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# **E-Business Modeling**

A Case Study with IKEA

Paper within IT and Business Renewal

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## Summary

E-business modeling is a concept that has several components and can be designed based on different combinations of them. Furthermore, it is a concept that is vulnerable to changes as it is associated with technology, which is developing rapidly day by day. By conducting this research on 1) how the companies are managing changes in a competitive environment by means of adjusting their e-business models, and 2) if there are any component(s) of e-business model(s) that has more importance than the others for the competitiveness of the company, the thesis intends to define the change management procedures that the organizations involved in e-business are using, and to compare the components of the e-business models in order to find out if there is any component that is more important than the others for the competitiveness of the organization.

We conducted the research through a combination of qualitative and quantitative methods. A semi-structured interview method was chosen for the collection of qualitative data with the aim of acquiring in-depth information from our respondents. On the other hand, quantitative data, which we gathered via questionnaire, provided us with the opportunity to make statistical inferences about the data.

According to our report, there are four components of e-business models; product innovation, customer relationship, infrastructure management, and financials. Each component has three elements. By asking the respondents to state the degree of importance of each element in each component, this thesis aims to compare the degree of importance of each component via statistical measures. Furthermore, by combining the statistical inferences with the qualitative data and theories related to the components of the e-business model, financials component is found to be more important than the other components for the competitiveness of the organization.

Additionally, this report uses several change management models and procedures from books and articles from the library and the Internet. In comparing those theories with the answers gathered from the respondents, we found out that being proactive towards the changes, applying changes without modifying the basic strategy of the organization, stressing on the training and involvement of the users, communication with users and stakeholders, and early commitment of the stakeholders were found to be important issues for the change management in an e-business environment. Besides, the utilization of external parties in the areas where organizations lack expertise concerning change was found to be important for a successful change in an e-business environment.

When we reviewed the research questions, we observed that the purpose has been fulfilled and the research questions have been properly answered. By considering the conclusion that has been derived, organizations could successfully design their e-business models and experience competitive advantage, and successfully manage changes that could take place in their e-business environment.

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# 1 Introduction

*This chapter aims to present the background of this thesis, introduce the research questions, and elucidate the research purpose. It points out the basis of the reasons for choosing this topic and with what purpose this thesis should be performed in the following chapters.*

## 1.1 Background

*“A business model is nothing else than a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue streams” Osterwalder and Pigneur (2002, page 2).*

Business models are not independent of the environment in which they operate as well as the changes in that environment. Afuah and Tucci (2001) state that the basic aim of organizations is to make profit, which brings the requirement of being competitive, and which is also directly affected by the performance of the organization. Performance refers to the accounting profits of an organization and can be defined in terms of three concepts, which are the business model, business environment and change. Business models are concerned with components and dynamics. Components are defined by Hichem and Wahiba (2005) as the aspects that the business models must concentrate on. Dynamics are described Afuah and Tucci (2001) as the modification attempts of the companies in order to sustain competitiveness. Environment is divided into two by Afuah and Tucci (2001) as competitive environment and macro environment. The competitive environment caused by the specific model of every organization, and the common goal of increasing profits creates competition between them. Macro environment is the environment that the industries are operating in. Afuah and Tucci (2001) further state that change has a scope that varies from the business model of a firm to the environment that the firm is operating in whereas its roots can vary from the organization itself to the industry it is operating in.

Keen and Qureshi (2006) state that business models are popular among e-business organizations. Turban et al. (2006) define the term e-business as a wide scope of activities operated via Internet among the partners of the business as; purchasing, selling, transmitting, customer service, collaboration of business partners, carrying out e-learning, provision of inter-organizational electronic transactions and product, service or information exchange. Singh (2000) affirms, e-business is based on technology, evolves with technological developments, digitizes and automates business processes, is global and leads to improved competitiveness, efficiencies, and increased market share and business expansion. However the author also states that the problems associated with e-business are not only found in the choice of technology, but also the perception that implementing e-business applications automatically changes the business as well as the design of the business model. Sharma (2000) states that in order to adapt to the changes brought about by new technology, organizations must adopt e-business models that integrate changes in industry dynamics as well as accurately redefining the needs of stakeholders. Thus the business modeling has a great importance in the area of e-business.

Osterwalder and Pigneur (2002) state the reasons for the importance of understanding and utilizing e-business models in the dynamic business environment. First reason is stated by Ushold et al. (1995, reproduced by Osterwalder & Pigneur, 2002) and Morecroft (1994, reproduced by Osterwalder & Pigneur, 2002) that e-business models describe and identify

the components involved in a particular e-business model and their ways of interacting in that model. Second reason that is stated by Fensel (2001, reproduced by Osterwalder & Pigneur, 2002) is that they assist the managers in sharing and communicating their e-business opinion with the other parties. Petrovic et al. (2001, reproduced by Osterwalder & Pigneur, 2002) show the third reason as enabling businesses to adapt to changes. Last reason given by Sterman (2000, reproduced by Osterwalder & Pigneur 2002) is their assistance to managers in the simulation of the business models and gathering knowledge from them.

The first and third reasons attracted our special attention. First one attracted our attention because of the statement of Afuah and Tucci (2001) that comprehensive understanding of the determinants of a business model would help the firms to develop a long-term profit plan thus design a sound business model. Besides, the third one is due to the declaration of Lewis (2005) that it is a must for businesses to have an ability of understanding, foreseeing and avoiding the effects of the future impacts and being ready to generate plans for emergency that the dynamic and competitive environment can create.

## **1.2 Problems on discussion**

We found many articles written about e-business modeling by various authors. Lewis (2005) discussed its benefits to the organizations, Hichem and Wahiba (2005), Osterwalder and Pigneur, (2002), Lagha et al. (2001), and Hedman and Kalling (2003) explained its components, Hedman and Kalling (2003), and Bidgoli (2002) discussed the e-business model options, Hauswirth et al. (2001) discussed the phases of e-business modeling, Afuah and Tucci (2001) explained the competitive environment in which e-business models are evolving, dynamics of e-business models, and challenges that the models can face, Hichem and Wahiba (2005) discussed the concept of e-business strategy, and Bridges (1991, reproduced by Sharma, 2000), Bryson and Anderson (2000, reproduced by Sharma, 2000), and Cope and Waddell (2000) dealt with the change management issues concerning the e-business model of the company. As the components, change management strategies, and the relationship between e-business modeling and the competitive environment are the main areas of interest of our research, we decided to make a study to discover the special features of those dimensions. The following questions arose during our investigation on those dimensions.

### **1 How organizations are managing changes in a competitive environment by means of adjusting their e-business models?**

Bridges (1991, reproduced by Sharma, 2000) defines change management as the process of managing the effective implementation of organizational strategies, ensuring that permanent changes in goals behaviors, relationships, processes and systems are achieved for business advantage. According to Bryson and Anderson (2000, reproduced by Sharma, 2000) successful organizational change requires sophisticated planning, design, communications and implementation management with continuous stakeholder involvement. Cope and Waddell (2000) observe that though researchers confirm the fact that e-business brings about changes, there has been little research into how companies deal with these changes. So we will investigate the change management strategies of companies that are applied in their e-business models.

- **Is there any component(s) of e-business model(s) that has more importance than the others for the competitiveness of the company?**

The studies conducted by Hichem and Wahiba (2005), Osterwalder and Pigneur (2002), Lagha et al. (2001), and Hedman and Kalling (2003), represents four components of business modeling as product innovation, customer relationship, infrastructure management and financials and examines their functions and relationships between them. However only one article presented by Hichem and Wahiba (2005) figured out the importance of the financials component over the competitiveness but there is not enough support from the other authors. We will investigate if there is an outstanding component(s) in terms of its effect on competitiveness with respect to the others.

### **1.3 Purpose**

The purpose of this paper is to investigate how organizations manage changes in their competitive environment through adjusting their e-business models, examine the components of e-business models to verify if there are any outstanding component(s) that affects the performance of the organization, and to provide understanding about different aspects of the e-business modeling to the readers.

## 2 Method

*This chapter identifies our research approach, which is the combination of qualitative and quantitative methods. Furthermore it states the techniques that have been used for collecting information as semi-structured interview and questionnaire. Also, it includes the procedure for the theoretical framework, literature review, the procedure of selecting the respondents and the means of presenting and analyzing the empirical data. Moreover, trustworthiness of the study has been discussed. It ends with the criticism of the method.*

### 2.1 Research Approach

In order to obtain the information that we need to fulfill our research purpose, we made a detailed research about the different kinds of research methods. The most important point that has to be addressed is to extract the data that lies in the core of our area of interest. In order to be able to find answers to our research questions, we will conduct an in depth empirical study all through our research.

According to Muijs (2004), there are two types of research techniques, first type is quantitative and second type is qualitative. Van Maanen (1983, reproduced by Easterby-Smith et al., 2002) define qualitative research techniques as the interpretative techniques that aim at transforming events, which are likely to occur in the real world, into meaning by means of describing, decoding and translating them. According to Aliaga and Gunderson (2002, reproduced by Muijs, 2004), quantitative methods can be described as the method of conducting research by gathering quantitative data and analyzing them by means of mathematical methods.

According to Ford (1987, reproduced by Williamson, 2002), depending on the research, qualitative and quantitative methods can either be used uniquely or mixed, and we will mix them in our study. The reason for combining those two is, some of our questions are open-ended and thus will provide us data that will be analyzed based on the qualitative methods, whereas remaining questions are based on a numerical scale that the respondent has to assign as an answer to each question, thus quantitative data analysis methods would be used when analyzing them. Besides, the author supports the mixed utilizations by asserting that usually a more comprehensive understanding of the topic is provided by this approach. Furthermore, according to Abrahamson (1983, reproduced by Easterby-Smith et al., 2002), mixing several methods during one study is advantageous as it avoids the constraints brought by utilization of a unique method. Thus mixing approaches will provide us with a better understanding and less limitation, and those are the other reasons why we preferred to use a mixed approach.

### 2.2 Information Gathering Techniques

According to Kumar (1996) two main types of data exist for gathering information on which to draw inferences and make conclusions. They are the primary and secondary data. Primary data refers to information that must be collected by the researcher for a particular purpose from primary sources through questionnaires, interviews or observations. Secondary data is raw data that is already available and need only be extracted from sources like government publications, earlier research, personal records or the mass media. Our research is based on primary data as the information is collected through the interview.

According to Easterby-Smith et al. (2002), there are three qualitative methods that are widely used; interviews, participant observation and diary method. Berg (1995) defines interview as a conversation with a purpose of gathering information. According to Easterby-

Smith et al. (2002), the aim of the participant observation is to be a part of the observed domain and base the data collection on the experiences that are gathered and diary method is the method through which the data is gathered by writing journals or recording events or from personal diaries that provides information about an individual's experiences and values. Also, Kumar (1996) proposes questionnaires as another method of data collection. Questionnaires are a written list of questions that must be read, answered and recorded by the respondents. The difference between the questionnaire and interview is that the respondent must answer the questions without any assistance from the researcher.

According to Berg (1995), there are three types of interviews; structured, unstructured, and semi structured. According to Schwartz and Jacobs (1979, reproduced by Berg, 1995), structured interview, which is also called standardized or scheduled interview, is a type of interview in which a fixed sequence of questions are directed to each respondent. Berg (1995) describes unstructured interview, which is also known as non-standardized or non-scheduled, as a type in which there is no fixed set of questions and the questions are shaped based on the answers given by the respondents simultaneously. Berg (1995) defines semi-structured interviews as a type that consists of a standard list of questions, however new questions may arise from the answers given by the respondents.

