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EPROCUREMENT INNOVATIONS IN ORGANIZATIONS

Reasons for Implementation and Outcomes

Master Thesis within Business Administration

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Abstract

Nowadays, companies are facing several competitive pressures, which push them to seek for new and better ways to conduct their internal processes.

One of this ways is throughout processes innovations that allow the company to establish and maintain competitive advantages; one example of this new trend is the emergence of eProcurement, an electronic system aimed to automate purchasing processes in organizations, which, if it is properly implemented, will derive in processes cost reduction and efficiency improvement on those same procedures.

This study is focused on identifying the propeller factors that make companies to engage in this kind of ventures; as well as studying which are the outcomes generated inside the organizations once the electronic system has been implemented.

Purpose

The purpose of this thesis is to identify the elements that trigger automation of procurement processes in organizations; as well as describing the implications derived from automation during and after such implementation. The study was conducted through interviews with managers and final user from two Mexican companies which are currently using Oracle as their eProcurement tool.

Conclusions

The study found that depending on how well organizations prepare themselves and their staff for the upcoming change, different results may be obtained in terms of benefits and acceptability from final users.

In order to avoid potential pitfalls, firms must bear in mind that, both operational and social awareness are key factors for a successful implementation.

If a company takes into consideration their internal operational needs and staff opinions to base their decision of engaging on eProcurement, it will be more likely to obtain benefits related to cost reduction, improved efficiency and final user satisfaction.

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1 Introduction

This chapter will present and discuss the general frame of the study to be conducted in this thesis. It will introduce the importance of innovation processes within a company, focusing particularly on the ones related to automation processes on the procurement area.

1.1 Background

Companies and organizations participating in the current market need to be aware of several factors that influence their structure and their development. The actual environmental trends as well as the customers' behaviors and preferences are raising the necessity of innovation within the organizations that interact with them.

One can say that there is a frequent need of innovation within the organizations, whether it is done in order to adapt to the market in which they participate or even to be able to survive and allow them to sustain competitive advantages that can differentiate them from their actual and potential competitors.

As mentioned in his article, Combs *et al.* (2003) identifies 3 different sources of change among which can be highlighted the following:

- Challenges coming from within the organization, as a response to an external threat, either concerted or due to an action taken by only a subset of the agents in the arrangement.
- Because of the incorporation of new agents with different capabilities/technologies.
- By changes forced by regulatory change.

Regardless the reason why the modernization process is decided to be conducted, when facing innovation, organizations can carry it out through different ways. Depending on the type of innovation that is put into practice, different consequences and implications for the company can be resulted, such as negative acceptance from final users or that the innovation does not match with the organizational culture. It is fundamental for the organization to determine, identify and evaluate possible effects previously, in a way that the resolutions made can help to conclude if the novelty process that is pretended to be implemented, will bring future benefits and positive outcomes.

Innovation can be implemented in several ways within an organization; it involves the successful implementation of a new product, service, or process, which for most activities entails their commercial success (Gordon, 2005). There are many ways of improving processes in organizations, some of them based on pure re-engineering methods and others based on the use of IT initiatives to automate time consuming activities and therefore be able to focus on the core competences of a procurement area.

In recent years, the use of information technologies has been a major trend in organizations around the world; Procurement and purchasing processes are not an exemption to this trend and nowadays is becoming more and more common to make use of these new technologies to redesign and improve the way that business is conducted.

One of these new technologies is known as e-Procurement, which is defined as the use of information technologies to facilitate business-to-business purchase transactions for materials and services (Wu et.al. 2007)

There are many benefits to be obtained from use e-procurement solutions; some of these benefits could include the following:

- IT use in buyer-supplier exchanges leads to closer cooperative relationships (Subramani, 2004)
- Allow supply management professionals to more efficiently execute traditional purchasing practices such as locating new supply sources, and soliciting and collecting bids from suppliers (Wu et.al. 2007)
- Reduce staff time and paperwork (Briggs, 2006)

1.2 Problem discussion

In this thesis, the innovative process that will be analyzed is to be the one related to the automation of processes, more specifically, procurement processes that can be done throughout a computerized or technology based way.

There are certain circumstances which encourage firms to implement electronic procurement; the authors considered important to discuss and identify such circumstances as well as the final implications derived from the implementation of this process.

In the literature, procurement is now deemed a core component of many organizations and considered to be of major strategic importance (Tassabehji & Moorhouse, 2008); therefore, significant efforts must be taken to develop purchasing capabilities and negotiation skills, all of this in order to obtain operational and economic benefits across the entire supply chain.

The strategic importance of procurement lies, on one hand, on the fact that for many organizations an effective supply chain is a key factor on the service level they provide to their customers; Procurement is now seen not only as a strategic player in the value chain, but as a major driver in the extended supply chain (Hawking, Stein, Wyld & Foster, 2004)

On the other hand, with an efficient and dynamic purchasing and procurement strategy, organizations can get lower costs from the suppliers, increase quality and improve levels of internal and external communication.

