Enabling strategic change through business and IT alignment: Challenges for an organization's management and leadership

Blekinge Institute of Technology

School of Management

MBA

Supervisor

Dr. Urban Ljungquist

Authors:

David Aguilar and

Rozbeh Karimibabak

May 2014

Abstract

The main objective for this thesis is to identify a set of challenges imposed on an organization undergoing strategic change impacting their IT Landscape. Organizations most embark on strategic change initiatives in order to remain competitive and create business value. It is important to understand these challenges imposed during the change process in order to be prepared and able to minimize the negative impact they may have if not handle properly. For this purpose within the scope of this thesis the aim is to identify challenge areas and the specific challenges they may impose. These identified challenges can be used as a baseline for organizations in order to understand which areas to address in order to minimize negative impact during a strategic change related to their IT Landscape. A case study methodology was used in this thesis and relevant research through literature review in identified topics was conducted. Communication, leadership, business value and strategy realization, knowledge management and change management are examined through the theoretical framework and identified as areas in need of attention during a strategic change initiative. Also within the theoretical framework this thesis identifies Enterprise Architecture as an enabler for succeeding with the change initiative related to the IT Landscape. The qualitative empirical data for this thesis was collected through the interview of ten professionals within five different organizations. Based on the above approach, within the scope for this thesis, a set of challenge areas and specific challenges were identified and the conclusion was that these areas are important to address during a strategic change initiative impacting IT Landscape within an organization in order to ensure a successful outcome.

Keywords

Business challenges, Communication, Leadership, Business value realization, Knowledge management, Change management, Enterprise Architecture, Strategic change, IT Landscape.

Acknowledgments

First and foremost we would like to thank our families (Sandra, Liv, Valeria and Bahareh) for the support and time to complete the work needed for this thesis. Often going into the late hours of the night and occupying weekends. Thank you for the understanding.

We would also like to thank our supervisor Dr Urban Ljungquist for his support during the whole research process. The provided guiding and the useful feedback from him enabled us to conduct this research in the best possible way.

Finally we would like to extend our most appreciate gratitude to the interviewees who shared their limited and valuable time to us and gave us invaluable input to our thesis.

Sweden, 2014

David Aguilar & Rozbeh Karimibabak

1 Introduction

Based on recent studies conducted where 1,559 executives and managers in various sectors participated - 78% of respondents saw digital change and transformation as critical to their organizations during the 2 year period to come. At the same time 63% saw the speed and pace of technology change too slow within their organization (Michael Fitzgerald, 2014).

Organizations worldwide are currently going through a challenging and interesting chapter within their path of business evolution. During the past two decades, these organization's IT Systems have grown exponentially - in capabilities as well as in requirements in order to support the company's strategic goals within the market they operate in (Shah & El Kourdi, 2007).

In most cases this growth has been performed with poor control, lack of quality and no long term vision. The organization's needs to adapt to requirements set by the markets have increased and the urgency to implement change in order to remain competitive is now more important than ever (Interviewee I3). It is a reality many organizations over the world are facing today - the needed change to address the problem of their aging IT unable to keep up with their renewed business strategies.

In most cases, their IT landscape must be modified, replaced or integrated with newer systems depending on the organization's needs. The change must take place not only because of possible limitations their legacy (Versteeg & Bouwman, 2006) could impose but also because it represents a risk which will only increase with time. For instance, the decrease of "know-how" on the organization's aging systems translates into high maintenance or update costs or none at all in some cases. Based on the described circumstances leaders and managers in these organization are challenged within various areas when aiming to renew their Business Processes and IT landscape for supporting their strategic goals (Versteeg & Bouwman, 2006).

For an organization, a successful implementation of a new IT landscape is the key (Adomavicius, et al., 2008) to support and enable their business for the value generating processes in the market they operate. It can also secure their competitive advantage and a new opportunity to introduce an IT landscape that will be able to adapt to change in a more manageable way.

Hence, to do this in a successful way, it is important to understand from a leadership and management perspective the:

A. type of challenges that needs to be addressed and to be well prepared for those and
B. what are the key areas and tasks to prioritize for such endeavour (Adomavicius, et al., 2008)

1.1 Problem Discussion

All organizations must operate in an evolutionary like environment which forces them to adapt to new demands, market circumstances and the emerging of new technologies. Technology is at the present an integral part of all organizations. In order to remain competitive and successful organizations create value based on the integration of processes linked together through a set of IT systems, the organizations IT landscape.

An organization's IT Landscape is the technical realization of an organization's IT plans to support their business strategies. For this study we use the following definition (Winkler & Gilani, 2012):

> *A set of hardware, software and facility elements; arranged in a specific configuration which serves as a fabric to support the business operation of an enterprise.*

New business demands and in particular those derived from strategic visions lead to projects which implementations result in changes of the organization's IT Landscape (Wittenburg, et al., 2007). The success of these changes during its implementation and on the long run is directly connected to the success of the business strategies and value. Therefore, we focus on the business challenges related to IT change at the IT Landscape level driven by business strategies.

Also, there is a new type of so called digital firms in which all of the organization's business operation and interaction with customers, suppliers, and employees are digitally enabled and mediated (Laudon & Laudon, 2011). In order to fulfil the organization strategic objectives and adapt an organization to new internal and external demands, change in their underlying structure is needed when adapting to the new requirements. These changes will impact the business value adding processes in the organization and sometimes even the business model by which they operate.

When intending to implement change, it is important to have a disciplined approach to the life cycle management of the systems involved in creating business value and impacted by the change. This makes it important for an organization, from an architecture perspective, to have the necessary practices in place for implementing the change within its IT landscape. An example of such practices is Enterprise Architecture which today is more important than ever for organizations undergoing change related to or impacting their IT landscape. According to Shah and El Kourdy (2007) Enterprise Architecture is an important practice for the alignment of business and IT resources and their ambitions for the implementation of change.

Domains of enterprise architecture such as business architecture are key for bridging the business strategy into enterprise architecture practice. The business architecture artefacts enables the organization undergoing change to have a common understanding of the business processes creating value through information systems and ensure strategic objective fulfilment. Strategic change also comes with challenges for the people, the structure and the leadership of the organization in charge for managing the change. Leadership and management within organizations face challenges from the demand to align to new circumstances through change. In order to properly meet the set goals and objectives of the change, managers must manage it effectively (Dubrin, 2011). As a leader and manager within a changing organization the challenges can have many different characteristics and forms. In order to be a successful leader driving the change process one must be familiar with the type of challenges that can occur. They also must have the ability and knowledge to meet those challenges and have the right set of tools and resources to help them handle them. Change involving IT landscape and strategy is no objection when it comes to challenges for leaders and managers. These are changes which today most often derive from specific internal or external business needs and the organization's business strategies.

The organization's business strategies have the objective to achieve business value for the organization (Chaffey & Wood, 2005). This puts importance on the aspect of ensuring business value creation through change. An organization must ensure that implementing a change achieves the expected level of business value. Return on investment and business value must be analyzed prior to and monitored during the change to ensure business value is being created.

Knowledge about the business value creating processes, tools and technologies supporting those processes are essential for a company (Dubrin, 2011). For some companies their whole organizational existence is based on the knowledge they possess in form of intellectual capital. This makes the understanding of knowledge, its value for an organization and its management through change an important business challenge to consider.

For understanding the impact of change, its nature and scope must be analyzed and the process for handling it in best way must be in place which puts the light on change management. Change management is a vital practice for and organization and particular for those planning or undergoing change (Dubrin, 2011). It is the framework for ensuring successful implementation of the change and overcome the challenges along the road. Through the process of change communication plays also an essential role. It is imperative to understand the importance of communication within the organization, its process, its challenges and how to use it as an ally when implementing change.

1.2 Problem formulation & Purpose

The purpose of this thesis is to identify the business challenges that the leadership and management within an organization must address when executing strategic change. It aims to identify, through the data collection, a list of areas and practices which organization's leaders and management should focus on and address when looking to implement strategic derived changes on their IT Landscape in order of perceived importance.

Based on the above the following problem formulation and problem is the base for this thesis.

> ***Problem Formulation*** *- What are the main business challenges when updating an organization's IT Landscape?*

1.3 Thesis' structure

This thesis structure is a subset of activities aligned in a linear process (Figure 1) where linear iterative link back is done based on the chosen methodology. It begins with an introduction to the issue, scope and target for the thesis followed by examining the theoretical framework areas building around the subjects of the thesis.

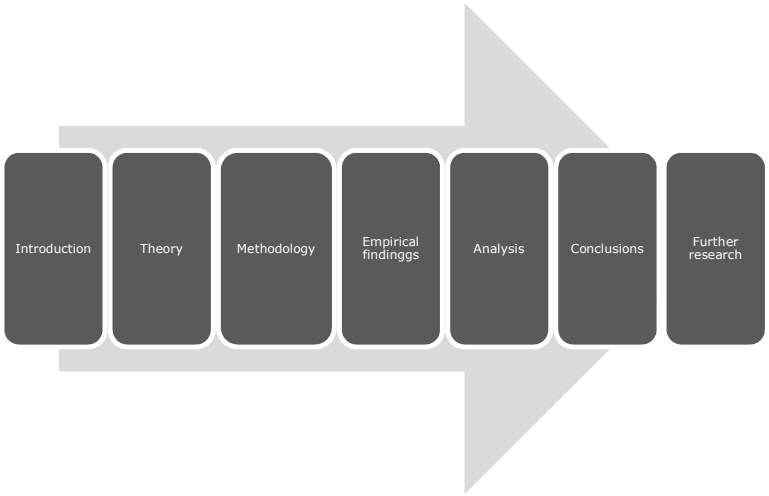

Figure 1 Thesis layout

In the theory section the goal is to build a baseline containing the main theoretical frameworks of the topics of greater interest to help achieve the objectives of this thesis i.e. business challenges that can occur during a strategic change impacting an organization's IT Landscape. The authors have examined theory and concepts within areas such as Leadership, Change Management, Internal Communication, Business value realization based on strategic

objectives, Knowledge Management and Enterprise Architecture. Based on the theoretical findings, this thesis identifies the main [perceived] business challenges for the leadership and management within organizations undergoing change based on strategic objectives. The methodology section describes the research methods applied for this thesis. The data gathering process (qualitative) and the process for the interviews conducted is also presented within the methodology section. Next sections present the achieved empirical findings. Here the interviews are compiled, analysed and the outcome is verified by summarizing, categorizing and pattern matching for identifying the specific business challenges during a strategic change impacting the organizations IT Landscape. The analysis section presents an analysis of the results and discusses the impacting factors found which can challenge leadership and management within organizations undergoing change based on strategic objectives. The conclusion section describes the findings of the research of the thesis and makes suggestions on the possible application of the achieved results. Finally a further research section nominates areas and results from this thesis where more detail could increase the value of it to leadership and management within organizations undergoing strategic change.

2 Theoretical Framework

From experience and knowledge gained throughout the research made for this thesis relevant topics where selected to be developed throughout the theoretical background section. Change is looked into and explained from a definition perspective. Then the literature review continues with examining the business challenges that can occur within identified areas. The challenge areas identified through the theoretical framework include communication, leadership, business value, Knowledge Management and Change Management. Enterprise architecture practice is included as an enabler for the successful implementation of strategic change within an organization's IT Landscape.

2.1 Challenge areas when executing strategic change

The following sub-sections present different areas which have been identified through the research for this thesis that present different challenges for organizations when executing strategy change. A background is given on each of the areas, its relationship to strategic change (or within the context of) and the connection to the research of this thesis is made.

2.1.1 **Defining Change**

Change can be generally defined as the transition between two dynamic states (Chaffey & Wood, 2005). In an organization change can occur in two formats – "*incremental change involving small adjustments to improve efficiency and respond to normal changes in its environment and discontinuous change which is caused by a significant change in the business environment."* (Chaffey & Wood, 2005, p. 430). The reason for change can be of various natures and exist in different areas (Plank & Eneroth, 2006). The nature initiating change, to mention a few, include: *customer requirement changes* in form of new products or services, *technical changes* generating new solutions or creating new opportunities, *market changes* having impact on the organization such as new competitors and *strategic changes* including new plans and goals for the organization. Characteristics of change include: *the desire for change*, *the undesired change*, *proactive change, reactive change, small ongoing/gradual change and massive widespread/dramatic change*. Independent of type, change is a fact that always generates challenges when initiated within already existing structures.