In our study, we will use semi-structured interview and questionnaire methods. Brace (2004) and Kumar (1996) state that questionnaires are tools for collecting data without the interviewer contribution to the respondent while he/she is filling the questionnaire. Thus we chose to use questionnaire based on the idea that it would minimize problems caused by interviewer bias thus the information gathered would reflect the truth. Patton (1990) asserts that, by conducting interviewing that includes open-ended questions, one can gain insight to the experiences of the respondent without affecting the prospective answer with constraints. Furthermore, the author also states that more relevant answers can be obtained by the utilization of techniques that has the characteristics of the semi structured interviews as simultaneous questions that have arisen from the answers given by the former questions can be directed through the interview. Because of those reasons, we selected to use semi-structured interview method for our interview.

Furthermore, combining both interview and questionnaire methods were necessary due to the structure of our research questions. Some of our questions were structured as a questionnaire that the recipient must fill in order for us to get quantitative data. Other questions, which aimed to obtain qualitative data, were open-ended such that more questions could be asked and thus may lead to different results and better understanding of the subject, which is also claimed by Patton (1990). Brace (2004) states that remoteness problems, like the relevance of answers, are associated with the questionnaire as there is no interaction between the researcher and the respondent while in the interviews there are not such problems as there is an interaction. So using mixed methods in our study would reduce the problems caused by remoteness.

### **2.2.1 Theoretical study**

While conducting the research, we searched from books, written documents and electronic resources in order to obtain theories that were relevant to our topic. The key words that we used in our research are business modeling, e-business modeling and change management. Some sources contained references that attracted our special attention as they had ideas that were relevant to our research topic, thus we tried to find more sources that include those references.

We paid special attention to the verification of the validity of the electronic resources that we retrieved from the Internet. As the websites can change or be removed over time, we kept the articles that we extracted from the Internet sources as hard copies. In the situation where a reference could not be reached again, it was neglected. Furthermore, we showed special care to use sources that are not so old in order to ensure the up-to-date validity of the information. Besides, in order to ensure the reliability of the references that we have used all through the thesis, we tried to use the sources from the library or library database as much as possible to be sure that the sources are reliable. However we used some sources from the Internet too and in order to ensure the reliability of those sources, we tried to find out scientific articles that are published on the Internet sources other than using the information published in an ordinary website.

Based on the ideas that we have derived as a result of our literature study, we built a theoretical framework. Our framework consists of the different definitions of business and e-business modeling, components of the e-business models, the relationship between the strategy, business process and the business models, and the relationship between e-business modeling and the different aspects of performance like competitive environment and change. It also contains aspects such as change, change management, strategies for implementing change and success factors for organizational change.

The role of the theoretical framework is to provide understanding about the subject to the reader and provide a basis on which to generate the research questions. It further enables the analysis of the empirical findings by comparing the results with the theories in order to find the relationships between them. Thus, the theories will be utilized in the analysis, in order to find out the answers of the research questions.

### **2.2.2 Empirical study**

We collected qualitative data by interviewing. We used semi-structured interview method defined by Berg (1995) in order to provide flexibility during the information gathering process. Flexibility is important because the answers of a particular question can lead to another important point that should to be examined. In addition to the interview, we applied questionnaire method described by Kumar (1996), in order to acquire quantitative data.

- **Selection of Respondents**

IKEA is one of the most famous home furniture brands of Sweden. IKEA is also an international company that has stores in many parts of the world. The idea of IKEA is to produce and sell the best product for the lowest cost. In IKEA, the customers can find an extensive variety of products that they need to furnish their home (IKEA, 2006). We selected IKEA due to the fact that IKEA is an international company that is still growing and maintaining its competitiveness. IKEA adopts both e-business and traditional business. We thought that it will be good to benefit from the experiences and the strategies of a leading company like IKEA when searching from the answers of our research questions. We selected two respondents from IKEA.

- **Interview Procedure**

Despite the fact that we wanted to conduct the interview in order to obtain more detailed information, because of the time limitations of IKEA, we made the interview via e-mail.

We used two types of techniques for the questions in our interview. Questions numbered 1-13, 18, and 19 are formed in a semi-structured way. So after acquiring the first draft of the answers, we examined them and directed more questions to IKEA about the areas that attracted our special interest. Questions numbered 14-17 are formed as a questionnaire and the respondents are supposed to state the degree of importance of the issue that they are being asked. Degree of importance is based on a five phased scaling as very low, low, neutral, high and very high. Each level of importance is associated with a number from one to five as:

Very low degree of importance=1

Low degree of importance=2

Neutral degree of importance =3

High degree of importance =4

Very high degree of importance =5

Together with the interview and questionnaire questions, we gave some explanations about the content of the question before directing the question in order to ensure consistency between the understanding of the respondents and our point of view. By this way, we provided the validity of the data that we gathered by means of interview and questionnaire. Lastly, interviewing provides the up-to-date validity of the data as the respondents are answering the questions according to the present condition of the organization. Furthermore, in order to be sure about the reliability of the answers that we gather by means of interview and questionnaire, we did not give any information about our research questions to the respondents.

The main issues that we dealt with in our interview is the e-business model of the company, components of their e-business model, changes affecting their e-business model and the ways in which they are managing those changes. The answers that we gathered by interview were sufficient and useful thus we could make an analysis and answer the research questions.

### **2.2.3 Presentation and Analysis Procedure of the Empirical Findings**

We presented our empirical findings as an edited version to the readers. While editing our findings, we examined and compiled them under related titles as the answers to the questions may include information about several topics. Incompleteness, errors and holes in the information are identified and managed during the edition. The information that is not relevant to our purpose has not been added in the presentation of the findings.

The analysis of the interview questions 1-13, 18, 19 has been done with qualitative approach and thus qualitative approach has been used while interpreting and discussing those findings. On the other hand analysis of the questions 14-17 has been done with quantitative approach.

When conducting the analysis, we first grouped the questions into two. First group of questions were questions 1-13, 18, and 19, second group were 14-17. First, for the first group of

questions, we started the analysis by going through the answers one by one by checking the relevant theories for each of them from the theoretical framework. Every time we found a matching theory and answer, we codified the relation between them and presented in the analysis part. After we finished to scan the questions we read the theories once more to see if we could find any other relationship, which was either missing or in more general sense. We applied the same procedure to the related theories and answers as we did in the first phase. Secondly, we began the analysis of the second group by calculating the related statistical measures using the answers of the respondents. After calculation, we compared the results and made statistical inferences according to them. Afterwards, we skimmed the related theories to find support or criticism for our inferences. Lastly, we browsed the first group of answers to find related statements given by our respondents, which are related to our inferences. Then we combined all of them and presented the outcome in the analysis.

## **2.3 Research Trustworthiness**

### **2.3.1 Reliability**

Reliability can be defined as the degree of consistency of the findings with the prospective studies on the same subject (Lecture Notes in Research Methods, 2004). Daymon (2002) claims that, in quantitative research, reliability refers to the degree of consistency of the answers, gathered from the same study by the same information gathering technique conducted by different researchers. On the other hand, the author states that, for the qualitative research, same research technique can show variability among different researchers and the conclusion of the study is effected so much by the experiences of researcher. Thus the reliability can be provided by a clear presentation of the methods and choices that the researcher utilized and applied in the study.

We conducted this study with a clear and uncomplicated research method. Furthermore, we presented the method and the techniques that have been used unambiguously and consistently, and the interview guide and questionnaire guide, with the explanations that we have given, has been published in the appendix 1, in order to provide reliability to our study. Thus any other researcher, who wants to conduct a study about the same subject, can use those as a blueprint for his/her study.

### **2.3.2 Validity**

There is a probability that a reliable study is not valid but there can be no situation in which a study is valid without being reliable. Thus the validity of a study cannot be guaranteed by its reliability (Lecture Notes in Research Methods, 2004). Daymon (2002) states that, for the quantitative studies, validity refers to the appropriateness of the research approach, method and information gathering techniques to the purpose of the study. For the qualitative research, it is defined by Maxwell (1996, reproduced by Daymon, 2002) as the degree of trustworthiness of the presented procedure and the findings of the study. Daymon (2002) defines three aspects of validity; internal validity, generalizability and relevance. Degree of trustworthiness of the findings of a study and to what degree they are consistent with the purpose of the study and representing the reality refers to the internal validity. It can be provided by comparing the interpretation of the researcher with the respondents. Generalizability is the degree of the application of findings of a study to a whole. Relevance refers to the degree that the study is making sense to all readers.

In order to provide validity of this thesis, we started with clear minds about the subjects by not expecting certain answers to the research questions. Also, our research approach and information gathering techniques are appropriate for our study, which contributes to the validity of it. Furthermore, the answers obtained by the interview has been gathered and interpreted by three people, which also decreases the chance of misunderstanding, misinterpretations or missing information. Besides, we showed our interpretations and conclusions to the respondents in order to avoid misinterpretations and misunderstandings. Lastly, we did not use the external data we found about the organization because they were conflicting with the answers of the respondents in order to ensure the validity of the study. Generalizability of our study will be discussed deeply in the next section.

## 2.4 Method Criticism

In the following sections, we will discuss the generalizability of our study.

### 2.4.1 Generalization

As defined by Daymon (2002), generalizability refers to what degree the findings of a study can be applied to a whole. Patton (1990) states that, in qualitative researches a commonly encountered problem is to achieve generalization because of the small sample sizes that the study has been applied and Kemp (2004) claims that the generalizations that can be done by statistical measures by using the quantitative data, which is collected, require a reasonably big sample size. Because of those reasons, we felt that there could be a problem when we are making generalizations about our case study as we are using only one company.

However, the claim made by Easton (2003) clarified our concern. He claims that, the position that the case study falls in the epistemology is the indicator of its sufficiency for the generability. There are three positions; positivism, pragmatism, critical realism. Firstly, positivism states that one case study is not enough to make generalizations. Secondly, pragmatism supports that, in order to make generalizations by using one case study, the case study must be sufficient by itself, in other words it must provide in-depth information about the subject. Lastly, critical realism claims that, despite the fact that deriving general ideas about a subject by using causal relationships between empirical findings of several cases and theoretical framework is more robust, one case study is sufficient when it is supported by the theoretical framework by means of causal relationships between them. Similarly, Williams (2002) claims that, generalizations can be done by the help of theoretical inferences by considering the relationships between data and current theories. As our method falls into the last position and verifies the claim of Williams (2002), we believe that our case study is enough for making generalizations about the subject.

## 2.5 Definitions

**Measures of Central Tendency:** According to Aczel and Sounderpandian (2002), there are three measures associated with the measures of the central tendency:

- **Median:** The point that lies in the half way of the data (Aczel & Sounderpandian, 2002).
- **Mode:** The value that is appearing mostly in the data set (Aczel & Sounderpandian, 2002).

- **Mean:** Average value of the observations in the data set. Mean can be calculated by dividing the sum of all observations by the sample size (Aczel & Sounderpandian, 2002).

