try and minimize the time they react between business and IT decision, in order to be able to cope with the external environment. The implication is that, the shorter the times required between decisions and actions, the shorter the resources require executing.

Do you think the following factors can cause time lags between business and IT strategy in your company?
*(*Time lags can be defined as time during which some action is awaited, instead of running concurrently)

1. Lack of understanding of business by IT department?

   ( ) Yes ( ) No ( ) I don't know

2. Lack of understanding of IT by the business department?

   ( ) Yes ( ) No ( ) I don't know

3. Limiting the IT leader (CIO) to decision making in the area of IT?

   ( ) Yes ( ) No ( ) I don't know

4. Protocol rigidity (bureaucratic) of the company?

( ) Yes ( ) No ( ) I don't know

5. Usage of technical terminologies by IT department in communicating to Business department?

( ) Yes ( ) No ( ) I don't know

6. Usage of business terminologies by Business department in communicating to IT department?

( ) Yes ( ) No ( ) I don't know

7. Not having the head of IT department in defining the business strategy?

( ) Yes ( ) No ( ) I don't know

8. Prioritization towards technical satisfaction instead of business needs?

( ) Yes ( ) No ( ) I don't know

If yes to above causes of time lags, to what extent will you consider this causes from below?

	Strongly disagreed	Disagree	Neutral	Agree	Strongly agree	Not applicable
Lack of understanding of business by It department						
Lack of understanding of IT by the business						
Limiting the IT department in decision-making						
Protocol rigidity (bureaucratic) of the company						
Usage of technical terminologies by IT department in communicating to Business department						
Usage of business terminologies by Business in communicating to IT department						
Not having the IT department in defining the business strategy						
Prioritization towards technical satisfaction instead of business needs						

Thank you for your anticipated cooperation

Appendix 4 Companies result

Agree /Strongly Agree	Electrolux Distriparts (Johan Johansson)	IKEA Components IT department (Jan Sandgren)	IKEA Components Business department (Christian Aulosson)
Lack of understanding of business by It department	•	•	•
Lack of understanding of IT by the business	•	•	•
Limiting the IT department in decision-making	•		
Protocol rigidity (bureaucratic) of the company	•	•	
Usage of technical terminologies by IT department in communicating to Business department		•	•
Usage of business terminologies by Business in communicating to IT department			•
Not having the IT department in defining the business strategy	•		
Prioritization towards technical satisfaction instead of business needs		•	•

Appendix 5 Experts result

Strongly Agree/Agree	Kenneth Hellman	Ulf Seigerroth	Jan Wåger
Lack of understanding of business by It department	•	•	•
Lack of understanding of IT by the business	•	•	•
Limiting the IT department in decision-making	•	•	
Protocol rigidity (bureaucratic) of the company	•	•	•
Usage of technical terminologies by IT department in communicating to Business department	•	•	•
Usage of business terminologies by Business in communicating to IT department	•		•
Not having the IT department in defining the business strategy	•	•	
Prioritization towards technical satisfaction instead of business needs	•		•

Appendix 6 Gantt chart

ID	Task Name	Duration	Start	Finish
1	Master Thesis	100 dys	Tue 11-01-04	Mon 11-05-23
2	Topic Search and problem analysis (PM1)	35 dys?	Wed 11-01-05	Tue 11-02-22
3	Literature study and Methodology writing (PM2)	23 dys?	Wed 11-02-23	Fri 11-03-25
4	Writing questionnaire for interview and contacting firms (PM3)	14 dys?	Mon 11-04-04	Thu 11-04-21
5	Analysis	15 dys?	Mon 11-04-25	Fri 11-05-13
6	Review and correction	5 dys?	Mon 11-05-16	Fri 11-05-20