> *"Change is both progressive and educational and can be both good and bad, depending on who observes the change" (Plank & Eneroth, 2006, p. 9).*

Change, within the context of an organization, always has an impact on the people operating within its context (Dubrin, 2011). For employees within an organization change leads to a process where various types of emotion states can be identified. An example of these states as described by Chaffey and Wood

(2005) and in occurring order: Awareness/shock, denial, depression, letting go, testing, consolidation and acceptance. Other authors or organizations might adopt other ways to describe these states but their definitions and emotions that describe are similar.

An organization has to constantly and permanently improve through adapting their strategies to changes in the environment of the organization or the organization itself (Land, et al., 2009). Factors such as the size of the organization can put specific requirements in areas important for the execution of change such as communication. In this case, not been successful in it can have a major impact and becomes a "major barrier" in the effectiveness of change management (Daly, et al., 2003). Other factors such as the organization's and national culture can impose restrictions in the enforcement of change. The trust employees have in their leaders can cause difficulties on the "buy into" change. But organization's trust problems throughout change can also be of leaders not trusting their employees. Organization's politics, can completely halt change whilst in organization's with a divided ownership among its employees can be a motivation due to the potential personal gain. Regardless on the scope of change within an organization the challenges will be very similar and as described above change is a constant within every successful organization. The change within an organization this thesis focuses on is strategic change. Due to its nature the scope of this change can start within higher management and strategic areas but eventually it will reach all parts of the organization. One of the main differences of strategic change is that its execution is a long-term plan in comparison to other type of changes; Stanleigh (2008 in (Riwo-Abudho, et al., 2012)) states that a strategic change vision should go beyond the normal five year forward plan.

2.1.2 **The Communication process and impacting challenges**

When implementing change, communication plays an important role. It is vital for ensuring a common understanding and approach through the transition process to the final state that the change aims to reach. Communication can be described as the glue that holds the organization together (Dubrin, 2011).

Land, et al. (2009) points out the large cultural differences among employees, for example; between thinkers and doers, between domain experts and management, between sales and operations, etc. Each of these different characteristics could require different ways of communication. Strategic change requires the involvement, access and buy-in from important stakeholders before, during, and after the change. Harshman and Harshman, (1999 in (Daly, et al., 2003)) point out that communication within the organization is a key factor in influencing how well the organization performs and in fact, it is very high on the diagnostic checklist of corporate health is communication (Hall, 1980 in (Daly, et al., 2003)). On strategic changes such as mergers, it has been found that when managers were open and honest with employees in terms of informational content the short-term pre and post merger was far more successful in regards

to staff turnover and levels of absenteeism for example (Daly, et al., 2003). Daly, et al. (2003) point out the openness about not only the organization's main objectives but also how well they have been met, with a number of mechanisms to allow employees access to this information regularly can help in the buy-in of the employees. But they also point out that during strategic changes, perhaps more than in other sort of change, there's the risk that despite the open communication to inform employees of the change many of them do not communicate their concerns (Daly, et al., 2003). As already discussed in the Change section, according to Daly, et al. (2003), it is easier to keep a small organization informed about the particulars of change rather than a large one. In their paper, "Exploring the role of internal communication during organizational change", one of their premises is that internal communication has a role in the successful implementation of change management programs and it is supported by their pilot study's findings.

Organizations are most often aware of the importance of good communication but often fail to create a link between what it is said and what it is done or achieved (Kitchen & Daly, 2002). It is important to understand the general process of communication, the factors and noises which can impact the quality of the transmitted message within an organization.

In general, communication process describes the method of message exchange as a complex process impacted often by noise and other type of interference affecting the quality of the message transmission (Dubrin, 2011).

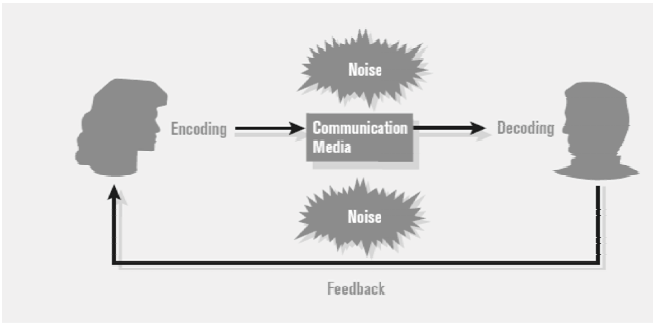

Figure 2 Communication process (Dubrin, 2011, p. 429)

According to a study performed by Krell (2006) organizations that have an active internal communication strategy and platform showed shareholder returns 57% higher than those without it. The same study, suggests organizations should focus on the following areas important for ensuring an effective internal communication: Developing a communicative culture; highlighted as an area where the internal communication culture must be addressed in order to result in better effectiveness and value. Strengthening one's messenger communication skills; is important in order to enable good communication propagation. Use focus groups; i.e. verify within a user group before communicating out to the mass. Choose channels wisely; the absorption

capacity of information differs between individuals. Personal interaction can in many cases be the better channel of choice. Demonstrate empathy; communicate the message within an empathic context towards the receivers. Prepare managers; prior to communicating out major changes to the organization prepare managers to help propagate the message accurately and effectively to the rest of the organization.

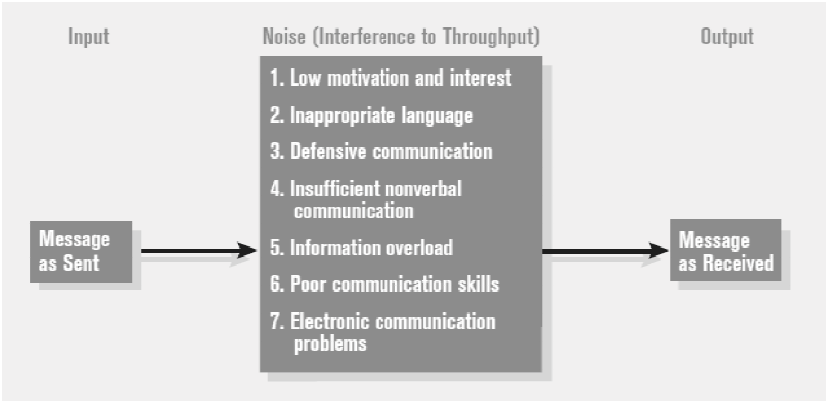

Figure 3 Noises in the communication process (Dubrin, 2011, p. 444)

A number of impacting noises (Figure 3) can make it difficult to ensure the quality of communication across to target group as intended. The so called noises impacting the quality of communication can fall within one of the following areas (Dubrin, 2011): *Low motivation and interest;* transmission is disturbed by the receiver's lack of motivation or interest to receive the message. *Inappropriate language;* the structure and content of the message must be in accordance to its purpose for the receiving group. *Defensive communication;* highlights the tendency of receiving a message in a self-protective way. *Insufficient nonverbal communication;* in conjunction to the nonverbal message sent out, managers must complement it with verbal communication. *Information overload;* when the amount of information can be overwhelming on the receiver's side making the new message hard or impossible to absorb. *Poor communication skills;* from the sender's side can affect the result of the communication. *Electronic communication problems;* today, this is one of the main reasons of information overload within organizations.

The above mentioned noises within communication can be seen as challenges within the communication process when implementing a change. The decision of who, when, what and how to communicate is an important step towards the successful implementation of strategic change. By taking possible actions for each applicable noise the organization can, to some extent, ensure the propagated message is being received and interpreted in a correct way by the receiving party. Therefore, for the purpose and within the context of this thesis the area of communication is identified as a practice which can impose challenges based on the identified noises (Dubrin, 2011) if not addressed in an effective way.

2.1.3 **Leadership challenges during change**

Based on the characteristics of change, identified leadership challenges in changing environments may fall into one of the following categories (Plank & Eneroth, 2006).

Being a manager and a leader - challenges connected to understanding requirements of change management and leading people through a change process. This also includes challenges in areas of the governance and control in relation to budgets and planning. Also visionary skills and abilities as a manager are included in the importance of building the role of a leader. Living up to all these attributes can be challenging under certain circumstances specially related to unpredictability's of the operational environments.

Handling the visible and invisible - being able to see and predict the impact of change and being able to lead people through a transition period. The challenge resides in the balance and understanding for actions in all four dimensions at the same time. These dimensions are *collective interests vs. individual interests*, *objective factors vs. subjective factors*, being the visible vs. the invisible.

Handling short and long-term management - is the challenge of understanding the scope of taken decision and the impacting of the change. The challenge lies in a leader being able to handle both operative operations (short-term) and developing and transformational change the overall function (long-term).

Leading through control and self-initiative includes leadership challenge areas concerning the ability to motivate the participation of employees and understand that when it comes to change acceptance level there are difference within an organizational context. Encouraging dialog, participation and influence from the whole organization for impacting the overall vision helps build an organization which easier mobilizes compared with an equal organization not having a common clear vision. As leader and manager it is important to ensure the facilities needed to overcome this challenge and create a common generated organizational vision.

Handling time "faster" and "things take time" The challenges here resides in the leader's ability to handle new processes and change within all various types of existing processes and structures such as overall reorganizations to IT landscape changes. The need for continuous improved productivity and quality urges the need for handling challenges occurring within the organization connected to it.

Building trust and minimizing mistrust Here the challenges reside creating and laying the fundamental conditions for enabling the changes and managing its process to the final expected static state. It is also important as a leader to understand the role one play being the overlapping bridge between different levels within an organization. This impacts the environment for trust. An organization where learning and involvement is encouraged helps improve the overall understanding between the different organizational units. A major part in

building trust within an organization context is to deliver committed and expected result.

Handling conflicting expectations A leaders is most often of the time, throughout a change process, caught in a pool of expectations from various categories. The expectations can be categorized as hierarchal loyalty, principal solidarity towards organization and colleagues and fidelity externally towards clients of the organization. This creates a baseline of challenges having merged from the pool of possible conflicting expectation.

At the same time available research connected specifically to challenges for leadership in changing IT structures indicates the following as leadership challenge areas when it comes to change connected to information systems (Benamati & Lederer, 2000)

Challenge category	**Definition**
Vendor Neglect	Insufficient experience, knowledge, or problem determination ability from suppliers of IT.
Vendor Oversell	Premature marketing or the setting of unrealistic expectations by suppliers of IT.
Acquisition Dilemma	Difficulty staying informed about or choosing new IT
Support Burden	Lack of external expertise about, control over, or IS organization structure to properly administer new IT.
Resistance	Disagreement about use, or reluctance to accept new IT
Cascading Needs	Unanticipated need for or dependence on new IT
New Integration	Incompatibility or need for interfaces between multiple Its
Errors	Inadequate documentation of or shortcomings in new IT
Training Demands	Long learning curves, diminished productivity with and difficulty retaining staff experienced in new IT

Table 1 Challenges for IT Leadership (Benamati & Lederer, 2000)

A leader role is target for various types of challenges within a change process. As described the challenges identified were general leadership challenges. But also challenges more connected to information systems were examined since this thesis examines the organizational challenges related to change in IT landscape.

For the purpose of this thesis the leadership practice, its identified general challenges (Plank & Eneroth, 2006) and IT related challenges (Benamati & Lederer, 2000) are seen as an important areas to address. By identifying the leadership as a practice where challenges can occur during change and identifying the challenge areas it will be possible to identify and suggest measures for handling the leadership related business challenges occurring in

this practice during a change period. Using this in the theoretical framework will help identify this practice as an area in need of attention due to its challenges.

2.1.4 **Business value realization**

Within the context of a business organization each internal and external action must generate business value. The definition of specific type of business value can vary depending on the type of processes being looked into which generate the value itself i.e. various processes can generate various type of business value. Control Objectives for Information and Related Technology (COBIT), an IT governance framework explains the need for control of IS/IT concentrating on value as follows (Chaffey & Wood, 2005, p. 354):

> " *the business goal of adding value, while balancing risk versus return ensures delivery of information to the business is enabled by creating and maintaining a system of process and control excellence appropriate for the business that directs and monitors the business value delivery of IT".*

Within the context of this thesis the literature indicated that there is a strategic important link between IT landscape and the processes of an organization in order to ensure business values. This link can be used for developing the organizations performance. Correct management of this connection helps the organizations control and meet strategic goals set by the business organization. The strategic goals are set to leverage business value in various forms for the organization. Management of this link is most often handled by CIO within the organization. A mini case study giving an example of how integrated IT in strategy is important is the one of 'Capital One creates value through information'. In this case the role of CIO and accountability of it is described in context of an organization where IT and strategy goes hand in hand in order to leverage business value. "Now, more than ever, CIOs are being held accountable for driving the business value, not just for keeping the lights blinking on the computers." (Chaffey & Wood, 2005, p. 56)

Management of the link generating the business value is a must that imposes challenges to the responsible instance managing it in order to ensure the business value realization. Within the context of this thesis we are looking into challenges related to change in the IT landscape. For ensuring business value one must ensure that the underlying information baseline within the organization is processed in a manner which ensures business value generation.