### 3 Theoretical Framework

*The aim of this chapter is to present the theories that will be used in the analysis of the empirical data and to inform the reader about the subject. It includes the definition of business model and its relationship with the business strategy, description of e-business modeling, its components, relationship of it with changes and different aspects of change management taking place in the e-business environment.*

#### 3.1 What is a Business Model

Hedman and Kalling (2003) define the business model concept as the description of a business' key components. They are being utilized more commonly in the area of e-business (Timmers, 1998, Afuah & Tucci, 2001, Amit & Zott, 2001, Applegate, 2001, Cheng et al., 2001, Rayport & Jaworski, 2001, Well & Vitale, 2001, reproduced by Hedman & Kalling, 2003).

Hawkins (2004, reproduced by Keen & Qureshi, 2006), states that in some situations, the product itself can be the business model. Rappa (2002, reproduced by Keen & Qureshi, 2006) defines the business model as the company's way of earning money. Betz (2002, reproduced by Keen & Qureshi, 2006) supports that the business models codify the means of generating profit. Mahadevan (2009, reproduced by Keen & Qureshi, 2006), lists three critical business streams and states that a business model is the combination of them. Those streams are the value for partners and customers, profit, and logistical. Linder (2001, reproduced by Keen & Qureshi, 2006), defined the business model as the logic behind the value generation.

As a basic definition of business models, it can be said that they can represent the data and key features in a real process, system or operation. They provide strategic decision-making support and they have an influencing effect on the decisions and analysis made by human thus they have an optimization effect on the operational performance. Models also include analytical techniques for structuring problems, reducing difficulties, and acquiring better understanding of the occasions taking place in the reality (Lewis, 2005).

As a definition from the point of view of the customers, it can be said that the models provide organizations with the ability to understand the customer profile and how the demand, purchasing power, and the price sensitivity could be impacted by the geographical, socio, demographical and economical factors (Lewis, 2005).

When it comes to the suppliers, models provide better product run handling, and help to balance the ordering to avoid excess inventory. Furthermore the prevention of the stock out and minimizing the impact of the cancellation of the orders can be provided with them too. The cost models by means of the utilization of the imports that are cost-effective guarantee alignment of the sales strategies and the demands. The help of enhanced collaboration could obtain more advantages for organizations (Lewis, 2005). In addition to the collaborative function, business model can also form a basis for the prospective models (Ericsson & Penker, 2000).



Figure 1: A business model is a simplified view of a business (Ericsson & Penker, 2000).

According to Ericsson and Penker (2000), the concept of business modeling deals with the solutions of six problems which are:

1. Maintenance of the interaction between the actors
2. Finding the activities that are elements of the jobs of actors
3. Finding the aim of the job of the actors
4. Finding the other elements that are not the actors such as other people, systems or resources
5. Finding the regulations for the activities and their structures
6. Searching for the means of performance for the improvement of efficiency

While operating a business, the role of the model is a plan. This plan involves the decision-making, goal prioritization, and resource acquiring. Business model also reflects the present performance of the business and it is flexible for the changes in the business process. The requirements of competitiveness can be obtained and predicted by the model. An important point to remember is that; it is more like strategy or a plan to be chased than a mechanism that answers all the questions (Ericsson & Penker, 2000). Besides, business models bind the business strategy and the business process (Osterwalder & Pigneur, 2002) and we will present this linkage in more detail in the next section.

### 3.2 Business Models and Business Strategy

Porter (1991, reproduced by Hedman & Kalling, 2003), states that the main point of the strategy theory is the way that an organization performs in an environment that is competitive.

As mentioned earlier in this thesis, business models bind the business strategy and the business process together. The purpose of the strategy part is to determine the organizational position as well as describing and codifying its aims and objectives while capturing and implementing the strategy is the role of the business process part. The linkage between these two is illustrated by the figure below (Osterwalder & Pigneur, 2002).

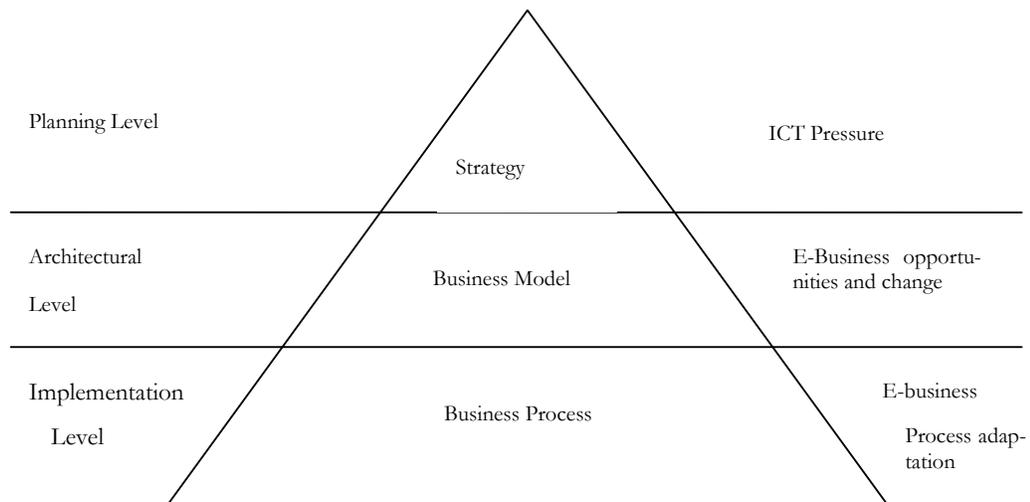


Figure 2: Business Logic Triangle (Osterwalder & Pigneur, 2002)

This figure shows that the execution of the business strategy theoretically and architecturally is the business model. Furthermore the business model is the basis of the business processes and information systems executions (Osterwalder & Pigneur, 2002). Since the concept of business model is important, our objective is to provide our readers with a full picture or understanding of business model concept.

After presenting general aspects of traditional modeling in order to give a background to the reader, now we will move to our main subject, e-business modeling.

### **3.3 E-Business Modeling**

Designing an e-business model is important in the process of information system development in the area of e-commerce as it illustrates the business routines of the developed case (Hichem & Wahiba, 2005).

According to Hichem and Wahiba (2005), operating the e-business strategy of a company by the utilizations of the technology in the value created for the company itself and also its business partners, is the reason of the design of an e-business model. E-business strategy can be defined by the method of an organization of creating value to the customers and gaining competitiveness by the utilization of the technology. By the implementation of Web or EDI-based technological solutions, e-business model supports the e-business strategy and the value chain activities of the company for value creation in the favor of the company and its partners. Thus e-business modeling concerns with how and to what degree the intra organizational integration activities be held, what is the excellence and the layout of the client interface, what is the position of the company in the business network it is situated and in the industry value chain.

According to Gordjin and Akkermans (2001), the means of stating the needs, which are the formulated e-business models that acts as the basic step while analyzing the needs of the e-business information systems, is not sufficient. The reason of this insufficiency is that the means provided by the IT perspective are technological oriented and lack of the management aspects whereas the business perspective is not robust enough for the development of information systems. Thus in order to benefit from an e-business, the integration of these two perspectives must be done.

In the e-business environment, it is easier for the new elements to be added or to be removed to the buyer-seller chains when compared to the traditional business. Thus when illustrating an e-business model, it is important to illustrate the exchange between the particular elements (Gordjin & Akkermans, 2001).

E-business models have chance to improve the relationships with the customers by exploiting the opportunities that are provided by the ICT, which is a characteristic that differentiate them from the traditional business models (Hichem & Wahiba, 2005).

As mentioned in the background, e-business models have components (Afuah & Tucci, 2001) and there are various proposals made on the e-business model components by several authors. In the next section they will be presented.

### **3.4 E-Business Model Components**

Porter (1991, reproduced by Hedman & Kalling, 2003) stresses on the idea that the “initial conditions” and “managerial choices” forms a basis to the low-cost and differentiation ad-

vantages that an organization has. The drivers that are influenced by the choices are resulting in differentiation and/or low cost by turning into activities. The outcome of those activities in total is having a strategic position thus ending up with success. Actually this proposal is not a business model but all the involving components are included in it.

Another proposal made by Norman (1977, 2001, reproduced by Hedman & Kalling, 2003) presents three components which are; the requirements and values of the environment outside the organization, the offer made by the organization, the factors inside of the company like the structure of the organization, resources within the organization, organizational knowledge and capabilities, the systems in the organization and the values of the organization. The system lies in an environment outside of the company and is dependent on the offer made by the company, which is dependent on the factors inside of the organization. An organizations way of organizing the inputs, the process of the output conversion and the payment that has been made by the customers to those outcomes are examined in the concept of business model by McGrath and MacMillan (2000, reproduced by Hedman & Kalling, 2003).

Another set of business model components are listed by Schumpeter (1934, 1950, reproduced by Hedman & Kalling, 2003). That list includes new markets and industries, products, production processes, and source of supply. Furthermore another set of components that have been stated by Eisenhardt and Sull (2001, reproduced by Hedman & Kalling, 2003) are product market, research base and key processes.

The set of components stated by Amit and Zott (2001, reproduced by Hedman & Kalling, 2003) are content, structure and governance of the transactions. Another set of components are made by Afuah and Tucci (2001, reproduced by Hedman & Kalling, 2003) that are customer value, scope, price, revenue sources, connected activities, implementation, capabilities and sustainability. There is a different set presented by Applegate (2001, reproduced by Hedman & Kalling, 2003) that includes concept, capabilities and value as components.

The component set given by Weill and Vitale (2001, reproduced by Hedman & Kalling, 2003) includes consumers, customers, allies, suppliers, and flows of product, information and money. Finally, according to the business model proposed by Hedman and Kalling (2003), the components are customers, competitors, offering, activities and organization, resources, supply of factor and production inputs, and cognitive and cultural constraints.

Dubosson-Torbay et al. (2001) made a framework about the components of a business model by comparing the different views in the literature and conducting a study. The authors came up with a model that consists of four components, which are product innovation, customer relationship, infrastructure management and financials, by examining the different proposals made by the other authors. The four component framework introduced in this table is the framework that we will use in the analysis of the components of e-business models. Comparison of the findings of the authors and the components defined by Timmers (1998) and Tapscott (1999) have been presented in the following table:

		From literature review	Timmers (1998)	Tapscott (1999)
(1) PRODUCT INNOVATION	Target Customer	User role Nature of the offerings Value/cost offerings		
	Value Proposition	Degree of innovation	Degree of innovation	
	Capabilities	Scale of traffic Required security		
(2) CUSTOMER RELATIONSHIP	Get a feel			
	Serving	Level of customization Power to buyer/seller Interaction pattern	Interaction pattern	
	Branding			
(3) INFRASTR. MANAGEMENT	Resources/assets	Economic control		Economic control
	Activities/process	Value integration	Functional integration	Value integration
	Partner Network			
(4) FINANCIAL ASPECTS	Revenue	Pricing system		
	Cost			
	Profit			

Table 1: E-business model classification (Dubosson-Torbay et al., 2001)

Thus from the table above, it can be seen that the four-component model used by Dubosson-Torbay et al. (2001) is the most extensive one among the ones it is being compared with. That is the reason that we are using this framework as the basis of our analysis.