Effective procurement processes are all about integration, visibility and standardization (Spray, 2009); the automation of such processes is an effective way to achieve these goals but there are many factors that if not considered could overcome the mentioned benefits and result in the failure of the project.

Previous studies have suggested two main factors for electronic procurement success; according to Angeles & Nath (2007), these factors are:

- Supplier management
- End-user behavior and e-procurement business processes

The first factor refers to the rationalization of the supplier base and the integration with the more important suppliers; however for the purposes of this thesis, the supplier factor will not be analyzed since the primary focus will be given to the internal processes of the organization rather than the external and environmental elements.

The second success factor is behavior and electronic procurement business processes inside the organization, and is the main focus of this thesis, the reason for this is that internal elements are the only ones under full organizational control and actions can be adopted to manage these aspects.

Additional importance will be given to the internal challenges involved on the implementation process in terms of user adaptability and change management; due to the fact that final user perception about a technological solution is one of the most critical success factors for a project to be effective, and there is usually a problem to get internal end-users adjusted to the system (Bedell, 2002)

1.3 Purpose

The purpose of this thesis is to identify the elements that trigger automation of procurement processes in organizations; as well as describing the implications derived from automation during and after such implementation.

2 Theoretical Framework

In this section the relevant theories and previous studies on related topics will be presented in order to give a broad understanding of the most relevant concepts regarding electronic procurement. Basic concepts in procurement will be mentioned as well as the importance of innovation and cultural organizational related aspects.

2.1 Innovation

The concept of innovation has received much attention and contribution in the literature. Several definitions have come across in order to interpret this concept and reinforce its importance. Nohria and Gulati (1996) defined innovation to include any policy, structure, method or process, or any product or market opportunity that the manager of an innovating unit perceives to be new.

Other authors, such as Johannessen *et al.* (2001) relies its importance stating that Innovation is a critical activity that is vitally important for most firms to embrace in order to create and sustain a competitive advantage.

Innovation is at the heart of a dynamic economy. New ideas challenge the conventional wisdom and generate pressure on existing ways of thinking and doing things, causing productivity to rise. Even more importantly, new ideas create new possibilities and increase variety. It is the creation and exploitation of new opportunities which propel the economy forwards (Carlsson, 1995).

The different approaches to innovation give a wide theoretical framework not just in terms of the definition itself but also in the reason why companies engage in innovation processes.

Damanpour (1996) argues that innovations can materialize both as new products and new processes. Haiyang and Kwaku (2001) expand some more and distinguish two further levels of innovation:

1. Project level, which examines all the processes needed to conceive, design, produce and distribute a product for the market.
2. Company or strategic unit level, which looks at product innovations in terms of company competitive strategy.

Both types are necessary to apply for the firm but some authors give more importance to one or to another. Both, at the level of the firm and at the level of the economy as a whole, product innovation is of major importance. For the economy as a whole, the introduction of new products is fundamental for economic growth. Project level innovation without strategic innovation would sooner or later result in economic stagnation and in what has been called “technological unemployment.” To avoid stagnation of demand, increasing income levels need to be sustained by the offering of new products and services (Lundvall & Christensen, 2004)

Considering the importance of processes innovation; it has come to the author's attention the study of electronic procurement implementation seen as an innovative process within a firm. Taking into account the ideas of Haiyang and Kwaku (2001), automation of purchasing processes is perceived as an innovation directly related with the company competitive strategy and it generates benefits not only at an isolated departmental level but across the entire supply chain as well.

The innovation process to be analyzed in this thesis is the one known as electronic procurement, which could be considered as both, a strategy innovation and a process innovation. As a strategy we can say that electronic procurement directs in a complete new way the purchasing process by releasing buyers from non value added activities and engaging them into a strategic perspective to obtain long term benefits; on the other hand electronic procurement is essentially a process innovation since it changes the actual activities to improve and facilitate the purchasing flow.

2.2 Procurement

In the existing literature, there is a frequent confusion between the terms procurement and purchasing; for the purpose of this thesis it must be stated that purchasing refers just to the action of acquiring goods, while the concept of procurement includes more components of the supply chain such as strategic sourcing, supplier development and logistics.

Procurement process can be defined in different ways; a basic definition given by Coyle (2003) states that Procurement is the act of buying goods and services for a firm.

Another definition to this is given by Fung (1999); he defines Procurement as all the activities concerned with the acquisition of suppliers' goods and resources, in order to contribute to the administrative and strategic objectives of the organization.

The procurement process however is the successful completion of a series of activities that often cut across organizational boundaries; Procurement consists of all those activities necessary to acquire goods and services consistent with user requirements. (Coyle *et al.*, 2003)

Given the current focus on integrated logistical management, procurement has become a more critical function within both manufacturing and service industries. Procurement and supply management is important through the entire supply-chain in achieving efficient materials management and materials flow (Chapman and Hall, 1997)

The phases of the purchasing process can vary from company to company depending on their internal needs of each organization. However for the purposes of this thesis, it is presented a set of activities generally recognized by different authors, as the ones that successfully maximize the value for the organizations and the supply chain as a whole (Coyle *et al.* 2003).