The analytic tool (Figure 4) presented by Marchand (2000) helps asses the strategic importance of business information management in an organization and how important that information is in the process of business value generation. This can be used for assessing and identifying information that can be used to create value within an organization. The tool helps assure business value through information by looking at the following value adding axis.

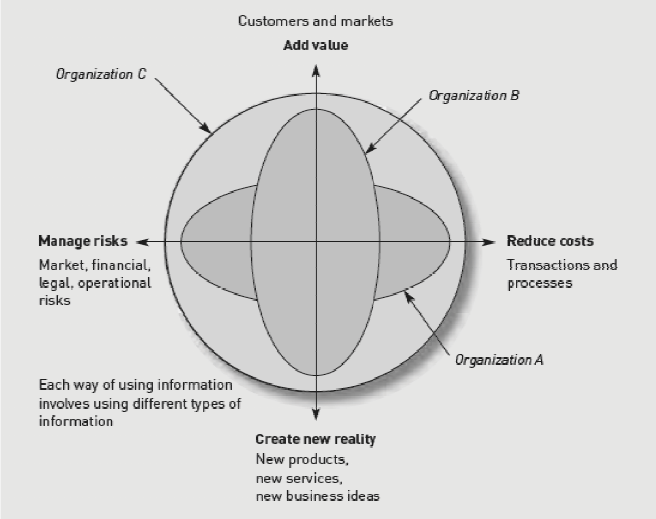

Figure 4 Relating information to business value (Marchand, 2000)

Add value can be in form of better quality and services using information. *Reduce costs* can be improving processes through information for reducing operational costs. *Manage risks*, information can be used in financial, accounting processes for lowering the operational risk for an organization *Create new reality* Value through the power of innovation information management offers. Using this tool an organization can identify improvement segment through information management in order to meet strategic goals set by the organization for generating business value.

Having identified securing and realization of business value as a challenge practice (Chaffey & Wood, 2005) impacted by change in IT Landscape the practice can be underlined as an area for attention related to this thesis problem formulation. The evaluation tool for relating information to business value (Marchand, 2000) can help an organization highlight the type of information impacted during a change process and in need of attention. Hence for overcoming the challenge of ensuring the business value generation in a changing IT landscape understanding the importance of business value realization and the tools for ensuring and identifying it are important.

2.1.5 **Knowledge Management and the process for securing it**

In order to understand knowledge management it is important to first review the definition of intellectual capital. Within an organization intellectual capital can be defined as the value of generated ideas and the individuals within an organization contributing to creating them, *"In brief, intellectual capital is knowledge and the basis for knowledge management"* (Dubrin, 2011, p. 568)

So understanding this highlights the value of knowledge management within and organizational context. Knowledge management can be defined as "the ways and means by which a company leverages its knowledge resources to generate

business value" (Dubrin, 2011, p. 663). This is a process that will require gathering, developing, sharing and maintaining knowledge within an organization in order to ensure organizational strategic goals and enabling business value. Demarest (1997) describes 6 categories of question related to challenges in organizations and firms whose strategy demands participation in knowledge intensive sectors.

The first question that needs to be asked involves evaluation of the internal value of knowledge and its validity, *"What does the internal management culture and actions say about the value of knowledge within the organization and do we believe in it internally?".* The second question involves the understanding of the process of knowledge creation and its involvement in succeeding with reaching strategic objectives *"How is knowledge created, maintained, spread and used within the organization and what is the connection between innovation, knowledge , internal performance in order to achieve strategic targets".* The third question involves understanding the benefits of knowledge management within the context of the organization, *"What strategic and profit making paybacks do we gain by knowledge management and the performance improvement generated by effective knowledge".* Fourth question underline the internal maturity related to knowledge management, *"Where does our organization stand in terms of internal maturity when it comes to knowledge system".* The fifth question involves the enablement of knowledge management through organizational setup, *"How can we enable and organize knowledge management".* The last question incorporates the need of understanding the role played by information technology in the process of knowledge management by asking the question *"What role does IT play in the organizations internal knowledge management program?"*

By asking the above questions managers within an organization can start the process of identifying possible challenge areas and plan actions accordingly. Handling the challenges connected to knowledge management is essential for ensuring the right baseline within the organization through the process of reaching strategic targets, value creation and change.

For an organization, being able to identify, develop and maintaining the right key knowledge plays an important role (Chaffey & Wood, 2005) during a strategic change hence knowledge management practice is identified within the context of this thesis and based on the problem formulation as an important challenges area. The importance of knowledge management practice and the possibility of losing or having negative impact on it in a changing environment highlight this practice as area in need of attention. The suggested question set identified (Demarest, 1997)will be seen in the process as possible measure for overcoming the challenge and securing the valuable intellectual capital within an organization.

2.1.6 **Applying Change Management**

In 1982, McKinsey[1] consultant Julien Phillips published for the first time a model addressing Change Management. He identified how the challenges organizations had to face when facing ever changing competitive environments (Phillips, 1983). He identified within the big challenge of an organization change of what and how they do it, the challenge of managing the change.

Change management involves the actions necessary for managing process, structural, technical, staff and culture change within an organization. A manager within an organization must be able to manage change on daily basis. The Dubrin literature also present a five component view of change management which includes (1) change at the individual versus organizational level, (2) a model of the change process, (3) resistance to change, (4) gaining support for change, and (5) bringing about planned change. According to the author change management includes the management of the five included components.

By identifying change management as an area for attention for handling the change itself helps underline this practice as a challenge area in need of attention. Many concepts have been developed to control and quantify the reach and implementation of change within the organization. For example frameworks such as the DICE Framework which is a tool for assessing the likely success of a project based on objectives measurements can be used in order to measure the success of the managed change, being it in an organization or a project (Dubrin, 2011).

For the context of this thesis and related to the problem formulation the management of change is an important challenge that any organization must handle (Dubrin, 2011). The scope and target of change can be of many types and within many levels within the organization as explained before. For this thesis the focus is within the strategic change and the impact both on the organization and employees at all levels, how the driving leadership of the change can use processes that helps managing it and communicate it turning it into a change enabler.

2.2 Key processes for implementing a successful strategic change

2.2.1 **The newly found value on Enterprise Architecture**

Enterprise Architecture was first mentioned by J.A. Zachman in 1987 on an article in the *IBM System Journal* with title "A Framework for Information Systems Architecture" (Sessions, 2007). On this article Zachman expressed for the first time the vision and challenge for Enterprise Architecture in the future:

[1] McKinsey&Company is a global management consulting firm.

The cost involved and the success of the business depending increasingly on its information systems require a disciplined approach to the management of those systems (Zachman, 1987, p. 276).

On his paper, *A Comparison of the Top Four Enterprise-Architecture Methodologies*, Sessions (2007, p. 18) mentions one of the definitions of Architecture by Gartner[2] and the one he believes is best:

"Architecture is a verb, not a noun".

With this, he relates to how architecture is an ongoing process to create, maintain and leverage Enterprise Architecture. And he mentions what Gartner believes Enterprise is about; bringing together business owners, information specialists and the technology implementers (Sessions, 2007). Having this as a basis it is complimented by what Land, et al. (2009) believe are main three important perspectives of the role of Enterprise Architecture; regulation-oriented perspective, design-oriented perspective and patterns-oriented perspective. With this background and for the purpose of this thesis we adhere to the following Enterprise Architecture definition:

A coherent set of descriptions, covering a regulations-oriented, design-oriented and patterns-oriented perspective on an enterprise, which provides indicators and controls that enable the informed governance of the enterprise's evolution and success (Land, et al., 2009, p. 34).

It has been close to thirty years since Zachman's first mention of it. And according to Shah & El Kourdi (2007) Enterprise Architecture has now been widely adopted as the means for coping with an organizations' ever-growing complexity of their IT Landscape and to ensure an appropriate and optimized use of their technical resources. It does so by taking a holistic approach to manage the technical and organizational context in which the IT systems operate (Lindström, et al., 2006). Land, et al. (2009) point out that for Enterprise Architecture to be an effective steering instrument, it should be embedded in the "ordinary" steering process of the organization. Shah and El Kourdy (2007) believe that Enterprise Architecture can help with the alignment of business and IT resources to conform to common methodologies and principals governing the entire information system development process. And it also provides the fundamental technical and process infrastructure for developing, aligning and implementing IT and business strategies. For Land, et al., to solve the alignment problem between business and IT, it requires organizations to align their human, organizational, information and technical aspects of systems. They elaborate by pointing out that recently it has emerged an awareness that business and IT alignment is not longer enough and that

[2] Gartner, Inc. is the world's leading information technology research and advisory company.

there are other aspects in the organization that need to be aligned making Enterprise Architecture the perfect candidate to solve this problem.

As already identified, Enterprise Architecture is a rather new discipline and it has not yet reached maturity and this represents one of its greatest challenges (A.Wegmann, 2003 in Shah & El Kourdi, 2007). This view is supported by different authors including Land, et al. (2009) where they support the potential value of Enterprise Architecture but acknowledge the lack of scientific evidence. Furthermore, Shah and El Kourdi (2007) present Enterprise Architecture challenges from two perspectives; Enterprise Architecture Frameworks and Organization structure. They believe that most of the existing (at least then) Enterprise Architecture frameworks are not reactive to business strategy changes simply because they cannot perceive change in their environment (D. Judge, 1998 in Shah & El Kourdi, 2007). Land et al. (2009) make an interesting statement where openly admit that as a profession, Enterprise Architecture is not yet able to help organizations solve their transformation problems in a repeatable and predictable manner but ideally, in the future, it should play a "pivotal" role in the constant process of the organization change for improvement.

Enterprise Architecture moves in the strategic level of an organization. Because of this, its models describing current and target architectures most be well document and concise (S. Kaisler, F. Armour, and M. Valivullah, 2005 in Shah & El Kourdi, 2007). Perhaps adaptability is one of the main issues Enterprise Architecture has but Shah and El Kourdi make mention of Ecosystems-oriented architecture which according to them it has emerged to tackle problems such as responsiveness to changes in business requirements.

The effort needed for an organization to adopt Enterprise Architecture is significant when it comes to its definition and compliance with different stakeholders. Furthermore, once implemented Enterprise Architecture's maintenance becomes also a challenge (Shah & El Kourdi, 2007). Once implemented, Enterprise Architecture models provide information on the current, future and strategic directions of an organization. And maintaining these models allows organizations to respond more rapidly to new demands (Armour, Kaisler and Liu, 1999 in Lindström, et al., 2006). It can also aid with the alignment of IT with business and the quality assessment of IT systems (Spewak, 1992; Ekstedt et al., 2004 in Lindström, et al., 2006). Enterprise Architecture should be a well established group within any organization in process of updating their IT Landscape. It provides the tools for defining and maintaining the present and future IT Landscape taking all stakeholders' requirements into consideration. Gartner believes that Enterprise Architecture operates with an organization's vision (where is it going) and not with its current position (Shah & El Kourdi, 2007).

Session (2007) identifies Business Processes as an area directly impacted when instigating strategic change within an organization. He believes that the creation of an Enterprise Architecture vision can help an organization understand the nature and scope of the change. Once the organization shares the vision of the future; the implications on the business, technical landscape, information and solution architecture can be analyzed and considered. Enterprise Architecture is a process that should be carried continuously with the creation, modification, enforcement, application and diffusion of different results. This process must be aligned with the developments of the organization with strategic and operational scope (Land, et al., 2009).

Enterprise Architecture is divided in four Domains (each of the further divided in sub-domains); *Application/Integration*, *Information/Data*, *Technical/Infrastructure* and *Business Architecture* (META Group 2002 in (Wittenburg, et al., 2007)).