Like the classification made by Dubosson-Torbay et al. (2001), Hagel and Singer (1999, reproduced by Hichem and Wahiba, 2005), Markides (1999, reproduced by Hichem and Wahiba, 2005), Osterwalder and Pigneur (2002), and Lagha et al. (2001) support that there are four components that a business model covers, which we will use in our analysis. The relationships between those aspects are illustrated by Osterwalder and Pigneur (2002) by the following figure:

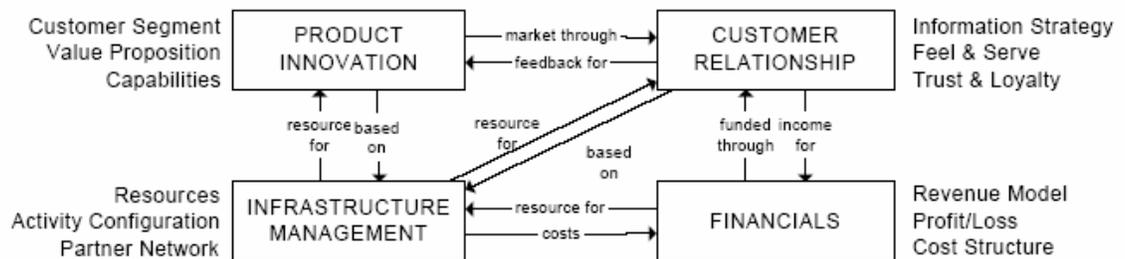


Figure 3. The 4 Pillars of the Business Model Ontology (Osterwalder & Pigneur, 2002)

The figure above indicates that the components are all dependent on each other and shows the interactions between different components. In the following sections, deeper information about each component, which includes the definition, elements, relationship between those elements and the relationship of each component with the others, are given in order to provide a full picture about the all the components involved in an e-business model.

- **Product innovation:** According to Osterwalder and Pigneur (2002), everything about the offering of a company is included in this element like the product/service

that is offered or the way they are being offered. As can be seen from figure 3 brought by Osterwalder and Pigneur (2002), marketing of the result of this element is conducted by the customer relationship element. Moreover it provides feedback to product innovation. Again, as can be seen from figure 3, infrastructure management element is the basis for product innovation where the product innovation is the resource for infrastructure management. According to Lagha et al. (2001) and Osterwalder and Pigneur (2002), target customer, value proposition and the capabilities are the aspects that the product innovation concerns. According to Kambil et al. (1997, reproduced by Osterwalder & Pigneur, 2002), the value that is offered to a particular range of customers is value proposition. New opportunities and more efficiency are contributed to value proposition by the ICT. Furthermore, Hamel (2000, reproduced by Osterwalder & Pigneur, 2002) and Afuah et al. (2001, reproduced by Osterwalder & Pigneur, 2002) state that the range of customers, the place of placing offer and the types of products to be offered are concerns of the concept market. The relationships of the elements can be seen in the figure below:

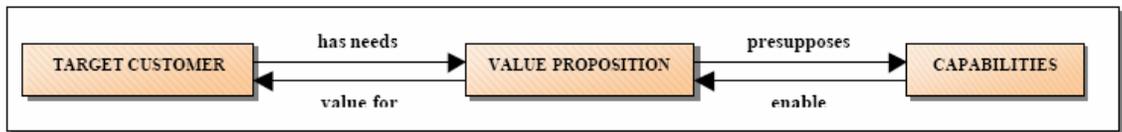


Figure 4: Aspects of Product Innovation (Lagha et al., 2001)

Thus, according to Osterwalder and Pigneur (2002), and it can be seen from the figure 4 brought by Lagha et al (2004), a value is created by a company in order to be offered for a particular range of customers. The company must have some capabilities in order to achieve the delivery of the value to its target customers. According to Lagha et al (2001), enabling of capabilities is done through the value proposition. Moreover value proposition provides value for the target customer.

According to Lagha et al. (2001), ICT provides various ways to create and deliver value like cost advantage, product/service differentiation, and service level, and it can be seen in the following figure:

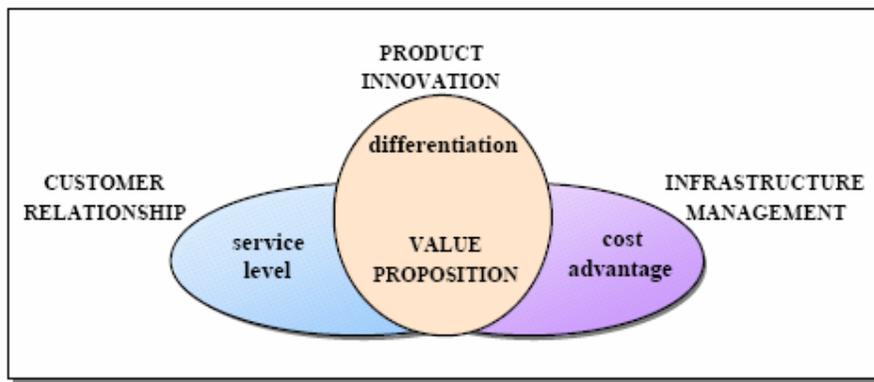


Figure 5: The ways that ICT provides to Value Proposition (Lagha et al., 2001)

Like figure 3, figure 5 shows the dependencies and how the different components make contribution to one another in a simpler way. As an explanation to this figure, it can be said that the value proposed can concern customer relationship component

and/or infrastructure management component as well as product innovation component.

- Customer Relationship:** According to Osterwalder and Pigneur (2002), that is the way the company forms relationships with its customers. Moreover this element is concerned with the methods that the company is using in order to gather and utilize the customer information for relevant purposes. The customers' trust must be created and thus their loyalty should be provided. Product innovation element gets feedback from it, infrastructure management provides basis for it and financials element gets income from it as can be seen from the figure 3 brought by Osterwalder and Pigneur (2002). According to Osterwalder and Pigneur (2002) and Lagha et al. (2001), feel and serve, information strategy, and trust and loyalty are the parts of this element. Information strategy element aims to find business opportunities and to enhance satisfaction of the customers. Feel and serve element can also be called channel as it refers to the way that organizations go into the market and reach to customers. Thus a channel strategy must be defined to select which channel will be used among the ones that are direct, firm-operated or third-party provided. Hagel et al. (1997, reproduced by Osterwalder & Pigneur, 2002) state that trust is an important part of the last element and must be existing between the partners of the business as the relationships are mostly virtual. Virtual communities are one way to form trust. Friedman (2000, reproduced by Osterwalder & Pigneur, 2002) and Dimitrakos (2001, reproduced by Osterwalder & Pigneur, 2002) claim that other ways can be performance history, meditation services or insurance, verification and authorization of a third party and clear privacy policy. Osterwalder and Pigneur (2002) state that the other part of this element, which is loyalty, results from the trust and satisfaction provided to the customer. The relationship between those elements are shown in the figure below:



Figure 6: Aspects of Customer Relationship (Lagha et al., 2001)

Information strategy provides processing of the formation of the customer relationships via feel and serve element. Moreover feel and serve is enhanced by trust and loyalty and vice versa (Lagha et al., 2001).

- Infrastructure Management:** It refers to the arrangement of the value system for the offer delivery and customer relationship formation (Gordjin et al., 2000, reproduced by Osterwalder & Pigneur, 2002). According to Osterwalder and Pigneur, (2002), product innovation and customer relationship use infrastructure management as a resource whereas financial uses it as a cost, which can be seen in figure 3. Lagha et al. (2001) and Osterwalder and Pigneur (2002) state that activity configuration, partner network and resources are the elements of the infrastructure management. Osterwalder and Pigneur (2002) state that the value that is aimed to be created is the result of the inside and outside activity and process configuration made. The allocation of the activity configuration elements among the organization's partners are made by the partner network. Wernefelt (1984, reproduced by Osterwalder & Pigneur, 2002) asserts that resources are needed for the creation of the value. According to Grant (1995, reproduced by Osterwalder & Pigneur, 2002), there are three types of resources which are tangible, intan-

gible and human assets. Plants, equipments and cash reserves are the examples of tangible resources whereas patents, copyrights, reputation, brands and trade secrets are intangible resources. The relationship of those elements are shown in the figure below:

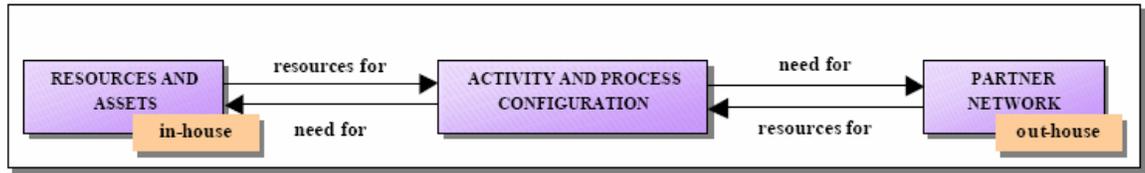


Figure 7: Aspects of Infrastructure Management (Lagha et al., 2001)

To be able to achieve the creation of tangible and intangible resources, companies need people that refer to the human assets. Either partner network or resources fulfills the activity configuration (Lagha et al., 2001).

- Financials:** Financials refers to the expenditures that are used by infrastructure in order to achieve value creation or revenue generation of the value that is sold (Lagha et al., 2001). As can be seen from the figure 3 brought by Osterwalder and Pigneur (2002), financials provides resource for the infrastructure management while economically benefiting from the customer relationship. Lagha et al (2001) and Osterwalder and Pigneur (2002) state that the elements of this component are cost structure, profit structure and revenue structure. Revenue structure is the evaluation of the ability of the company to model its business to be able to make profit. The cost structure concerns with the creation of value costs, marketing of the value costs and delivery of the value costs. The difference between the revenue structure and cost structure refers to the profit structure. The relationship between those elements are shown in the figure below:

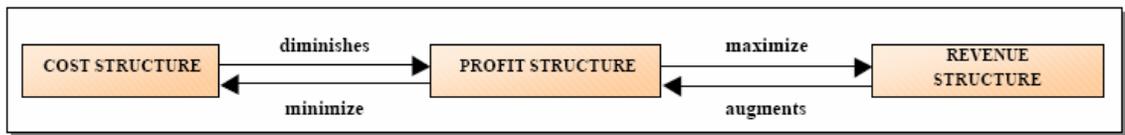


Figure 8: Aspects of Financials (Lagha et al., 2001)

The profit is increased by the revenue model but decreased by the cost structure (Lagha et al., 2001). According to Hichem and Wahiba (2005), this is the most important element of a business model because if a company does not achieve long term success then the other elements are meaningless.

As mentioned in the background, Afuah and Tucci (2001) state that business models, change and environment are some issues that affects the business performance through their relationships. As it is important for the context, after presenting the different aspects of business and e-business modeling, in the following sections, different issues of the relationship of them with change management will be presented.

### 3.5 E-business and Change Management

Organizations are affected by the Internet and e-business in a broad sense. Not only operations and ways of doing business are affected but also creation of new sales channels takes place and so new occasions for all organizations appeared (Jackson & Harris, 2003).

However, Butler et al. (1999, reproduced by, Jackson & Harris, 2003) stated that there are enormous changes taking place about the technologies that e-business environment utilizes day by day. Furthermore, necessity of being competitive globally, customer demands that are having an inclined trend and the increasing expenditures associated with the costs are affecting or modifying the e-business procedures of the organizations as well as the changes about technology. So, in order to be competitive, reorganizations and restructuring activities must take place in the organizations that have e-business plans. Thus the organizations that are adapting e-business must show special attention to the change management.

### 3.6 Change management

Hayes (2002) describes change management as modifying or transforming organizations in order to maintain or improve their effectiveness, and Bridges (1991, reproduced by Sharma, 2000) also defines change management as the process of managing the effective implementation of organizational strategies, ensuring that permanent changes in goals behaviors, relationships, processes and systems are achieved for business advantage.