Enterprise Architecture itself has management challenges on its proper implementation within an organization and how to operate on an efficient way (not yet reached maturity, lack of scientific proof, not reactive to business strategy changes simply because they cannot perceive change in their environment, is not yet able to help organizations solve their transformation problems in a repeatable and predictable manner). In this thesis the concern of Enterprise Architecture is on the role it plays as a strategic change enabler including within the IT Landscape as stated on the problem formulation. For the purpose of this thesis we adopt the following key concepts from Land, et al.;

> *Enterprise architecture can help organizations and their transformation processes in successfully executing their strategy (Land, et al., 2009, p. 35).*
>
> *Enterprise architecture is an emerging means of governing organizational transformational and evolutionary changes. The key drivers for this means therefore are the enabling of informed decision making on these changes, as well as ensuring compliance to these decisions (Land, et al., 2009)*

These concepts support the use of Enterprise Architecture as an enabler to strategic change.

2.3 Proposed Model

2.3.1 **Identifying the challenge areas**

As seen in previous sections and based on the reviewed literature for this thesis there were a set of challenge areas and practices were identified which could impacts the desired result during a strategic change initiative if not managed correctly by the organization. Based on the literature reviewed the identified key challenge areas and practices in need of attention and management were

- Internal communication
- Leadership
- Business value realization based on organizational strategy
- Knowledge management
- Change management

Based on the reviewed literature and in relation to the thesis problem formulation internal communication process was described and its noises identified (Dubrin, 2011) as challenges to be managed within an organization undergoing change.

By investigating the challenges in leadership the aspects in this practice in need of correct management within a changing environment were identified. The literature review helped identify general challenges (Plank & Eneroth, 2006) but also IT related challenges (Benamati & Lederer, 2000) as important areas to address during a transition period initiated by a strategic change. By identifying how leadership is challenged both from a general perspective but also from an information system related perspective gives the possibility to identify this practice as a challenge area in need of attention during change within an organization. Based on the literature reviewed in previous section securing and realization of business value was identified as a challenge for an organization (Chaffey & Wood, 2005) Understanding the importance of business value realization and the tools for ensuring it based on information gives us the framework for identifying and suggesting tools for ensuring its realization within a change environment related to IT. The literature review underlined knowledge management practice as strategic important practice which could be an impacting challenge if not managed correctly. As described identifying, developing and maintaining the right key knowledge plays an important role (Chaffey & Wood, 2005) within an organization and the challenge lies in securing the intellectual capital from an organizational perspective during the process of strategic change. Also the need of proper change management and the challenges in its process (Dubrin, 2011) were highlighted in the theoretical framework.

Based on these findings in the literature reviewed the following hypothesis is defined for this thesis.

> ***Hypothesis 1*** *- There are common challenge areas when executing strategic change that can be identified for organizations independent of the industry they operate in.*

Having identified the challenge areas and the related hypothesis, we look into the organization's enabler of strategic change focused on those within the scope of the IT Landscape. We have described the importance of Enterprise Architecture and an enabler. This practice, as explained throughout the theoretical background, can turn into an important tool for organizations to align their business and IT strategies. When this is achieved the value of IT becomes much clearer for higher management. Which in today's competitive markets is an important stepping stone into making IT the allied of business strategies. For the purpose of this thesis and in regards to the strategic change enablers we adopt the concepts from Land, et al. (2009) which places particular importance into Enterprise Architecture as a strategic change enabler. As a role and according to Land, et al. (2009) study, an enterprise architect can be a change agent, communicator, leader, manager and modeller.

> ***Hypothesis 2*** *– A well defined and established Enterprise Architecture practice within the organization is key for executing strategic change under controlled circumstances within its IT Landscape.*

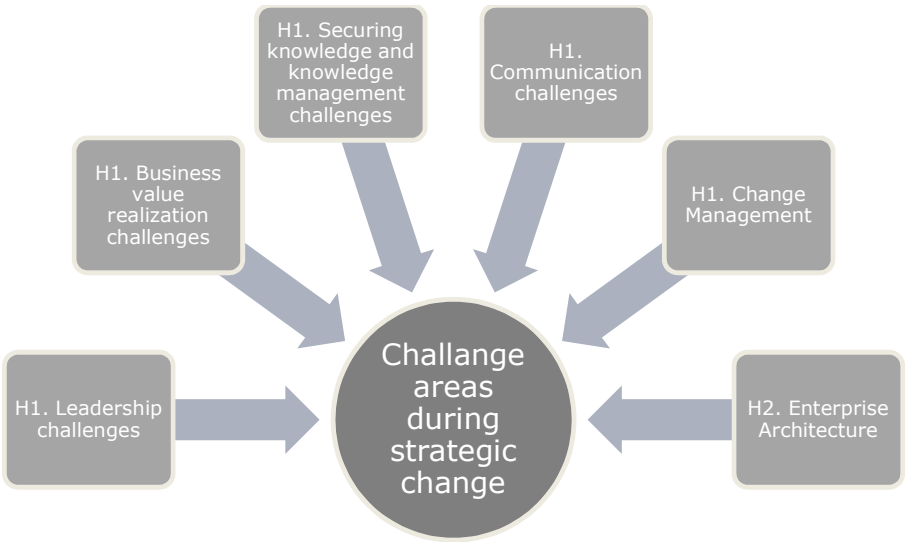

Figure 5 Proposed Model

Figure 5 shows the relationship between the findings in the theoretical framework, the hypotheses and the problem formulation. The hypotheses will be tested in the analysis section in conjunction to the empirical findings.

3 Method

The methodology adopted for this thesis is qualitative in nature. Qualitative research can be described as research based on observations that is analyzed without statistics (Jackson, 2010). Qualitative research is suitable to be considered when researcher is investing how and why events occur. (Cooper & Schindler, 2014). The following qualitative research method approaches can be considered when conducting a qualitative research (Jackson, 2010, p. 106)

- Case Study - An in-depth study of one or more individuals, groups, social settings, or events
- Archival Study - A method that involves describing data that existed before the time of the study
- Interview - A method that involves asking questions in a face-to-face manner; it may be conducted anywhere
- Focus Group Interview - A method that involves interviewing 6 to 10 individuals at the same time
- Field Studies - A method that involves observing everyday activities as they happen in a natural setting.
- Action Research conducted by a group of people to identify a problem, attempt to resolve it, and then assess how successful their efforts were

Yin describes case study as a research method to be a suitable approach in situations where the following criteria is fulfilled (Yin, 2009, p. 8)

- Form of research question are of "Why" and "How" character.
- No control on behavioural events
- Focus on contemporary events

Based on the nature of the investigated area and subject, the case study research method was chosen for this thesis since this thesis investigates contemporary events in organizations with challenges not controlled by any events.

Case study method is one of the eldest qualitative research methods and is a comprehensive method that can be used for revealing aspects of the researched area that is true for all of them. (Jackson, 2010) By using case study as research method more emphasis can be put on the full contextual analysis of fewer events and their relations to each other (Cooper & Schindler, 2014).

Yin presents an approach process for case study that includes a predefined set of activities (Yin, 2009).

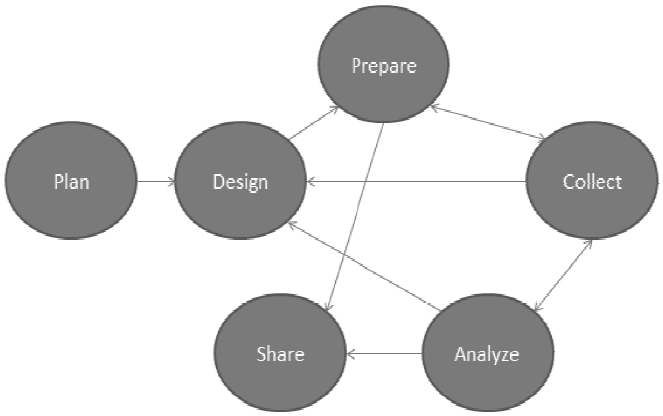

Figure 6 Yin case study process (2009, p. 2)

For this thesis the case study process is designed based on Yin's approach.

3.1 Planning

In the planning phase the events investigated and the right research method for the thesis was investigated and identified i.e. case study. Relevant literature and article were identified as baseline to be used for the theoretical framework built up. Also the planning started for gathering the qualitative data needed for from multiple sources. For this interview candidates and companies were identified within different industries for gathering the qualitative data.

3.2 Design

The research design is the strategy and plan for by which the research strategy will be executed and it must define the methods and procedures for the collection, measurement, and analysis of data (Cooper & Schindler, 2014). In the design step, five components for research design are highlighted as most significant when conducting a case study (Yin, 2009, p. 27).

- A study's questions;
- Its propositions, if any;
- Its units of analysis
- The logic linking the data to the propositions
- The criteria for interpreting the findings.

For this thesis the following problem formulation was defined with the purpose of presenting the challenge areas:

> **Problem Formulation -** *What are the main business challenges when updating an organization's IT Landscape?*

The aim will be to go through and study the theoretical framework in baseline for the thesis and the qualitative data collected through interviews conducted. Pattern-Matching will be used for identifying the challenges leadership and management within organizations face when undergoing change based on strategic objectives. Pattern matching includes the process of predicting a pattern of outcomes based on theoretical research done and based on that build the expectation on what to find through other type of data collection (Saunders, et al., 2009). These findings are then summarized in the analysis section, test of the hypotheses is performed and the extracted list of challenge areas and specific challenges presented.

3.3 Preparation

In the preparation step the initial data was collected and relevant literature was studied in depth together with journal articles touching upon the subjects described in the theory section. Also during this step the interview targets identified earlier in the process were confirmed and a baseline approach was agreed upon for qualitative data collection.

3.4 Identification of questions for interviews

The aim of the conducted interviews was to gather accurate and highly qualitative data concerning the problem formulation in scope. A set of questions important for gathering data for this thesis were identified and developed. Since the aim was to achieve an understanding of the challenges in an organization a set of relevant questions were identified to fulfil the criteria for gathering the necessary information. Based on the described criteria the PDCA (plan–do–check–act /adjust) method was used in order to ensure the quality of the questions. PDCA is a reflective and iterative method for the control and improvement of processes and products (Jasper, 2003). It consists of 4 phases in an iterative loop concentrating on improving a target area. For this work the quality of the questions were target for improvement. The PDCA process was followed as described

Planning – Identify the purpose of the questions i.e. challenges and leadership impacts to be identified

Do – Documenting the questions based on the discussions in preceding step.

Check – Verify the result with thesis instructor

Act – Incorporating instructor recommendations and feedback.

Having iterated in several loops through PDCA finally the desired quality of the questions was achieved and seven questions were identified for the interviews. The interview questionnaire can be found as Appendix 1 – Interview Questionnaire.

3.5 Data collection

Both primary and secondary data is used in this case study in order to have a diverse approach (Ljungquist, 2007, p. 36). Data for this thesis was collected through various channels and sources. Interviews were conducted, based on the questions prepared during the preparation phase, with management within organizations undergoing a change in their landscape which imposed challenges to the business. At the same time various literature and books in the subject were analyzed and reviewed in order to find reoccurring patterns of challenges and to provide the reader with the background of the topics under discussion.

The principles suggested by Yin (2009) were followed in order to gather relevant information and data for this case. Yin presents 3 principles to follow for case study collection of evidence.

- Principle 1: Use Multiple Sources of Evidence
- Principle 2: Create a Case Study Database
- Principle 3: Maintain a chain of evidence

For this work extra attention was directed to these principles and targets were set to fulfil all of them as much as possible in order to ensure a qualitative baseline of data, reliability and validity for this thesis.

3.6 Qualitative data collection

In order to enable and permit depth within a case study research, interview participants experience and perspectives of the same situation or process should be considered when collecting the qualitative data (Cooper & Schindler, 2014). Within the scope for this thesis interviews were carried out with employees from three global companies to gather information based on the questions identified through the PDCA process described earlier. The interviews were recorded and noted through each interview and each interview was then transcript and maintained in the case study database.

3.7 Validity and reliability

Validity involves the verification of that the findings are relevant and are really what they appears to be (Saunders, et al., 2009). The validity for this case was constructed by using multiple source of evidence and establishing the chain of

evidence. *Summon@bth*[3] was mainly used to collect peer reviewed journal article from various databases. Also relevant information from reliable internet sources was collected. In addition to this, multiple journals and books on business and leadership challenges were identified and used as valid sources for the literature baseline for the thesis.

In order to gain insight from representative and valid sources and being able to ensure qualitative data in the thesis' interviews were secured with ten top level managers in four Global, competitive and well-known companies. This data has been used for gathering the empirical input needed and analyzing the outcome. The interviewees were given a copy of their interview transcript for review in order to ensure the validity of the content. In order to secure a chain of evidence for the case study the approach illustrated in the figure below was conducted. The approach below ensures that the red thread and chain of evidence is available throughout the work.

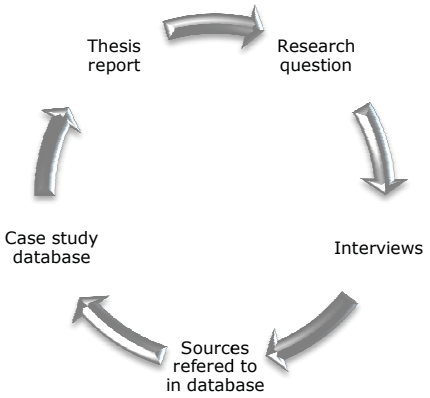

Figure 7 Chain of evidence

The reliability of a research is ensured when evaluation tools produce the same results if used within the same context in the future (Jackson, 2010).In other words reliability aims to ensure the extent of which the data collection and analysis of those will produce constant findings. Using three questions can be used for ensuring the reliability of the case (Saunders, et al., 2009, p. 156)

- Will be same result be achieved based on the measure in a later occasion?
- Will the same observations be possible by others?
- Is it possible to see how sense was made based on the gathered data?

Yin suggests the development of a case study database during data collection as a tactic for ensuring reliability which was performed during the process for this thesis as described earlier (Yin, 2009). Throughout the process for data collection (literature and interviews) the reliability of the case study was ensured by keeping the case study database updated and making sure the data and observations were consist. An online document management tool was used for

[3] Summon@bth is the Blekinge Tekniska Högskola online library search engine.

collaboration and storage of case study material. The authors agreed on a process for registering and maintaining all research which through a logical structure of content, all material for each step in the work was registered and maintained in within the tool and centrally accessible through the internet. Based on the described process the authors feel that the level of reliability for this thesis was reached.

3.8 Analysis approach

Based on the findings summarizing will be used for describing the identified challenges areas. Summarizing data is an analysis approach which involves extracting the meaning of large amounts of data, primary and secondary into an extracted content (Saunders, et al., 2009). Also categorization will be used for identifying and attaching identified challenges the problem formulation being discussed. The activities in categorizing data are developing categories and attach investigated data to those categories (Saunders, et al., 2009). Hence for this thesis the categorization activities include developing categories which are the challenge areas and attach investigated data to those categories i.e. the collected summarized findings. Based on this approach the challenges for management and leadership in changing organizations can be identified through patterns of recurring challenges described in the theoretical framework. These finding will be compared with the information gathered through interviews. By doing so we aim to find a set of identified challenges which can impact management and leadership and their success leading an initiated strategic change within the organization they act in.

4 Empirical findings

4.1 Data collection

As mentioned on the method section, this thesis took a qualitative data collection approach. Interviews were conducted with ten employees within four different global organizations in the retail, manufacturing, heavy equipment and consulting services industry. The following are brief descriptions in order to give a sense about the organizations and scope of their operations and industry

IKEA IT AB - Retail industry

It provides IT services to the IKEA global retail organization with headquarters in Sweden. IKEA as an organization employed in 2013 around 139000 employees and had an estimated turnover of 260 billion SEK.

SKF AB - Manufacturing

Global manufacturing organization with headquarters in Sweden. SKF employed in 2013 around 45000 employees and had an estimated turnover of 60 billion SEK.

Volvo AB - Heavy equipment industry

Global heavy equipment organization with headquarters in Sweden. Volvo employed in 2013 around 110000 employees and had an estimated turnover of 300 billion SEK.

CGI - Consulting services industry

Global consulting services organization with headquarters in Canada. CGI employed in 2013 around 74000 employees and had an estimated turnover of 74 billion SEK.

The interviews were recorded and noted through each interview and each interview was then transcript and maintained in the case study database.

ID	Interviewee's Role	Date	Duration
I1	eCommerce IT Stream Manager	11.04.2014	50 min
I2	Enterprise Architecture Team Manager	14.04.2014	35 min
I3	eCommerce Business Architect Manager	15.04.2014	60 min
I4	eBusiness Applications Manager	28.04.2014	50 min
I5	Manager Business Solutions Warehouse & Material Handling	28.04.2014	50 min
I6	Service Manager	08.05.2014	50 min
I7	Service Manager	09.05.2014	50 min
I8	Director & Client Executive	09.05.2014	50 min
I9	Finance Application Manager	12.05.2014	50 min
I10	Senior Management Consultant	12.05.2014	50 min

Table 2 Interviews

In Table 2 a list of the interviewees, date when the interview took place and the duration of this is presented. Figure 8 summarises the relevant experience to this thesis from the interviewees.

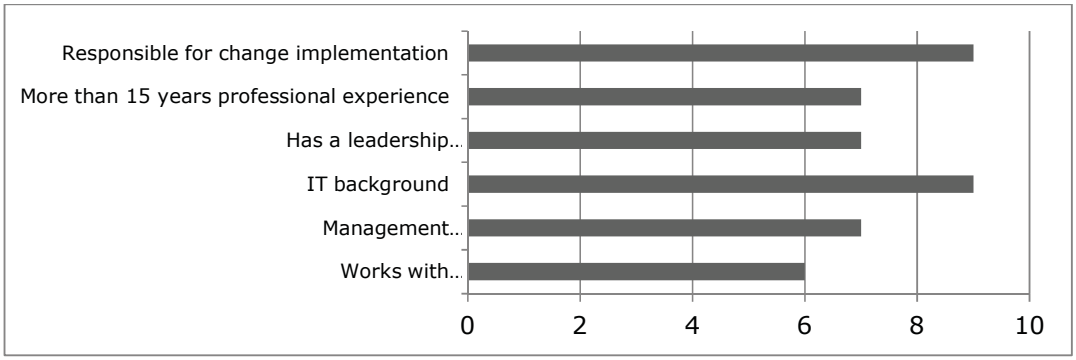

Figure 8 Interviewee relevant experience breakdown

The approach used for the qualitative analysis of the empirical data collected was through the use of an inductive approach. Saunders, et. al., (2009) says this is also known as the grounded approach since the nature of the theory or explanation emerges as a result of the research process. He defines this approach as such where the researcher might not start the study with a clearly defined theoretical framework; instead relationships between the data are identified and questions/hypotheses/propositions are developed to test these relationships; and the theory emerges from the data collection and analysis process. In this thesis, the initial theory framework was developed through the authors experience at first. But certain connections developed from this process which resulted on the final proposed framework. At the same time, two hypotheses were developed and will be tested against the empirical findings on the Analysis section of the thesis.

According to Saunders, et. al., (2009) there is no standard process for analysing qualitative data but it is possible to group the data into three types of processes: summarising, categorisation and structuring. These processes can be utilized independently or in combination. Categorisation is seen as a more formalised process in contrast to structuring meanings through narrative which relay on the interpretation of the researcher. For this thesis these three processes are used in combination. As already described, the interviews were first recorded and then transcript. The transcripts were then summarized identifying key points as suggested by Saunders, et. al., (2009). In the case of this thesis the key points were the basis for the categorization of the data. Data categories can be derived either from the collected data or from the theoretical framework (Saunders, et al., 2009). The categories for this thesis were based from the theoretical framework following the challenge areas. The challenges map to commonly utilized organizational areas, processes and/or disciplines therefore the names of the categories made the mapping of the collected data a relatively easy task. In the majority of the cases the interviewees referred to the category

(area/process/discipline) by name but in a few cases the categorization had to be done through the interpretation of the authors. The interviews transcript summaries were indexed by recording (through a comment) the content assigned to categories. This follows the "unitising" data approach suggested by Saunders, et. al., (2009).

The categorized data was then distributed on the respective section within the empirical findings and theoretical framework. It was also needed to quantify the identified challenges (Saunders, et al., 2009) in order to display the perceived importance of these by the interviewees. The challenges collected through all interviews are represented on **Error! Reference source not found.** and a weight has been assigned to them. The quantification ranged from a value of 4, being the most important challenged mentioned, value of 3 for the second and a value of 2 for the third challenge all of these on Question 2 of the interview questionnaire. The value 1 was assigned for any other challenges that the interviewees mentioned throughout the rest of the questionnaire. A table is used as a visual way of displaying the interviewee's perceived challenges. In this way, it is possible to and compare between their answers and appreciate the relevance of these.

4.2 Challenge Areas

This section presents the categorized data from all ten qualitative interviews based on the challenge areas as described on the theoretical framework and relevant to the problem formulation. Each section summarizes the relevant answers from the interviewees and it is then associated with one or more identified business challenges from Table 4.

4.2.1 **Strategic change**

Three of the interviewees mentioned challenges related to strategic change in the area of the IT Landscape. These were mainly in the need to align business and IT and remove the IT vs. Business paradigm. It should be seen as a service/tool to facilitate business value (I1 & I5, 2014). I2 (2014) pointed out that the need of a good governance is key on transformational programmes or changes involving an organization's IT Landscape. It helps ensure the coherence and togetherness of the work with a more long-term thinking. When implementing a large scale change in an IT Landscape it needs to be viewed as a Business initiative and not as an IT initiative – people don't understand, truly, how "IT Landscape" can be competitive edge for the company (I1, 2014).

The identified challenges within this area are: *An Effective Governance Model*, *Ensuring business value on IT Investment* and *Lack of Strategic vision in Business area*.

4.2.2 **Leadership**

The purpose of this thesis in regards to leadership was not only to identify the challenges leaders (and management) would be confronted with when implementing strategic change. It also looks into collecting from the interviewees' experience which skills are needed or leadership styles required.

I6 (2014) stressed the need for people willing to take and mitigate risks. But also how difficult it is, because in one hand one cannot risk the operations of the organization but also without taking risks it cannot change and/or evolve. Should lead by example, have a strong vision, a good way of communicating it in a consistent and uniform way and making the necessary prioritizations to enable transformation (I7, I8 & I9, 2014).

Three of interviewees (I1, I2 & I3, 2014) agreed on the importance for IT leadership to have a respectable "seat" in the business leadership table. If the IT leader had this respectable "seat" within the business leadership table then a directive leadership would be easier to exercise and been allowed to say "This is how it is". It was also pointed out that the IT leader would gain this place if it had gain the trust and recognition of his or her business peers. It needs to provide alignment and support whilst acting as a responsible stakeholder (I10, 2014). It is crucial for a business leader to understand the impact and challenges of IT on business processes and knowing how to utilize IT is imperative to ensure proper investment (I5, 2014).

Different styles are needed for different types of change (I9, 2014). I7 (2014) mentioned the need to map the different leadership styles to strategic, tactical and operational each having a different style. Strategic: a visionary and good communicator. Tactical: they need to know the business they operate on and understand the scope the change takes and in control of this. Operational: hard workers and clear communicators with the power and knowledge needed to carry out the change.

Two of the interviewees (I1 & I2, 2014) identified three different leadership styles; Collaborative, Situational and Directive (the key characteristics of these are presented in Table 3). Situational leadership was mentioned as a need to "choose battles" and knowing which stand to take and under which circumstances when addressing any decision. This is an interesting style for an IT Leader which at times will have to exchange certain (non-important) decision for others that would really make an impact on the IT Landscape. It was also mentioned that for an IT Leader to be able to "get away" with a Directive stand it would need the trust and recognition of its business peers. Two of the interviewees (I4 & I5, 2014) reinstated the importance on taking clear (and communicating) business decisions that impact the IT Landscape directly and how needed is for leadership to have clear goals within IT investments to drive project and cost efficiency.

Style	Key Characteristic
Collaborative (Participative)	• Shares Decision making with group members. • Time consuming
Directive (Autocratic)	• Retain most of the authority for themselves. • Assume group members will comply. • Not concerned with group members' attitudes towards the decision. • Serve as models for group members. • In crisis, they want to be pointed on a direction to make a decision without having to attain consensus. • Practice hands-on-management – get details of the operation.
Situational	• Adapts to the requirements of the situation. • Adapts to according to needs of group members, competent people requires le direction than less competent people. • Might require constant "stand" from the leader depending on who is he or she dealing with.