According to Cope and Waddell (2000), the uncertainties associated with the future and the reforms in the business environment make change management a crucial aspect in the e-business implementation process. Organizations must change their internal processes, goals, relationships, leadership, as required by e-business solutions or in response to the pressures from competitors.

The importance of organizational change is stressed by Graetz (2000:550), who quotes that *“against a backdrop of increasing globalization , deregulation, the rapid pace of technological innovation, a growing knowledge of work force and social and demographic trends , few would dispute that the primary task for management today is leadership of organizational change”*.

Todnem (2005) states that organizations of today are experiencing the fastest rates of change and change has diverse sources and types and it is universal and affecting all organizations in all industries.

This means that organization’s ability of recognizing the sources and identifying the types of change is a significant step toward achieving a particular change management approach.

### 3.7 Types of change

Graetz et al (2002) describes two types of changes, namely, incremental and discontinuous change and Rivard et al (2004) also describes two types of changes, which are emergent and opportunity-based change.

- **Incremental change:** This type of change is familiar to the organization and can be foreseen by it. Management of this kind of change takes place in the environment, in which the strategies, structures and the systems of the organization involved, as attempts that are steady and modest (Graetz et al, 2002).

- **Discontinuous change:** This kind of change can be defined as a fast and disordered one that cannot be foreseen by the organization. Discontinuous change causes a change that is radical (Graetz et al, 2002).
- **Emergent change:** This is a spontaneous kind of change that caused by a change that has been planned by the organization. Emergent change can affect company both in a negative and a positive way. Affect of the new roles and skills associated by a new technology adopted by the organization on its configuration and management procedures can be an example of this type of change (Rivard et al., 2004).
- **Opportunity-based change:** Those changes are presented to the organizations by purpose in the course of the process of change as a reaction to the impacts that are not expected by the organization. New options concerning the strategy that has been generated by a new technology, which has not been mentioned in the beginning of the change process, can be an example of this kind of change (Rivard et al., 2004).

Stace and Dunphy (2001, reproduced by Graetz et al, 2002) describe four forms of change, and different leadership styles that can be adopted to manage them. These forms of change are developmental transitions (constant change), task-focused transitions (constant change), charismatic transformation (inspirational change), and turnarounds (framebreaking change). They are illustrated in the figure below:

		Scale of Change			
		Fine-tuning	Incremental	Modular	Corporate
		Adjustment	Transformation	Transformation	
Style of change management	Collaborative				
	Consultative	Taylorism (avoiding change)	Developmental transitions (constant change)		Charismatic transformations (inspirational image) <hr style="border-top: 1px dashed black;"/> Turnarounds (frame-breaking change)
	Directive		Task-focused transitions (constant change)		
	Coercive				

Figure 9: Four Forms of Change (Stace & Dunphy, 2001, reproduced by Graetz et al, 2002)

- **Developmental transitions (constant change):** This is an approach suitable for the organizations that are not seeking a radical transformation of the existing strategy, thus for the ones that the implementation of framebending changes rather than framebreaking changes takes place. Organizations that are adapting this approach are the ones that

are in the service industry and focusing on flexible, fast and innovative responses to the demands of the customers. Framebending can be defined as the kind of change that is taking the particular components/subsystems of the organization into consideration. Present framework and culture of the organization are the context that this kind of change takes place. On the other hand, framebreaking is general in nature that concerns the entire organization. It challenges the present situation of the organization and engaged with radical strategic, structural, systematic, and cultural changes. Furthermore, guiding to new means of recognition of the environment, organization and the relationship between them is associated with this approach (Graetz et al, 2002).

- **Task-focused transitions (constant change):** This approach supports an incremental orientation and a leadership style that is ordered by the senior management and following an agenda. In the core of this approach, fulfillment and conventionality lie. Those issues are aiming of increased productivity, efficiency and profits. There is compatibility between the behaviors of the leaders of business units and the leadership style associated with this approach. Reasonableness and consistency are being stressed in this approach, but charisma is not (Graetz et al, 2002).
- **Charismatic transformations (inspirational change):** When the organization is not aligned with the environment that it is operating in strategically and fast and crucial actions are required for the organization to continue its operations, this kind of change comes into the scene by proposing radical changes by means of avoiding the right of decision making of all, particularly senior executive. In the core of this approach, a charismatic leader that is able to support the change inspirationally and so be able to generate the readiness of the organizations to change lies. Also, key actors of the change must communicate with the staff effectively to be sure that the staff knows both the aspects that will change and how will they change (Graetz et al, 2002).
- **Turnarounds (framebreaking change):** When the organization is not aligned with the environment that it is operating in strategically and fast and crucial actions are required for the organization to continue its operations, this kind of change takes place. This kind of change has revolutionary features. Obtaining achievement in strategy is the focal point of this kind of change (Graetz et al, 2002).

### 3.8 Success factors for organizational change

According to Rivard et al. (2004), following factors can enhance or facilitate change in the organization:

#### 3.8.1 Leading change

Change is an essential issue and the challenges associated with it might have consequences not only on the organization but also on the individuals. Thus leadership is necessary as it would provide effectiveness. Showing insufficient attention to this aspect would decrease the probability of being successful (Rivard et al., 2004).

So, the following responsibilities are advised to be followed by the leaders of change by Rivard et al (2004):

- Clarifying and communicating a perspective concerning the future

- Assessing the best way of driving the change forward
- Making an efficient resource management to provide smoothness in the change process
- Providing commitment for the change and monitoring the performance

### **3.8.2 Envisioning change**

The ability of leaders' to envision change is also a factor that enhances change. As the change is to shift from traditional ways of doing things to new ways, issues that need to be conducted in the new way must be clarified (Rivard et al., 2004).

Envisioning change should be a proposal about the transformation, which takes place in the competitive environment of the business. Furthermore, in order to provide a better understanding for the teams and individuals involved in the process about the means of alignment of their activities and the new procedures of the organization, there must motivation for the proposal. Moreover, the proposal should have a clarifying feature about the concerns and approaches that could effect the change in both ways (Rivard et al., 2004).

Communication of the vision of the change must be directed to the cultures within the organization and the individuals involved in the change. This is because of the fact that the executives must have good skills associated with the communication of the change in order to be aligned with the individuals. So communication and implementation of the change vision are core parts of the transformation (Rivard et al., 2004).

### **3.8.3 Driving change forward**

According to Rivard et al (2004), following activities must be conducted by the leaders of change in the course of driving change forward:

- Evaluation of the amount of change that would be imposed on the organization at the same time must be done by the leaders of change. Two types of changes must be dealt in the course of this action, which are evolutionary and revolutionary. First type of change, evolutionary, takes place during the adaptation to the growth of the environment. It is not so dramatic because it takes place as modest attempts. Continuous improvement is an example of this kind of change. On the other hand, revolutionary change aims to realize a fast and radical transformation of one or more core aspects of the organization. Management, power structures and assets of business are some examples (Rivard et al., 2004).
- Decision about the means of positioning the change perfectly in the organization among those variances, which are revolutionary and evolutionary changes, must be done by the leaders to be able to reach their aims (Rivard et al., 2004).
- Means of motivating the change is also an important decision that must be taken by the leaders of change. The wrong state of mind, which considers that change is necessary just in case of crisis, must be abandoned. Despite the fact that a crisis may encourage the change as it is stimulating of the staff, saving them from their self satisfactions and encouraging the collaboration of them to solve the problems concerning the entire organization, it might cause them to be desperate and disinterested (Rivard et al, 2004).

### 3.9 Change management models for e-business

A review of existing literature reveals that, though change management is critical in order for firms to succeed in today's highly competitive and continuously evolving business environment, theories and approaches to change management are numerous and contradictory. Todnem (2005) and Burnes (2004) state that there is no universally accepted, clear and practical approach to organizational change management describing the changes that organizations face and how to implement those changes. Todnem (2005) attributes the poor success rates associated with change management to the existence of confusing theories and approaches which results in a lack of valid and uniform change management framework. Bamford and Daniel (2005) talk about the lack of a consensus on change management models and availability of literature that lacks detailed empirical evidence. This section presents some change management models that can be used for managing e-business.

#### 3.9.1 Improvisational model

This model does not recognize change as a discrete event but as a process that is continuing. According to this model, just the change that is probable can be planned. So change is referred to a series of plans and responses that are iterative (Rivard et al., 2004).

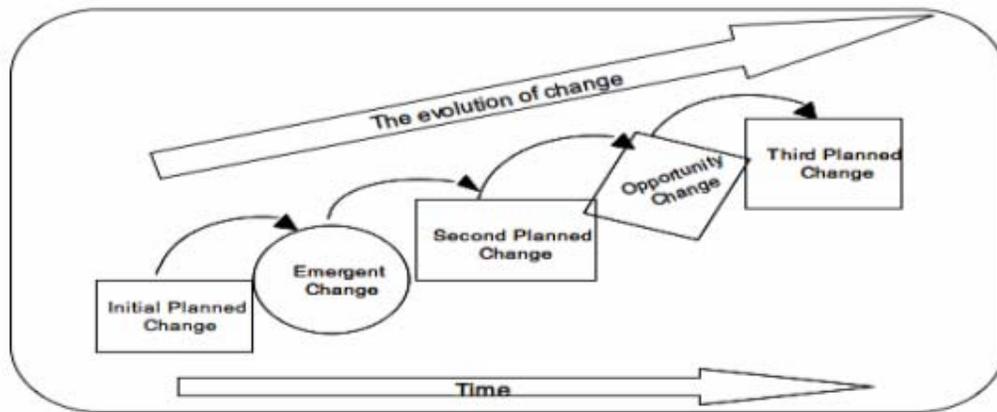


Figure 10: Change is a dynamic entity (Rivard et al., 2004)

This figure shows the dynamism associated with the change as it presents the series of the changes that are planned combined with the reactions that the organizations show towards the changes that are emergent and opportunity-based (Rivard et al., 2004).

Management of the particular components of the change, which are structure, strategy, technology, and leadership, together is important as there is dynamism. Change effort would be distracted by the elimination of one of the component; vertical boundaries for instance. Effective change necessitates the orchestrated movement of the change components (Rivard et al., 2004).

#### 3.9.2 The enterprise-wide electronic business (EWEB) model

The EWEB model framework is analogous to the structure of a house. The structure of a house consists of three parts, which are foundation, walls and roof. It is not necessary to have a special expertise to consider that those components are characterizing a house (Ros-sudowska et al., 2006).

Generation an e-business enterprise has the same procedures as there cannot be independence between the different segments of a business during their development or utilization. For instance, if an organization wants to build an e-commerce, it must go through the way of developing a website, adopting needed procedures for security, strategy and web site for the customers and the management of online activities that has implications for each department that forms a business (Rossudowska et al., 2006).