Table 3 Leadership styles (Dubrin, 2011)

The identified challenges within this area are: *Well defined responsibilities*, *Change Management including Internal Communication*, *An Effective Governance Model*, *Ensuring business value on IT investment, Lack of Strategic vision in Business area*, *Commitment (Securing Budget)*, Strategic Partnership and *Talent Management*.

4.2.3 **Business value realization**

In the theoretical framework of this thesis we formulated the interest on the particular challenge with business strategy and its link to the IT Landscape for ensuring value. The question related to this area on the interview questionnaire referred to the drive behind their organization's IT Landscape update. Most answers of interviewees from the same organization were aligned on whether their organization's IT Landscape was driven by a business strategy and the result was; yes, somehow and not.

The interviewees (I5, I7, I9 & I10, 2014) whose opinion was that their organization's IT Landscape is fully business strategy driven had no doubt and complemented that it is not only driven but also initiated [should go hand by hand]. The interviewee also stated that these changes can turn into investments or cut downs and cost reduction. I7 mentioned this is a new trend and that this was not the case in the past but there has been a recent positive change resulting on this.

For the interviewee (I4, 2014) whose organization's IT Landscape is not business driven mentioned that the business decisions are on too high level and that its senior management weren't familiar with IT trends. Also, their projects are managed in an "old school" style and do not considering new technologies or

opportunities and finally that the decisions are often based on benchmarks with competitors.

The interesting part comes from the interviewees (I1, I2, I3 & I6, 2014) whose answer was "somehow". They all agreed that there are areas were business strategy does drive the IT Landscape change (its respective area within) to the extent of "*with that Strategy this is the Landscape that we need in order to make it happen*". As in others this is not quite the case. I1 (2014) said that in his opinion, these areas IT counterparts are more evolved (in terms of strategic thinking) and the business counterpart relies heavily on their input. But there were two other interesting inputs from this and these were those business strategic areas that are not driven at all (making it very difficult to maintain its IT Landscape area) and that which vision does not exist (I3, 2014). In this latest one, it was expressed that the risk is having initiatives that require business areas to have a strategic vision. Some business areas do not have this and they seem to be forced into creating one without a target in place (I2, 2014). It was also mentioned how every business area owner think their area is strategically very important but looking at it from a holistic perspective this might not be true, making it difficult for them to understand and accept certain strategic decisions (I2, 2014). I6 (2014) mentioned how he is seeing a positive change on those areas which have had to be IT driven where there are now strategic partnerships with suppliers in place. But he hasn't seen the required investment into put into the agility needed to reduce the time to market of new features in the organization's application landscape. He explained how their demand organization continues to push for the release cycles to be shortened and allow changes until later stages of the development process to align with changing customer demands. But according to I6 (2014) the biggest challenge to achieve this is on changing the people's involved mindset.

When it comes to value generation I1 (2014) mentioned how sometimes IT generated cost savings which were not needed. He stresses that the key is when an organization's IT organization is able to "crack the code" on linking the IT value to a business opportunity. I6 (2014) said he wasn't fond of cementing long-term plans. The key is identifying something to relate today within the IT Landscape that will provide guidance to the organization to generate value tomorrow. The focus should be on the capabilities needed to support the business strategies in the long term. I1 (2014) suggested a model which is successfully implemented in different companies where money is allocated in three "buckets"; the biggest been for procuring operating platforms such as ERP systems. The second, to support emerging needs where business strategies are behind and support them such as social media. In here, money is spent quickly and it is reactive to a market trend. The final bucket is allocated to the organization's innovation (the percentage would vary depending on the type of organization). Finally, I3 (2014) suggested the use of different time zones where the organization should identify; urgent needs which should be fulfilled within 2 to 3 years, mid-term needs in need to be fulfilled in the next 3 to 5 years and

long term needs which are only valid from the next 5 to 10 years. For I3 (2014), these dynamic "time zones" are key because it helps deal with new trends and hypes. Thinking only think long-term will not allow and organization to reach its goals. But the organization should be consequent (cannot change the picture all the time) because within these time zones there's a need for some kind of stability. He also recommends being consequent in setting deadlines, monitoring them and be clear on the escalation when the deadlines are not kept.

The identified challenges within this area are: *Well defined responsibilities*, *Change Management including Internal Communication*, *Underestimated effort, Complex existing IT Landscape*, *An Effective Governance Model*, *Professional approach to Process Modelling*, *Ensuring business value on IT investment*, *Information Management*, *Lack of Strategic vision in Business area, Commitment (Securing Budget)*, *Strategic Partnership* and *Talent Management.*

4.2.4 **Knowledge Management**

The most valuable insight into the organization's knowledge management came from I4 (2014);–

> *"I think the key competitive factor for the future business success is Knowledge"*

The need for knowledge to be provided to decision makers as part of their process to understand the consequence for their decisions was also mentioned I4, 2014). In large scale projects what seemed to be a problem is the lack of experience in processes and shared knowledge (I5, 2014). From business perspective not understanding the impact of IT and "what is going on behind the scenes" and from IT not seeing what type of value being added to the system by their actions. I6 (2014) mentioned the problem of their customers sometimes knowing more than the employees. This is a problem of knowledge management and the tools to support our employees. It is not a challenge to deliver all relevant information to them, simply because it is not easy to know which information is relevant and when.

The identified challenges within this area are: *Change Management including Internal Communication*, *Knowledge Management* and *Information Management.*

4.2.5 **Change Management and Internal Communication**

In the theoretical framework of this thesis Change Management was identified not only as a challenge area but also as an enabler once its challenges are controlled. To drive a change, you need a pyramid (3 dimensions) people, process and technology (I1, 2014). A transformation has to come from the three together. The people, being very clear on what are the new expectations from them and properly trained to deliver against these expectations. This process is now modified or geared towards the new vision of the company, and a

technology that supports that. I2 (2014) believes that there's a need to put more focus on communication and education within Change Management [why are we doing this, why are we saying this]. It is important to let know the rest of the organization that on a strategic change it is not an IT "thing". Indeed the change will impact the IT Landscapes but it is important to understand that it is all to support the strategies and the long term goals of the organization. It is something that we need to do to ensure we continue to be successful and remain competitive (I2, 2014). The view of I2 (2014) is that by having the same views across the organization will help drive the transformational changes where intended. There's a need for transparency. People should be engaged as much as possible even at early stages. From a Change Management perspective, you better bring people early (even if things are not even done). So they feel that they have the possibility to impact and influence. And even if it is some restrictive thing people tend to take it more positively because there's someone saying something… a direction… People like the clarity! (I2, 2014).

IT impacts people in the organization and this must be managed as a challenge. Resistance for IT automation due to various fears must be handled in the process. Cultural, leadership and communication are also key players in this area which can help an organization drive the change successfully. Reasoning, why do we do this and present the facts. A major part in change management is communication. People must see and understand why an organization does something and what the expected outcome is. This makes it easier to get buy in from all the organization (I5, 2014).

With big transformation changes, you have to secure sponsorship and leadership (especially when it shows on the screen of the end user). Of course you do not have to take the same approach when changing other areas like infrastructure for example. It really depends and Change Management should be tailored according to the extent and reach of the change (I3, 2014). In our organization a Generic Change Model (or Change Approach) for step model has been fully implemented and currently apply to 95% of the projects. It is a two days seminar with HR which is a 4 step model in order to approach Change Management. We can now profit from this (I3, 2014).

I8 (2014) supported the opinion of I2 on the need to be open and transparent when implementing strategic change. It added that communication can never be satisfied. Good planning and defining a realistic transformation plan including a separate Change Management focus is of great importance. Many times an IT transformation plan is not getting further than a business case and a good intention. Most of the time it is due to lack of realistic and detailed realization plan that takes your strength and weaknesses into consideration (I8, 2014).

The identified challenges within this area are: *Well defined responsibilities, Change Management including Internal Communication, An Effective Governance Model, Professional approach to Process Modelling, Ensuring business value on*

IT investment, Knowledge Management, Information Management, Partnership and *Talent Management*

4.3 Identified Challenges

Table 4 summarizes the empirical findings of this thesis in regards to the identified business challenges. These challenges belong to one or more challenge areas as identified in the previous section. The perceived importance of each of these challenges can be seen based on the obtained score according to the evaluation method used and explained previously.

Challenge	Well defined responsibilities	Change Management including Internal Communication	Underestimated effort	Complex existing IT Landscape	An Effective Governance Model	Professional approach to Process Modelling	Ensuring business value on IT investment	Knowledge Management	Information Management	Lack of Strategic vision in Business area	Commitment (Securing Budget)	Strategic Partnership	Talent Management
I1	4	3	2				1			1			
I2	4	1		3	2				1	1			
I3	3	1	1	1		4			1	1		1	1
I4		1		4	3	2	1	1	1	1			
I5		1			3	4	1	2					
I6						4	3		2	1			
I7		3	1	1			2			1	4		
I8		2			1						4	3	1
I9		4					3						2
I10		4		2			3		1				
Sum	11	20	4	11	9	14	14	3	6	6	8	4	4

Table 4 Identified Business Challenges

Table 5 presents the perceived order of importance as collected from the thesis interviewees. It also summarizes the input data used from the interviews to allocate the score to each of the identified business challenges. The input data is summarized in the form of challenge characteristics and its source can be found as Appendix 2 - Categorization of Input data within this thesis.

	Area	Challenges characteristics
1	Change Management including Internal Communication	• People resist change. • Change has to be done on people, process and technology and they need to come together. • Focus on communication and education to make employees acknowledge and embrace the new IT changes. • Tailored Change Management approach to the extent and reach of the change. • Communicate IT for all audiences/stakeholders. • Organization culture
2a	Professional approach to Process Modelling	• Tackle update of IT Landscape with a process oriented way and not only in terms of Functional oriented. • Standardized processes. • Proper analysis. • Lack of understanding from business side on the challenges of implementing new systems and awareness of existing processes.
2b	Ensuring business value on IT investment	• Simplification • Channelling investment to the securing agility needed to reduce the time to market (new features in our systems). • Holistically thinking when changing the Target Landscape [long term]. • Justification, value and Impact
3a	Well defined responsibilities	• Demand should focus on requirements or Capabilities needed and not on the solution. • Well defined IT decision making. • Organizational function across all operational regions that acts as IT solution "safeguard".
3b	Complex existing IT Landscape	• Unnecessary complexity. • Reliant on a few people's acquired knowledge • Unable to keep up with business needs • The lifecycle clock-speed is much higher now than it was 5 years ago • Fragmented organization with different local initiatives. • Business requirements adaptations to fulfil specific requirements drive the IT Landscape complexity. • Regain control over their application landscape and start the journey to consolidate and transform their application landscape to boost the organization's value, reduce costs and increases potential.
4	An Effective Governance Model	• Holistic view. • Control • Correct business mindset.
5	Commitment (Securing Budget)	• Leadership commitment (and presence) to deliver the change all the way through. • Solid business cases backed up, properly communicated and with clearly understand purpose of the transformation.
6	Lack of Strategic vision in Business area	• Not all business areas are developed enough to drive their own strategic change.

		• Strategies without an specific targets • IT still drives the strategy of some business areas • The business decisions are too high level.
7a	Information Management	• Achieving strong information traceability. • Clear ownership on Information Domains. • Empower all employees with the information they require to do their job.
7b	Strategic Partnership	• Selecting appropriate external providers that can support you along the journey.
7c	Talent Management	• Value the organization's "specialists". • Put focus on HR during transformational programmes. • Securing the required competence to conduct the necessary changes according to the plan.
7d	Under estimated effort	• Take proper care to understand the scope and repercussion of the transformational projects. • Understand when to stop an unsuccessful change.
8	Knowledge Management	• Provide the right insight to business people to make better and more informed decisions.

Table 5 Specific business challenges in perceived order of importance

4.4 Key strategic change Enabler

In this section the collected data relevant to Enterprise Architecture as a key enabler on the implementation of strategic change through the IT Landscape is presented. It is needed to mention that the enabler as referred to in this thesis is also a challenge area when implementing change and in particular strategic change. This is supported by the answers from the interviewees collected through this thesis. Once the challenges on this area are addressed or overcome it turns into a key tool to help an organization achieve the desired outcome from the change. This section derived from the same approach described on 4.1 Data collection section.

4.4.1 **Enterprise Architecture**

In the theoretical framework of this thesis Enterprise was included as a possible change enabler. Land (2009) described how Enterprise Architecture would help organizations with their transformation process as well as it been an emerging mean of governing it. On the theoretical framework it was also identified that this discipline is rather new something that interviewees agreed with. According to I2 (2014) the understanding and meaning of Enterprise architecture has evolved from that enterprise for the enterprise to what it is today; involved in the development of the organization and an ally to business in implementing strategic change. Organizations like Gartner have set many different trends. They have talked about Enterprise Architecture for a long time and they still work with it very closely from an IT perspective. They are moving towards a more business way of working. What I2 (2014) think the key message is: If Business is trying to do a change it will have an impact in the business processes, the Business Capabilities, the information shared (inside and outside), the technology and people competences. And that's where I2 think

Enterprise Architecture has its place; it is about having those enterprise level models of different aspects of your organization. So, when it wants to make a change it can easily and quickly see what the [scope] impact is. It will normally have to go deeper and analyze the space where the impact will be. Enterprise Architecture will not go to that level but will help the organization identify where it needs to look and where it needs to analyze deeper (I2, 2014). It is clear that Enterprise architecture will not develop strategies for business but it can facilitate and help identify the impact (business, information and technology). According to I3 (2014) it [Enterprise Architecture] should be a group much closer to management or business. Getting more [most] of the business "side" people to understand what Enterprise Architecture is trying to do and achieve (and why) and agree to it, later stages like projects will solve themselves (I2, 2014).

I3 (2014) agreed to Enterprise Architecture being a rather new discipline or the dimension of the discipline has got its importance in the last 5 or 6 years. It requires a huge maturity and a lot of the people within Enterprise Architecture are still inexperienced. Enterprise Architecture is a key role to drive an IT Landscape change (I3, 2014). Implementing it in our organization has been a good thing although it is not finished yet.

More support came from I8 (2014) on the importance of having the right competence on this discipline. The challenge is really on the IT Organization to have the right competence, governance, mindset and vision. Enterprise Architecture can help the implementation of more flexible IT Landscapes by architecting a modularized and standardized (platforms) architecture (I8, 2014).

5 Analysis

Based on the nature of the collected data and the two hypotheses; the analysis was conducted in order to extract and identify the main [perceived] business challenge areas and specific challenges during a change impacting the IT landscape of an organization initiated based on strategic objectives. Hypothesis 1 which was defined based on the findings in the theoretical framework, suggested that there are common challenge areas for organizations when undergoing strategic change. These included challenges imposed on leadership within an organization, business value realization based on strategic objective, securing knowledge management, communication and change management. Through the empirical findings of this thesis it was verified that these challenge areas in fact are common across organizations in different industries. They were identified and described by the interviewees as areas in need of attention during a strategic change initiative related to an organization's IT landscape.

The role of leadership was identified as an important practice from the literature review and this was verified through the empirical findings. The need of a leadership understanding the challenges imposed to them during a change initiative and the way to handle them was verified through this process. The findings were in line with the challenge area indicated in the theoretical framework. This was applicable for both the identified general leadership challenges (Plank & Eneroth, 2006) and the identified IT related challenges imposed on leadership within an organization (Benamati & Lederer, 2000).

The vital role of communication in an organization was verified, especially through the process of strategic change. This area was identified as a practice in need of attention due to the challenges that can arise when an organization is executing strategic changes. The literature highlighted communication as a vital area for organizations to address and the empirical findings verified the need for attention in this area. The theoretical framework in regards to the noises (Dubrin, 2011) that can impact the quality of the communication process was not verified through the empirical findings hence. Instead, the findings highlighted the importance of communication within the organization to all strategic change stakeholders in the right format and time.

Change Management was yet another important challenge area identified for a successful implementation of strategic change. The literature defined five aspects of Change Management in need of attention in order to succeed with a change initiative (Dubrin, 2011). This was in line with the findings in the empirical findings where the importance of correct management of change was highlighted through the interviewees' answers. Both the empirical findings and the literature review highlighted the necessity of Change Management and the role of communication of change as an important area in need of attention which can impose challenges (or even hinder the objectives) to an organization if not addressed and managed in a proper way.

Knowledge management, its value for a company (Dubrin, 2011) and proper management of it (Demarest, 1997) within an organization was identified as an area that can impose challenges if not secured and handled properly. The empirical findings verified this and through the interviews it was possible to see that knowledge and the management of it played an important role in the interviewees' experience for organizations.

The responsibility and challenges related to business value realization based on strategic objective were also identified through the theoretical framework as an important area to address for companies in relation to their IT Landscape (Chaffey & Wood, 2005). This challenge area was also verified through the empirical findings as an important area to address. Creating business value based on strategic objective was a common need within all the examined companies.

Hypothesis 2 suggested that Enterprise Architecture acted as an important enabler for strategic change related to the organization's IT Landscape. The value of Enterprise architecture as an enabler within an organization (Land, et al., 2009) was identified through the theoretical framework and the empirical findings assured this. Several interviewees identified the need and importance of Enterprise Architecture within their organization as a key for succeeding with change related to their IT Landscape. The empirical findings also highlighted a set of specific challenges within the challenge areas important to address when considering a strategic change impacting an organization's IT Landscape, these are presented in Table 5.

6 Conclusions and Implications

The purpose of this thesis, as stated on the problem formulation, was to identify the business challenges that must be addressed within an organization when executing strategic change impacting their IT Landscape. In the theoretical framework of this thesis a set of challenge areas were identified as those presenting challenges for an organization when implementing a strategic change within their IT Landscape. The empirical findings of the thesis were used to test its two hypotheses. The first hypothesis proved that it is possible to identify common business challenges within different organizations operating in different industries. The second hypothesis derived from the findings in the theoretical framework which indicated that in conjunction to the problem formulation an enabler (i.e. Enterprise Architecture) can help an organization execute strategic change impacting an organization's IT Landscape.

Based on the outcome of the analysis the authors have proved that in fact the commonly identified challenge areas are reoccurring within the context of the interviewees' organizations. Also, through the analysis, Enterprise Architecture was verified as an important enabler and facilitator for successful change implementation related to an organization's IT Landscape. The authors were able to identify the specific challenges that can occur which include; the need for well defined responsibilities, underestimation of efforts, existence of complex IT Landscapes, need of an effective governance model, need of process modelling, need of information management, the lack of strategic vision, lack of commitment, importance of strategic partnership and talent management.

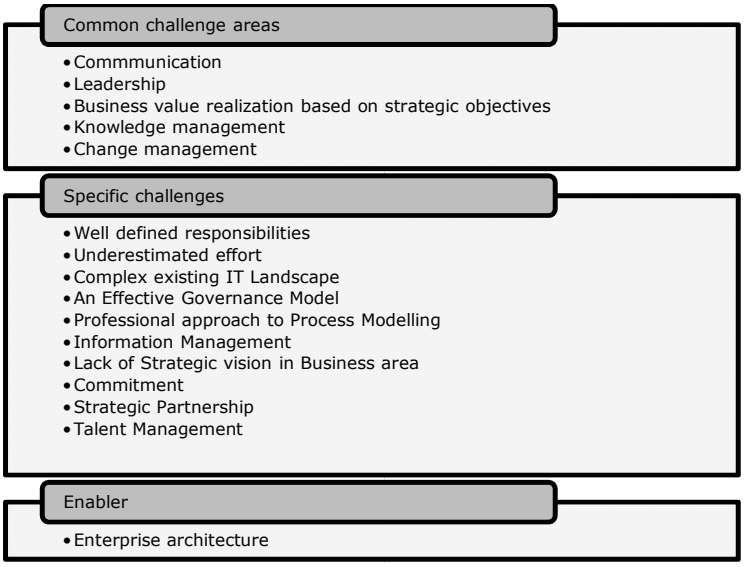

Figure 9 Research Results

The results of this research (Figure 9) can be used by organizations to evaluate their stand prior to implementing a strategic change – whether within their IT Landscape or not.

7 Further Research

Within this thesis the use of challenge area included also specific challenges as identified by the empirical findings. Further investigation can be conducted in order to create a more extensive and proper categorization of challenge areas and business challenges within each of them. It would also be of great value to research further on the measures to address each of the identified challenges within the challenge areas. These measures could be used by organizations as a basis for a risk evaluation when initiating strategy change in order to ensure successful outcome.

The results from this thesis can also be used in further research in connection to risk management and the way of handling it in a changing environment. Within the scope of this thesis the aim has been to identify the challenges impacting an organization during strategic change relevant to the organization's IT Landscape but at the same time some of the identified challenges can be seen as risks. These risks can further be analysed and mitigation actions could be identified for them in further research.

Bibliography

Adomavicius, G., Bockstedt, J. C., Gupta, A. & Kauffman, R. J., 2008. Making Sense of Technology Trends in the Information Technology Landscape: A Design Science Approach. *MIS Quarterly,* 32(4), pp. 779-809.

Balmes, G., n.d. *The Transition to Business Architect.* [Online]
Available at: http://www.bainstitute.org/resources/articles/transition-business-architect
[Accessed 22 March 2014].

Beckmann, J., 2011. *Business process modeling : software engineering, analysis and applications.* New York: Nova Science Publishers.

Benamati, J. & Lederer, A., 2000. RAPID CHANGE: NINE INFORMATION TECHNOLOGY MANAGEMENT CHALLENGES. *Infor,* 4(38), pp. 336-358.

Chaffey, D. & Wood, S., 2005. *BUSINESS INFORMATION MANAGEMENT Improving Performance using information Systems.* s.l.:Pearson Education Limited.

Cohen, K. &. C. R., 1973. Strategy: Formulation, Implementation, and Monitoring. *Journal of Business,* 46(3), pp. 349-367.

Cooper, R. D. & Schindler, S. P., 2014. *Business Research Methods.* 12th ed. s.l.:McGraw Hill/Irwin.

Daly, F., Teague, P. & Kitchen, P., 2003. Exploring the role of internal communication during organizational change. *Corporate Communications: An internal Journal,* 8(3), pp. 153-162.

Demarest, M., 1997. Understanding knowledge management. *Long range planning,* 30(3), pp. 321,374.

Dubrin, A. J., 2011. *Essentials of Management.* 9th ed. s.l.:South-Western.

Dubrin, A. J., 2012. *Leadership: Research Findings, Practice, and Skills.* 6th ed. s.l.:South-Western.

Dumas, M., La Rosa, M., Mendling, J. & Reijers, H. A., 2013. *Fundamentals of Business Process Management.* Berlin: Springer.

Gerth, C., 2013. *Business Process Models.* Berlin Heidelberg: Springer.

Jackson, S. L., 2010. *Research Methods: A Modular Approach.* 2nd ed. Wadsworth: Cengage Learning.

Jasper, M., 2003. *Begining reflective practice.* Cheltenham: Nelson Thornes.

Kaplan, R. S. & Norton, D. P., 2000. *The Strategy-Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment.* s.l.:Harvard Business Review Press.

Kitchen, P. F. & Daly, F., 2002. Internal communication during change management. *Corporate Communications: An International Journal,* 7(1), pp. 46-53.

Krell, E., 2006. The Unintended Word. *HR Magazine,* 51(8).

Land, M. O. '. et al., 2009. *Enterprise Architecture: Creating Value by Informed Governance.* Berlin: Springer.

Laudon, K. C. & Laudon, J. P., 2011. *Management information systems: MANAGING THE DIGITAL FIRM.* s.l.:Prentice Hall.

Lindström, Å. et al., 2006. A survey on CIO concerns-do enterprise architecture frameworks support them?. *Inf Syst Front,* pp. 81-90.

Ljungquist, U., 2007. *Core Competence Matters: Preparing for a New Agenda.* s.l.:Intellecta Docusys.

Marchand, D. A., 2000. *Competing With Information: Creating Business Value With Information Content.* London: John Wiley and Sons.

Merchant, K. A. &. V. d. S. W. A., 2007. *Management Control Systems – Performance Measurement, Evaluation and Incentives.* s.l.:Pearson Education.

Michael Fitzgerald, N. K. D. B. M. W., 2014. Embracing Digital Technology: A New Strategic Imperative. *MIT Sloan management review,* 55(2).

Mussa, M. D. P. D. A. L. S. &. T. N., 2013. Aligning IT strategy with business strategy for competitive advantage: a structural equation model. *International Journal of Business Excellence,* 6(4), p. 425.