There are three parts in the enterprise-wide electronic business EWEB model that makes it similar to a house, which are; organizational direction, architectural level and infrastructural level. Those parts have been illustrated in the figure below (Rossudowska et al., 2006):

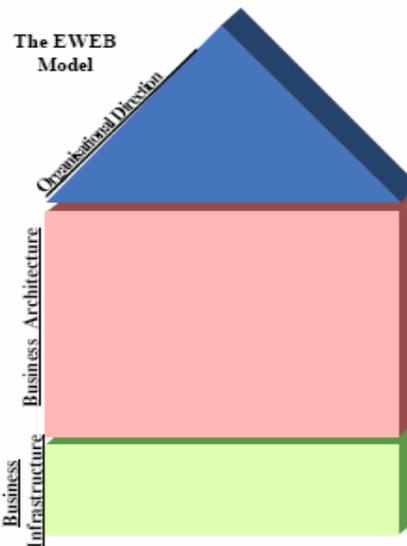


Figure 11: The EWEB model framework (Rossudowska et al., 2006)

1. **Organizational Direction:** Likely to be affected business processes are taking place in this part, like, formulating the aims of performance of the business and make decisions that are up-to-date and concerning the future. Also, strategic planning and vision and mission of the organization are elements of this part (Rossudowska et al., 2006).
2. **Business Architecture:** Business processes that are in the heart of the organization due to the fact that they have effect of the daily business operations and activities. Customer base, supply chain and the points that are in relation to them are elements of this part too (Rossudowska et al., 2006).
3. **Business Infrastructure:** This part includes the business processes that have supportive roles. They are supportive because the impacts on those processes are observed when they are combined with the business processes that are critical for the organization. The aim of this part is to provide the opportunity that the integration of all business processes can take place. Information gathering and distributing to the entire organization process is taking place in this part too (Rossudowska et al., 2006).

### 3.9.2.1 Application of the EWEB model

Application of this model in an organization is taking place in a top-down approach as there is an ordered integration of the business processes. A case study of a traditional business that is being transformed to e-business is used to describe the application the EWEB model (Rossudowska et al., 2006).

In the core of the transformation of an organization from traditional business to e-business, placing the strategy before technology lies. It is similar to the procedure of building a house as it necessitates obtaining the building plan of the house before it is built. Thus, the business strategy must be generated first by the business initiatives due to the fact that, according to the aims and direction of an organization, knowledgeable decisions could be taken (Rossudowska et al., 2006).

Following the building of a house, particular decoration of each room takes place. However, relationships between different rooms must be examined before taking the action. For every business process, this procedure, which is named as formulating strategies, must be applied too (Rossudowska et al., 2006).

For the case study involved, global strategy must have a role of ensuring the success of the e-business organization by means of whether it has the most important characteristics that are providing this or not. Furthermore, strategic planning process is associated with the organizational direction level in the light of the EWEB model, which is proposed to them (Downes & Mui 1998, reproduced by Rossudowska et al., 2006). It is illustrated in the following figure (Rossudowska et al., 2006):

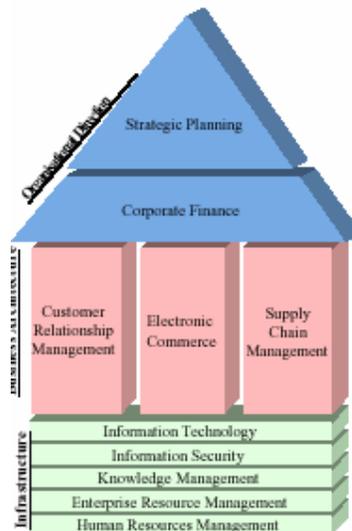


Figure 12: The EWEB model with processes (Rossudowska et al., 2006).

Strategic planning of an organization has an aim to ensure the affect of global strategy on the other strategies that are associated with particular business processes. This concept can be exemplified by the case. There is a need to transform the ST manufacturing into an e-business organization. However, it is big an organization that is not so flexible thus the physical assets of it could not be transformed into intellectual property. Despite this situation, it must have a global strategy that ensures to provide the most important characteristics associated with and e-business, which are discussed above (Rossudowska et al., 2006).

Application of strategic planning process to the ST manufacturing, which is brought by EWEB model, would cause a flattened business hierarchy in the organization as there is a convergence between the operations of business and IT. Furthermore, the role of CEO can be analyzed to find out the role that technology performs in the organization. Moreover, not only management is affected by those changes, but also the employees are affected by them. So the change management skills of the employees must be improved to ensure the understanding of them about the causes and benefits of those changes and advantages obtained by having this approach (Rossudowska et al., 2006).

As all the core and supportive business processes would be redefined in the course of flattening the hierarchy, it is not only concerning the management (Rossudowska et al., 2006).

When ST started considering the customer relationship, application of the orientation of their customers by means of reforming the clients/partners/suppliers base relationships. It can be done by, for instance, providing online ordering chance to the customers. Furthermore, by the expanding the system that allows online-ordering in a way that e-commerce would be comprised, change of paying online could be provided too. This step is in conformity with the framework of the EWEB model, as e-commerce is an integral part of an e-business enterprise (Rossudowska et al., 2006).

E-commerce brings high level of security risks, thus close inspection of the transactions takes place in order to ensure the security of them. This fact causes the integration of information security (IS) as risk management and disaster-recovery planning (Rossudowska et al., 2006).

The role of the information technology department becomes more important then before as the implementation of well-matched technologies must take place. Furthermore, there must be a shift in the role of chief information officer from technology oriented to business oriented (Rossudowska et al., 2006).

### **3.9.2.2 Benefits of EWEB model implementation**

- By implementing and EWEB model, organizations would obtain a solution for the confusions brought by e-business, which are general and concerning all the enterprise. Procedures that are concerned with the general reform and convergence of the traditional business organization are provided by the EWEB model (Rossudowska et al., 2006).
- As the EWEB model permits the addition and integration of the business specific processes; flexibility, dynamism and simplicity in the adaptation are the features associated with it. Furthermore, the addition and integration of processes like product lifecycle management is possible even if it is not an element of the EWEB model (Rossudowska et al., 2006).
- Implementation of some of the components recognized in the model has already took place in some organizations despite the fact that a top-down approach is suggested to cope with the changes. An organization can start the implementation of the model by selecting a particular starting point, which can take place in any point of the model, if the organization would consider the most important issues, which are reforming and convergence (Rossudowska et al., 2006).

## 3.10 Implementing change

According to Rivard et al (2004), in order to successfully achieve change in the organization, organizations need to perform the following tasks:

### 3.10.1 Team selection

A team that is responsible from the recognition of the change must be selected in the organizations, which are in the change process. Management and control of the corporate effort associated with the change and ensuring the integrity of the particular parts of the change are the tasks of this team. So the team performs as a mechanism for change cross-functionally. Moreover, it provides the directions of the process of change (Rivard et al., 2004).

### 3.10.2 Change champion

Change champion that holds the responsibility of generation of change strategy and clarifying the environment and motivation for the new direction of the organization is important. Top manager or chief executive officer (CEO) is generally performing this role. Change champion is also responsible for resource provision and continuing support delivery for the change (Rivard et al., 2004).

### 3.10.3 Skills and competence

The team that has been selected for the change must have some skills to realize the planned changes in the organization. They should be reliable and recognized by the organization's power structure. Also analytical and negotiating skills of the team must be good in order to achieve the generation and management of the change plans effectively, formation of the relationships and obtainment of support from the people for the change (Rivard et al., 2004).

### 3.10.4 Checklists for implementation

According to Rivard et al (2004), following analysis must be conducted by the change team as an implementation checklist:

- **Stakeholder analysis:** Aim of this analysis is to find out the parties that the change will affect or the parties, whose involvement are supposed to provide success (Rivard et al., 2004).
- **Risk assessment and management:** Disadvantages that may be caused by the change must be evaluated and managed by formal procedures by the leaders of the change (Rivard et al., 2004).
- **Root cause analysis:** The sources of the problems that might delay the changes must be investigated and addressed by the change team (Rivard et al., 2004).
- **Inconsistency analysis:** During the period of transition, inconsistencies must be monitored and addressed by the leaders of change. The issues that should be dealt can

be the policies concerning management, and points that assure the reliability of the measure associated with the change (Rivard et al., 2004).

### **3.11 Conclusion of the Theory**

In this theoretical framework, we have presented our literature review about e-business modeling. As a result of this study, we firstly presented the description of business modeling and its relation with the business strategy, definition of e-business modeling, and e-business model components. Furthermore, we presented the change management issues concerning the e-business. For that purpose, we presented our theoretical framework including the definition of change management, types of changes that can be encountered, success factors for organizational change, change management models for e-business and implementation of change. Some theories concerning the definition of business modeling, relationship between business models and business strategy, e-business model components, change management issues concerning e-business, definition of change management, types of changes, success factors for organizational change, and change management models for e-business will be used for the analysis of our empirical findings whereas remaining theories are for the purpose of informing the user about the subject.

## **4 Empirical Findings**

*This chapter presents the results of the empirical study conducted with IKEA. Thus this chapter forms basis for the analysis.*

### **4.1 IKEA and E-Business**

The e-business activities of IKEA started approximately in 1996. Both an external website for the customers and an intranet for the co-workers were started with the aim of obtaining maximum benefit from the latest technologies. When the activities first started, the scope of both the website and the intranet were limited. As the time passed, e-business activities of IKEA kept on growing and thus more and more have been offered to the customers and co-workers. In the beginning, IKEA did not start the e-business activities in the whole company and still the e-business activities are not being conducted in all parts of the company. The reason of this approach is to examine what role e-business would play in the company and how accurately e-business would help IKEA to reach or maybe modify their objectives (John Niland, personal communication, 2006-5-18).

Online sales of IKEA started to operate in Sweden in the year 2000. Other than in Sweden, online sales are being operated in Germany and USA. Furthermore IKEA has plans to start those activities in the other countries that it is operating in. IKEA's website, [www.ikea.com](http://www.ikea.com), is a global website and there is access to all countries' websites. IKEA is using Internet as an important means of media but still the catalogues and stores are important for IKEA. By visiting the website of IKEA, customers can be prepared for their visit to the IKEA stores, can get information about the products and customer services (Andrew Hayward, 2006, personal communication, 2006-4-24).

### **4.2 E-business Model of IKEA**

IKEA has no explicit e-business model. The e-business model of IKEA is a specific integrated aspect of its overall business model. It is not treated as a stand alone model as all aspects are being considered and are working together in order for the e-business efforts to have a positive effect on IKEA or its customers. Thus the strategies underlying its traditional business model form the basis to its e-business model too. IKEA first plans how to conduct e-business and then applies those factors to the area that will be dealt with like the means of getting a better handling on the product that is coming from the supplier, shortening the delivery times, and the searching for the best means of ordering a product, such as cheaper, quicker, etc. IKEA decided to embrace the part of e-business that is offered to the customers as a part of their overall business model. Thus they are searching the means of combining the Internet, stores, catalogue, etc. in a way to maximize the potential of each while having consistent communications with the user. This approach is a part of the multi-channel strategy that IKEA is using (John Niland, personal communication, 2006-5-18).

### **4.3 E-Business Model of IKEA and Change**

The only radical change about the e-business model of IKEA happened during the infancy period of the Internet technologies because IKEA did not have an e-business model and created one in this period. The e-business model of IKEA keeps on growing more or less year to year as people and the organizations continue to embrace the ideas and technologies (John Niland, personal communication, 2006-5-18).

### **4.3.1 Change Factors that affects E-Business Model of IKEA**

There are three factors that brought changes to IKEA; technology, customer needs and industry. IKEA is now looking forward to the evolution of “web 2.0” and what its impact will be on the customer expectations. Internally, they are looking for the ways to better manage the supply chain with real time figures, ordering and tracking (John Niland, personal communication, 2006-05-18).

### **4.3.2 Change Management and IKEA**

Change management is a relatively new concept for IKEA. They are examining the changes before they are developed, decided or implemented and try to judge the impact of those changes on the stakeholders and try to find out either they are ready to embrace those changes or they are scared of them, not understand them or resisting to them (John Niland, personal communication, 2006-05-18).