Phillips, J. R., 1983. Enhancing the Effectiveness of Organizational Change Management. *Human Resource Management,* Volume 22, pp. 183-199.

Plank, K. & Eneroth, T., 2006. *The dynamics of change.* s.l.:Fototext.

Portougal, V. & Sundaram, D., 2006. *Business Processes: Operational Solutions for SAP Implementation.* s.l.:IRM Press.

Prabhakar, G. P., 2005. AN EMPIRICAL STUDY REFLECTING THE IMPORTANCE OF TRANSFORMATIONAL LEADERSHIP ON PROJECT SUCCESS ACROSS TWENTY-EIGHT NATIONS. *Project Management Journal,* 36(4), p. 53.

R G Rathnam, J. J. &. H. J. W., 2004. ALIGNMENT OF BUSINESS STRATEGY AND IT STRATEGY: A CASE STUDY OF A FORTUNE 50 FINANCIAL SERVICES COMPANY. *The Journal of Computer Information Systems,* 45(2), p. 1.

Riwo-Abudho, M., Njanja, L. & Ochieng, I., 2012. The Role of Strategic Leadership during Change. *KCA Journal of Business Management,* 4(1), pp. 48-61.

Saunders, M., Lewis, P. & Thornhill, A., 2009. *Research Methods for Business Students.* 5th ed. s.l.:Pearson Education.

Sessions, R., 2007. *A Comparison of the Top Four Enterprise-Architecture Methodologies.* [Online]
Available at: http://msdn.microsoft.com/en-us/library/bb466232.aspx
[Accessed 24 April 2014].

Shah, H. & El Kourdi, M., 2007. Frameworks for Enterprise Architecture. *IEEE Computer Society,* pp. 36-51.

Versteeg, G. & Bouwman, H., 2006. Business architecture: A new paradigm to relate business strategy to ICT. *Information Systems Frontiers,* 8(2), pp. 91-102.

Winkler, U. & Gilani, W., 2012. Business Continuity Management of Business Driven IT Landscapes. *Handbook of Research on Service-Oriented Systems and Non-Functional Properties: Future Directions. IGI Global,* Volume 10.4018/978-1-61350-432-1.ch017, pp. 381-399.

Wittenburg, A., Matthes, F., Fischer, F. & Hallermeier, T., 2007. Building an integrated IT governance platform at the BMW Group. *Int. J. Business Process Integration and Management,* 2(4), pp. 327-337.

Wästberg, O. & Rapacioli, P., 2009. *The Local.* [Online]
Available at: http://www.thelocal.se/20090121/17064
[Accessed 03 05 2014].

Yin, R. K., 2009. *Case study research: design and methods.* s.l.:Thousand Oaks: Sage Publications.

Zachman, J., 1987. A Framework for Information Systems Architecture.. *IBM Systems Journal,* 26(3), pp. 276-292.

Appendix 1 – Interview Questionnaire

1. Could you please provide us with some background information on your experience you believe is relevant to enabling strategic change through the alignment of business and IT?
2. Could you identify the 3 most important management challenges your organization has faced when updating their IT Landscape? (From inception to deployment and maintenance)
3. How do you identify the challenges and prioritize them before an update?
4. What role does Leadership take in the decision to update an IT Landscape and executing it?
5. When it comes to Change Management, which approach do you consider being most effective?
6. Is the strategy of your organization for maintaining an updated IT Landscape Business driven?
7. In your opinion, how can an IT Landscape be planned to leverage IT trends (upcoming/raising technologies) to provide the Capabilities needed by the business strategies?

Appendix 2 - Categorization of Input data

	Well defined responsibilities
Mentioned by	I1, I2 and I3
Input Data	• Business should own the "What" and leave the "How" to IT. They should detach from the application/system (solution) and focus on the requirements or Capabilities they need. • Not been clear on the responsibilities on who can decide on a new IT system or not. • We didn't had a global function like global Enterprise Architecture that worked as some sort of "safeguard" to watch that not functional organization was building their own IT Landscape.

	Change Management including Internal Communication
Mentioned by	I1, I2, I3, I4, I5, I7, I8, I9 and I10
Input Data	• "Change" is not of much joy to people. • Change does not happen by changing people only. Change will not happen by changing technologies or processes either. It has to be the 3 (people, process and technology) and they need to come together. • I think we should focus more on the Communication and Education. • Change Management approach should be tailored according to the extent and reach of the change. • Communicate IT for all audiences/stakeholders. • All people impacted by change should be taken into consideration. • Cultural, leadership and communication are key players in the change management area. • Good planning and defining a realistic transformation plan including a separate Change Management. • Many times an IT transformation plan is not getting further than a business case and a good intention. • To make employees acknowledge and embrace the new IT changes.

	Underestimated effort
Mentioned by	I1, I3, I7
Input Data	• Change is expensive. • In my experience, every single occasion when there was a "decent" size transformation, it has always been underestimated how long it would take (and cost). • We let unsuccessful transformational projects run for too long before we do something about it. • We are not clear on what it takes to run these projects when we start them and don't take it serious enough. • Halfway implementations business realises the real cost of the change that started back then (3 years ago).

	Complex existing IT Landscape
Mentioned by	I1, I2, I3, I4, I5, I6, I7, I8, I9 and I10
Input Data	• We have a complex IT Landscape and it doesn't have to be. • It still works because people who know the complexity for many years are still here. If they leave, we'd be in trouble. • To keep up with business needs is very hard and the reason for that is that we have a complex Landscape that it is made to fit their specific needs. • In some areas the IT Landscape is really Business driven, in other it is IT driven but in other areas not driven at all. This makes the maintenance of the IT Landscape very difficult. Some IT demand manager has a good approach but others don't. • The clock-speed is much higher. Before, you had 4 or 5 years to change systems. In one hand, the size is a challenge and in the other the global setup. You had to become much faster as the pressure was high to become more productive and fast to deliver. • Fragmented organization with different local initiatives becoming large and complex hence headache of the central unit. Example: On system in one country which grows to become regional and used by many. Need central "fixing". Many local customizations in systems. • We have a lot of legacy systems that stop us from innovating and moving to newer technologies. Therefore we are using strategic partners to help us move where we want/need to be in the future. • The application landscape of today's companies is supported by numerous business applications. Companies often have more applications than the business needs. • The landscape continuously grows in complexity, due to continuous adaptations in order to fulfil business requirements. • Many of today's companies agree that their organisation has too many redundant and outdated applications. It happens over long periods of time, sometimes following large events like corporate mergers or through expansion. • IT is now trying to deliver value to the business while they deal with the application landscape. Another aspect that goes hand in hand with companies applications is the key business information that each system uses. Many companies have since recognised the need for handling the information, whether to address issues like regarding redundancy and/or inconsistency or that the information needs to be migrated to another application. The core issue here for companies is to retake control over their application landscape and start the journey to consolidate and transform their application landscape to boost companies value, reduce costs and increases potential.

	An Effective Governance Model
Mentioned by	I2, I4 and I5
Input Data	• Different Governance model; in Enterprise Architecture we try to take a Holistic view and use Standard Packages. • Something what might be good for a part of the business might not be good (at all) for another. Enterprise Architecture needs to communicate with all involved and try to explain the reasons why it needs to be as it was decided. • Many innovative solutions (freedom of development) in different parts of the world. • Correct business mindset by ensuring Business value- IT is a part of business adding value; it is not the other way around. It is important to understand that and it is a challenge to ensure that it always is implemented accurately. So questions such as why should we invest, what is the business value must always be asked. IT and technology is good but must be based on business cases adding value to organization. Here it's important to have a business mind set to invest in correct type of IT. • A correct governance model.

	Professional approach to Process Modelling
Mentioned by	I3, I4, I5 and I6
Input Data	• The biggest challenge is the underestimation of the non professional approach in terms of process modelling. Because you have to have your process owners, process leaders and process structure clear. Otherwise you build your IT Landscape only in terms of Functional oriented way and not on a Process oriented way. • Recommendation on standard processes hence many local deviations from standards. • Process thinking- IT impacts the way an operation works and that impact on business processes must be taken into calculation and managed in correct way. • People tend to move too quickly from a vision into execution missing many steps in the process. Most of these steps are concern of business but they are pushed into IT simply because the relevant analysis wasn't done during the conception and realisation of the vision by business. There is a lack of understanding from business side on the challenges of implementing new systems. Most of the time they are not aware of the different processes currently in place in different countries but they select products that only support one process.

	Ensuring business value on IT Investment
Mentioned by	I1, I4, I5, I6, I7, I9 and I10
Input Data	• We do not need to over complicate things. There is a basic skeleton that every company regardless of their size needs. • Workshops leading to different projects with different initiatives to prepare for change. • Ensuring Business value. • I haven't yet seen we are investing into the agility needed to reduce the time to market (new features in our systems). We are always pushing to shorter release cycles and demand wants to change their mind later and later and alter because our customers' requests more and different things all the time. But one of the biggest problems to achieve this is to change the mindset on the people involve. Sony is an example that I know of where they have been able to achieve shorter release cycles with a very mature requirement management. • Think more holistically when changing the Target Landscape [long term]. • Ensuring a payback on investment for the organization through the target IT landscape. • Justification, value and Impact: Initiating [IT Landscape] application rationalization business case together with the business, stakeholders etc. In terms of reducing cost, increase potential of e.g. expansion, boost organization value and what are the business impacts.

	Knowledge Management
Mentioned by	I4, I5
Input Data	• I think the key competitive factor for the future business success is Knowledge. You must have knowledgeable people driving decisions with a very good knowledge about the consequence of their decisions etc. • From business perspective not understanding impact of IT and what is going on in the systems behind the scene. Also from IT not seeing what type of value being added to the system by their actions.

	Information Management
Mentioned by	I2, I3, I4, I6, and I10
Input Data	• We have to be very strong in the traceability from the information perspective. • Information Model. We do not have clear ownership on Information Domains and if we have ownerships are only in paper. • Empower decision makers with information. • Need for handling the information • Our customer tend to know more than our co-workers. We do not give the tools needed to our co-workers. • Outsiders have access to more information and this is not easy to manage. • It is not easy to deliver all relevant information to the co-worker,

	simply because it is not easy to know which information is relevant for them.

	Lack of Strategic vision in Business area
Mentioned by	I1, I2, I3, I4, I6 and I7
Input Data	• There are areas where Business is developed enough to have a clear strategy or able to say "with that Strategy this is the Landscape that we need in order to make it happen". And there areas where probably IT is more advance than the business advanced in terms of the thinking. • For every area of your IT Landscape you need to have a specific target that can be sustainable. This, right or wrong, in some cases has driven from an architecture point of view initiatives just because there needs to be a target in place within an area that we do not have a target in place. • In some areas it is really Business driven, in other it is IT driven but in other areas not driven at all. • The business decisions are too high level. High level management is not always well familiar with modern IT. Too much "old style" project without considering new existing possibilities and technologies. Many decisions are based on benchmarks with competitors. • We now have programmes were business is driving the strategy. But historically this has been different simply because we didn't have the strategic plan. This is now changing...

	Commitment (Securing Budget)
Mentioned by	I1, I2, I3, I4, I5, I6, I7, I8, I9 and I10
Input Data	• Changes done at the service delivery organization need a lot of planning, in particular for big strategic changes. It should start 3 or so years ahead of time. We see this problem now when halfway implementations business realises the real cost of the change that started back then (3 years ago). And also the power and will to take the change all the way to the end which starts with leadership [high level] These leaders should be there - present all the way otherwise the change loses its "power". • Having a solid business case that is sponsored by top management (including business and IT) and is well communicated to the organization. The organization has to be committed to the upcoming changes and clearly understand the purpose of the transformation.

	Strategic Partnership
Mentioned by	I3 and I8
Input Data	• A partner who can carry out an "extra ordinary" IT Change. Someone who can accompany you in the change but adopting a "Partnership approach". • Part of the competence issue is to selecting appropriate external

providers that can support you along the journey.

	Talent Management
Mentioned by	I3, I8 and I9
Input Data	• But it has also changed our HR approach. They have now recognized that we have to take care of our "specialists". • With all these changes between business and IT alignment areas like HR alignment are sometimes forgotten. • Having relevant competence available to be able to conduct the necessary changes according to the plan. • Part of the competence issue is to selecting appropriate external providers that can support you along the journey. • By ensuring the right competence exists within the organization.