IKEA is defining its e-business model as a rather flexible model due to the fact that it is consistently under review and it is able to change according to the different demands. However, due to the internal reasons, adaptation is not as fast as it is desired to be (John Niland, personal communication, 2006-05-18).

IKEA is managing the changes by means of good communication and early commitment from all stakeholders and adding that it is the best way that they have used so far. In most of the areas managing the change has been difficult for IKEA due to the complexity of the organization. In IKEA, there are many stakeholders and many decision makers. However it is not always clear who should take a decision as well as how and why that decision has been made (John Niland, personal communication, 2006-05-18).

IKEA is managing the resistance caused by changes through education, communication, and providing involvement of the users from the beginning (John Niland, personal communication, 2006-05-18).

IKEA is a rather humble company that knows its expertise area. Area of expertise of IKEA is to create great home furnishings at low prices and actually it is not an IT company. Thus IKEA is not afraid of using external resources like companies and consultants where they see that it fits (John Niland, personal communication, 2006-05-18).

### **4.3.3 Problems about Change**

The problems that IKEA encounters during dealing with changes are problems about communication and problems about stakeholders such as ensuring that they are all in the same page, same level of understanding, etc. According to IKEA, in order to be able to handle those problems successfully, being sure about the commitment of all stakeholders from the beginning is vital. Without being sure of it, there are lots of possibilities where the wrong information could be used to make decisions, there could be resistance to change, etc (John Niland, personal communication, 2006-05-18).

IKEA mostly encounters problems in the area of technology. There are many options, and lots of goals and areas that IKEA would like to focus on but decisions about the best technology for each case and to be sure that the technology chosen would be final decision is not an easy task for IKEA. IKEA is an extremely complex company and decisions about technology are made both centrally and locally, which refers to the country levels. This

situation is occurring more often than it should happen but the impact of the adaptation of the local technology has on the overall impact, like time, money, etc, is higher than expected (John Niland, personal communication, 2006-05-18).

#### 4.4 IKEA and Competitiveness

When it comes to competitiveness, IKEA believes that their business model is setting them apart and their traditional business model is incorporating their e-business model. The aspects that are giving them competitive advantage is working with suppliers such as Swedwood, continually working to reduce the costs, and offering the best possible products at low prices to the customers (John Niland, personal communication, 2006-05-18).

#### 4.5 Components of E-Business Model of IKEA

IKEA is treating every component of their e-business model independently. They are aware of the fact that the interdependence of those components must be considered but they are admitting that it has not been achieved by the board yet (John Niland, personal communication, 2006-05-18).

We made four tables that present the elements of the components and the associated degree of importance based on the answers of John Niland (personal communication, 2006-05-18):

<b>PRODUCT INNOVATION</b>	Degree of Importance
Value proposition	5
Target customer	5
Capabilities	4

Table 2: Importance degrees associated with the elements of product innovation (John Niland, personal communication, 2006-05-18)

<b>CUSTOMER RELATIONSHIP</b>	Degree of Importance
Information	5
Feel and serve	4
Trust and loyalty	5

Table 3: Importance degrees associated with the elements of customer relationship (John Niland, personal communication, 2006-05-18)

<b>INFRASTRUCTURE MANAGEMENT</b>	Degree of Importance
Activity configuration	4
Partner network	3
Resources	5

Table 4: Importance degrees associated with the elements of infrastructure management (John Niland, personal communication, 2006-05-18)

<b>FINANCIALS</b>	Degree of Importance
Revenue model	5
Cost structure	5
Profit/Loss	5

Table 5: Importance degrees associated with the elements of financials (John Niland, personal communication, 2006-05-18)

As five degrees of importance are offered in the questionnaire (1=very low degree of importance, 2=low degree of importance, 3=neutral degree of importance, 4=high level of importance, 5=very high level of importance) the elements with highest level of importance are associated with the highest score and lowest level of importance are associated with the lowest score.

## 5 Analysis

*This chapter includes the analysis of the empirical results for accomplishing the purpose of the research. Critical analysis of the results, and comparison and contrast of them with the theories taking place in the theoretical framework is included in this section. Importance degrees of the components of the e-business model of IKEA and the change management procedures that IKEA is applying to its e-business activities has been discussed in this chapter.*

### 5.1 E-Business Approach of IKEA

E-business model of IKEA is based on its traditional model as (John Niland, personal communication, 2006-05-18) stated, as the statement of Ericsson and Penker (2000) about the way of forming new models based on the traditional business model of a company. Thus as John Niland (personal communication, 2006-05-18) claimed, e-business model of IKEA is an integrated to its traditional model thus everything about its traditional model has reflections on its e-business model.

As claimed by John Niland (personal communication, 2006-5-18) and supported by Gordjin and Akkermans (2001), IKEA is aware of the fact that for the development of successful e-business models, contribution of both IT and business perspective is vital, and as IKEA is not an IT company, they are not afraid of getting help from the external IT sources, like consultants, for the areas that they feel like they need.

### 5.2 Components of E-business Model of IKEA

Four components of the e-business models introduced by Dubosson-Torbay et al. (2001), Hagel and Singer (1999, reproduced by Hichem and Wahiba, 2006), Markides (1999, reproduced by Hichem and Wahiba, 2006), Osterwalder and Pigneur (2002), and Lagha et al. (2001) are treated independently in IKEA in spite of the fact that IKEA is aware of their interdependencies (John Niland, personal communication, 2006-05-18), which is claimed by Osterwalder and Pigneur (2002).

Based on the scores associated with the elements of each component, we calculated mean, median and mode of each data set associated with each component and formed the following table:

COMPONENT	MEAN	MEDIAN	MODE
Product Innovation	4.66667	5	5
Customer Relationship	4.66667	5	5
Infrastructure Management	4	4	3,4,5
Financials	5	5	5

Table 6: Measures of central tendency associated with the components

When we check the values in the Table 8, we can see that the financials had the highest mean average of five, thus average importance of the financials is very high, where the others are lower than very high importance level. However when we look at the medians we

can see that, except infrastructure management, all the components have a median of five, which indicates that majority of the elements of the components have very high level of importance. And lastly, modes shows that all the components have mode of five thus the most frequently observed importance level is highly important in all the components.

These measures indicate that the financials component is more important than the other components as its mean is the highest and the other measures associated with it are at least equal with the other components as claimed by Hichem and Wahiba (2005). Furthermore John Niland (personal communication, 2006-05-18) stressed on the importance of the financial component as he stated that providing the best product with low cost is the feature of IKEA that distinguishes it from its competitors. Thus IKEA has competitive advantage through low cost strategy. By taking Osterwalder and Pigneur (2002)'s claim about the relationship of business model and business strategy as a base, we can interpret the financial component is the most important component for IKEA, as it is gaining competitive advantage through a business model dominated by the financial component. Lastly, the importance of this component in the e-business model of IKEA is emphasized by John Niland (personal communication, 2006-05-18) as she/he referred to it as their area of expertise.

### **5.3 Change Management Procedure of IKEA**

John Niland (personal communication, 2006-05-18) claimed that by the introduction of the Internet to the business, IKEA faced the impact caused by this new technology as Jackson and Harris (2003) stated. They formulated an e-business model, which they did not have before, and it is a kind of change that can be called discontinuous change as described by Graetz et al. (2004). On the other hand, John Niland (personal communication, 2006-05-18) stated that IKEA has been trying to find the best opportunities to exploit this new technology as stated by Jackson and Harris (2003). In doing so, they have been seeking for ways to better handle the incoming product from the supplier, as well as ways to minimize the delivery times and the ways to order the product most efficiently.

In response to the question about as to whether there have been a situation where IKEA has to change their e-business model; John Niland (personal communication, 2006-5-18) said their e-business model experienced a complete change only in the infancy of the internet technologies. Thus this change can be classified as discontinuous change, according to Graetz et al (2002). John Niland (personal communication, 2006-5-18) further added that there have been some changes occurring by time, which are defined as incremental change by Graetz et al (2002).

As claimed by Todnem (2005), John Niland (personal communication, 2006-5-18) stated that changes in e-business model of IKEA root from technology, customer demands, and industry. John Niland (personal communication, 2006-5-18) further claimed that, for IKEA, technological changes were the majority of the problems they have encountered as there are various technological options whereas there are lots of objectives that have to be fulfilled and lots of areas to be focused on, so as Rossudowska et al (2006) stated, the role of the IT department has a vital importance in change management to handle those changes by the implementation of the compatible technologies.

John Niland (personal communication, 2006-5-18) described the e-business model of IKEA as a flexible model because when there is a new demand, the model can easily be changed, as claimed by Gordjin and Akkermans (2001). However John Niland (personal

communication, 2006-5-18) added that, for IKEA, the application of those changes to its e-business model takes some time because of the problems sourced by internal reasons.

John Niland (personal communication, 2006-5-18) stated that IKEA has no definite change management model but from the information that we have provided in the interview with John Niland (personal communication, 2006-5-18), we discovered that change management model of IKEA is similar to the EWEB model presented by Rossudowska et al. (2006). The reason of this judgment is; John Niland (personal communication, 2006-5-18) stated that they examine the changes before the development, choice or implementation of change and try to be sure about the readiness of the stakeholders, which is also one of the underlying ideas of the EWEB model introduced by Rossudowska et al. (2006). Another similarity between IKEA's change management model and EWEB model is, the way of EWEB model to put the strategy to a more important position than the technology during the transformation from traditional business to e-business environment as John Niland (personal communication, 2006-5-18) has generally stressed on the importance of the IKEA's low cost strategy and their way of forming all prospective models by considering this strategy must have been kept, during the interview. Also John Niland (personal communication, 2006-5-18) stated that, for IKEA, training and involvement of the users, and communication with them is important to achieve the change successfully, and Rossudowska et al (2006) also indicated this point in the context of EWEB model.

Change management procedure of IKEA can also be related to the developmental transition, which has been proposed by Graetz et al (2002). The reason of this judgment is, John Niland (personal communication, 2006-5-18) claimed that the changes that are occurring in IKEA are not affecting its business strategy but just taking place to fulfill the changing demands, so they can be called framebending as Graetz et al (2002) described. Furthermore, IKEA started to implement e-business partially and still not fully implemented (John Niland, personal communication, 2006-5-18; Andrew Hayward, 2006, personal communication, 2006-4-24), which is also consistent with the definition of framebending (Graetz et al, 2002).

IKEA discovered that effective communication with stakeholders is vital to successfully managing the changes (John Niland, personal communication, 2006-5-18), which is also described by Rivard et al. (2004) in the context of envisioning change, which is one of the success factors. IKEA also added that early commitment of the stakeholders is a factor that is as important as good communication (John Niland, personal communication, 2006-5-18), which has also been introduced by Rivard et al. (2004) as another success factor in the context of leading the change.

About the handling of problems about communication and understanding level of all stakeholders, John Niland (personal communication, 2006-5-18) stated that, for IKEA, commitment of the stakeholders is vital. That factor has also been stated by Rivard et al. (2004) in the context of both leading and envisioning the change as a success factor for an effective change management.

## **5.4 Summary**

In this part, we made the analysis of the answers that we got from our respondents by using the theories in our theoretical framework. We first analyzed the e-business approach of IKEA, thus we analyzed the structure of its e-business model. Then we analyzed the components of the e-business model of IKEA by interfering statistical measures and by refer-

ring the inferences to the related theories and empirical results to support them. Finally, we analyzed how IKEA is managing the changes take place in the e-business environment by comparing the answers of IKEA and the theories of various authors and linked them together. We made analysis about the types of changes that can be encountered, related models that has been presented for change management, and success factors associated with the change management. The results of our analysis would help us to derive conclusions about our study, thus answering our research questions.

## 6 Conclusion

*In this chapter, the results of the analysis have been summarized to reflect the most important points derived from the analysis, which are forming answers to the research questions presented in the chapter 1.2, thus provide us to fulfill our purpose.*

As a result of our analysis, we derived some conclusions that are forming the answers of our research questions.

Our first conclusion is, among the four components of an e-business model, financials component is the most important component of the e-business models. E-business model must be formed based on the financials component and the rest of the components must be configured according to the financials component. A financials-based e-business model would provide competitive advantage to the companies that would like to perform e-business activities.

Second conclusion that we have derived is, for the changes other than the ones that necessitates radical changes, like the introduction of the Internet, organizations must be proactive in order to be successful in the change management. They must first try to foresee the impacts of the change to the organization and the stakeholders before the implementation of it. Foreseeing the impacts would provide them the opportunity to examine the possible scenarios that can happen about them and all the affected parties. According to the examination they have made, they must apply the changes without changing the basic strategy of the company. This is an important point because by this way, organizations would still be working in the way that they are specialized while changing the parts that need to be adjusted to the environment. This way provides an easier adaptation period and lowered risk of failure. Furthermore, in the course of examination, choice and implementation of the changes, training, and involvement of the users, communication with users and stakeholders, obtaining the early commitment of the stakeholders are all vital for a successful change management.

Our last conclusion is; change management concerning the technological changes needs special attention as not every organization is as specialized in IT area as they are in the business area. Furthermore, technology is an area that is developing day by day. So while managing the changes concerning technology, organizations must evaluate their IT department and in the issues that they found to be deficient, organizations must fill these gaps by the contribution of external parties, like consultants, in order to achieve successful change management.

### 6.1 Recommendations

In this section we would like to make two recommendations to IKEA:

- Based on the similarities between the IKEA's change management procedure and the EWEB model, we recommend IKEA to fully adapt the EWEB model by making the needed adjustment in the points that they differ in order to get the full benefits that this model could provide to them.
- We recommend IKEA to improve its IT department and thus the developed IT department would generate strategies and procedures to cope with the changes, which e-business environment may bring, that are more consistent with the culture of the company than the ones that external parties may provide. This recommenda-

tion is made due to the fact that the solutions that are provided by the external parties may not always fit perfectly the culture of the company.

## 7 End Discussion

*This chapter explains our study from beginning to the end by including all aspects and discussed to what degree the purpose has been fulfilled. Furthermore, it includes criticism of our study from an objective point of view. Lastly, it discusses the further implications of this study to the future research.*

In the beginning of this study, during our research about e-business modeling in the literature, we found out that e-business modeling was a vital concept in understanding and achieving success in e-business environment. It was also realized that change was an integral part of business due to the dynamism of today's business world. Furthermore e-business models provide understanding of the businesses by presenting a picture of the present as well as the future or anticipated state. Thus we interpreted that this aspect of the e-business models would guide organizations to cope with the prospective changes. On the other hand, we discovered that different components are involved in the e-business models, each with different features. It attracted our special attention and so we wanted to conduct a research that aims to find if any of that components is more important than the others for the success of the e-business model.

By combining those issues, we aimed to find out the change management procedures of the organizations involved in the e-business and if there is any outstanding component in an e-business model. Furthermore, we also aimed to provide understanding to the reader about the e-business modeling and its relationship with change management.

In order to fulfill this purpose, we reviewed the literature to find some related theories and we conducted a case study to find empirical findings. The case study has been conducted by means of interview and questionnaire. With the theories that we derived, we formed a theoretical framework. Then we analyzed the empirical findings by using the theoretical framework. We carried out the analysis by comparing the theories and empirical findings in order to find the convergent and divergent points between them. Furthermore, we made some statistical inferences based on the quantitative data derived by the questionnaire and we compared our inferences to the theories and the other empirical findings in order to find supporting or criticizing points. Based on those points, we derived our results and we derived some conclusions that provide answers to our research questions.

We believe that purpose of providing understanding to the reader has been fulfilled by the theoretical framework that we have formed, which covers many aspects about e-business modeling. Furthermore, when we compared our statistical inferences with the theories and other empirical findings, we found many supporting points whereas no criticizing points to our inferences. Thus we believed that, our aim of finding out the component that is more important than the others for the competitiveness of the organization has been fulfilled, and resulted with the financials component. Lastly, by comparing the change management procedures of our case study company with the existing models and procedures in the literature, we come up with some general points that the organizations must consider about the change management in the e-business environment. So we believed that we fulfilled that aim.

Although we tried to cover all aspects about the subject, we have some weaknesses in our study that we have discussed in the criticism section. Furthermore, there are some further implications on which research can be conducted about this subject in the future.

## 7.1 Criticism

In order to fulfill our purpose, we used a combination of qualitative and quantitative methods. Using only qualitative approach would not be enough for measuring the importance of the components thus would hinder the comparison of them, whereas using only quantitative approach would not be enough for codifying the change management procedures or provide understanding to the reader about the subject. Thus our research approach was successful in fulfilling our purpose. So that the internal validity of the study has been provided as the data gathered is complete and sufficient for fulfilling the purpose of the study. Also, by sharing our interpretations and conclusions with the respondents, we omitted the errors that may be caused misunderstandings or misinterpretations. Moreover, this action provided us the chance that our study reflects the reality thus a higher degree of internal validity has been provided.

Generality of the study has been provided by linking the findings, which are derived from the case study, by theories presented in the theoretical framework with causal relationships. However, we believe that a higher degree of generality could have been obtained if we would conduct more than one case. Furthermore, despite the fact that we contacted only two respondents, just one of them was able to give complete answers to our interview and questionnaire. Second respondent just gave us little information about the interview questions and was not able to fill the questionnaire. We believe that it is a weakness of our study and a higher degree of generality could have been obtained by the utilization of more respondents.

Reliability of this study has been provided by clear explanations of the procedures that had been used although the study and the publication the interview questions together with the explanations given to the respondents. However, we would obtain a higher level of reliability if we would have chance to apply the interview face to face or telephone rather than via e-mail. Because, we believe that the study would be more reliable if the respondents did not see the prospective questions when answering a particular question.

As the answers of the interview and the questionnaire has been read and analyzed by three people, this study is reflecting the ideas of different perspectives. Moreover utilizing different perspectives minimized the misinterpretation and misunderstanding problems. Thus, the relevance of the study has been provided.

## 7.2 Further Research

As a result of the study that we have conducted, we found out some change management models in the literature and the change management procedures that our case study company utilizes. Change management procedures of IKEA were independent of a model even if they have similarities with EWEB model presented by Rossudowska et al (2006). So, the further research can be conducted to find out either being attached to a model or generating the own change management procedures would bring success to the company.

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## Appendix 1 Interview and Questionnaire Guide for Empirical Study

E-business is a wide scope of activities operated via Internet among the partners of the businesses as; purchasing, selling, transmitting, customer service, collaboration of business partners, carrying out e-learning, provision of the inter-organizational electronic transactions and product, service or information exchange.

1. When did IKEA adopt e-business and how was it carried out (i.e. applied to the whole company or in parts),

E-business model can be defined as a description of the roles and relationships among a firm's consumers, customers, allies, and suppliers that identifies the major flows of product, information, and the major benefits to participants.

Simply put, e-business model is a company's e-business strategy or the way a company conducts its e-business. For example, how production is planned and done or how sales is organized and conducted.

The above description of business model and e-business model brings out our first question:

2. What is your e-business model?

Several factors like global competition, ever-increasing customer demands, etc prompt companies adopting e-business to change their e-business models

3. What are the factors that bring about changes in your e-business model?
4. How do you manage these changes?
5. In what area(s) of your business have you found it easy or difficult to manage changes?
6. How fast do you effect these changes to meet customer demands (How flexible your e-business model is)?
7. What are the problems you encounter when dealing with these changes?
8. How do you handle those problems?
9. In which areas do you mostly encounter problems? Technological or business?

Change can be violent causing major changes in the business or gradual, causing simple modification of certain elements in the business.

10. Have you witnessed a situation where you have to completely change your e business model?

Although change is vital, resistance to change is a common phenomenon.

11. How do you manage resistance from management, staff etc

All firms must have a distinctive competence in order to have a superior position towards their competitors.

12. What aspects about your e business model distinguish you or gives you an advantage over your competitors

Critical success factors are control measures that companies put in place in order to achieve success in their organization or in their business strategies. Those factors include employing highly skilled IT personnel to deal changes resulting from technological changes and business analyst dealing with changes in business.

13. What are the critical success factors that you have put in place in order to manage the changes resulting from technology or business?

Components of the e-business models have four main types and each type has three sub-groups. The main groups are product innovation, customer relationship, infrastructure management and financials.

Product innovation is everything about the offering of a company. Value proposition, target customer and capabilities are subgroups of this component. The value offered by the organization to a specific range of customers is the definition of the value proposition. Target customer is a group of people that the value is created for. Capabilities are needed to be able to deliver the value to the customers.

14. According to those definitions can you state the degree of importance of each subgroup of product innovation according to a five degree scale with degrees very low, low, neutral, high and very high?

Components	Very Low	Low	Neutral	High	Very High
Value proposition					
Target customer					
Capabilities					

Customer relationship is the way the company forms relationships with its customers and collects customer data. Subgroups of this component are information, feel and serve, and trust and loyalty. Information element aims to find business opportunities and to enhance satisfaction of the customers. Feel and serve is the way of organization's going to the market and reaching to the customers. Trust must exist between the partners of the business. Loyalty, results from the trust and satisfaction provided to the customer.

15. According to those definitions can you state the degree of importance of each subgroup of customer relationship?

Components	Very Low	Low	Neutral	High	Very High
Information					
Feel and					

serve					
Trust and loyalty					

Infrastructure management is the arrangement of the value system for the offer delivery and customer relationship formation. Subgroups of this class are activity configuration, partner network and resources. The value that aimed to be created is the result of the inside and outside activity and process configuration made. The partner network makes the allocation of the activity configuration elements among the organization's partners. Resources are needed for the creation of the value.

16. According to those definitions can you state the degree of importance of each subgroup of infrastructure management?

Components	Very Low	Low	Neutral	High	Very High
Activity configuration					
Partner network					
Resources					

Financials are expenditures that are used by infrastructure in order to achieve value creation or revenue generation of the value that is sold. The subgroups of financials are revenue model, cost structure and profit/lost. Revenue model is the evaluation of the ability of the company to model its business to be able to make profit. Cost structure concerns with the creation of value costs, marketing of the value costs and delivery of the value costs. . The difference between the revenue model and cost structure refers to the profit model.

17. According to those definitions can you state the degree of importance of each subgroup of financials?

Components	Very Low	Low	Neutral	High	Very High
Revenue model					
Cost structure					
Profit/Loss					

The business model portrays an organisation as a set of parts which integrate to form a whole.

18. What is your approach? Do you treat components of your business independently or do you consider the interdependence or interrelation between elements?
19. Is there any other component(s) in your e-business model different from the components that have been presented?