Need Recognition: The purchasing process usually starts in response to a new or existing need of a user (Coyle et al. 2003)

Technical Specification: Once the need has been identified, buyers need to gather information about the specific requirements that are necessary to fulfill, this requirements must be represented by some type of measurable criteria (Coyle et al. 2003).

Supplier Search: This stage involves the identification of all the possible suppliers, at this point it is important to consider new and current sources. A good way to facilitate the process is to prescreen possible sources; Prescreening reduces the pool of possible suppliers to those who can satisfy the user's demands (Coyle et al. 2003)

Alternatives Evaluation and Supplier selection: Once that the supplier base has been reduced, it is important to gather specific information from each of the possible sources to be able to make a final selection. The criteria to select a supplier will depend on the organizational needs and standards.

Purchase: This activity involves the actual buying process of the required good or service. In this stage takes place the creation and dispatch of the purchase order to the supplier. The level of technology depends on the performing organization, usually it is carried on through emails, telephone, fax and even paper based communications.

Delivery: This activity refers to the process of receiving the goods in a warehouse or any other destination selected by the buyer. This activity creates the first input for the evaluation of the supplier.

Evaluation: The final stage is the evaluation of the supplier performance, this stage requires inputs from buyers and final users to make a trustworthy assessment of the suppliers and generate valuable information for future purchase orders. Supplier performance must be evaluated to determine whether it has truly satisfied the user's needs (Coyle et al. 2003).

In recent years, Procurement in organizations has passed from being a repetitive and unimportant activity to become into a strategic management tool.

The importance of Procurement has been growing and managers are now aware of the fact that effective procurement of goods and services contributes to gain and increase competitive advantage for an organization.

As pointed out by Spray (2009) the strategic nature of procurement has changed completely over the last few decades, but its core goals of obtaining high quality goods and services for the lowest possible total cost have changed very little.

The utilization of new techniques, strategies and technologies to achieve high performance in Procurement is becoming more and more important for the firms and this situation has accelerated the implementation of solutions to increase processes efficiency; an example of these solutions is electronic procurement.

2.3 Automation Processes

In order for a company to remain competitive and to survive on the market granting it desired market share and levels of growth, it need to be aware not just of the final product or service that its offering to the customers, but also it must give special attention to its internal processes, since they are key factors for business success and for sustaining a competitive advantage; given the importance of the company processes mentioned above, managers and engineers must bear in mind the moment in which those procedures need to be redefined or modified in order to keep them in line with the company goals and defined objectives. As stated by Harmon (2003) process design or redesign refers to a major effort that is undertaken to significantly improve an existing process or to create a new business process. Process redesign considers every aspect of a process

and often results in changes in the sequence in which the process is done, in employee jobs, and in the introduction of automation. Groover (2007) defines an automated system as one in which a process is performed by a machine without the direct participation of a human worker. Automation is implemented using a program of instructions combined with a control system that executes the instructions

Without matters of the type of business or type of industry in which it is part of, every firm pursues quality and efficiency; for this purpose, there are certain amount of fixed procedures designed and established in which the human participation is required and determinant for the successful accomplishment of the former ones. According to Cichocki *et al.* (1998), a process defines a description and ordering work activities across time and space that is designed to yield specific products or services while ensuring the organization's overall objectives. In order to reduce the potential failure of these critical procedures, companies engage in technology advances and decide to incorporate automated procedure on their daily activities and key practices.

Companies are taking advantage of new technology opportunities and are being shown as more connected to the use of these technologies within their operation and critical processes. This; combined to the fact that human involvement in key processes is trying to be reduced as maximum in order to avoid potential errors, have given enough importance to the implementation of automation processes. The classic aim of automation is to replace human manual control, planning and problem solving by automatic devices and computers (Bainbridge, 1983).

With the introduction of information technology, processes in the work place are partially or totally automated by information systems, i.e., computer programs performing tasks and enforcing rules which were previously implemented by humans (Georgakopoulos *et al.* 1995). Taking this into account, it is seen that the automation of these processes is gaining importance in nowadays firms and it is being seen as a key factor for achieving efficiency and minimizing the errors within certain workflow process.

Some authors have give importance to automation process from a cost perspective, since a company that incorporates any given automated process is avoiding the necessity of having one or more employees executing this specific task; following this reasoning, Groover (2007) argues that the use of automated equipment compensates for the labor cost disadvantage relative to international competitors. Automation reduces labor costs, decreases production cycle times, and increases product quality and consistency.

COMPONENTS OF AN AUTOMATED SYSTEM

Groover, (2007) states that an automated system consists of 3 basic elements:

1. Power to accomplish the process and operate the system
2. A program instructions to direct the process
3. A control system to actuate the instructions.

The relationship amongst these elements is illustrated on the figure 1. All systems that qualify as being automated include these three basic elements in one form or another

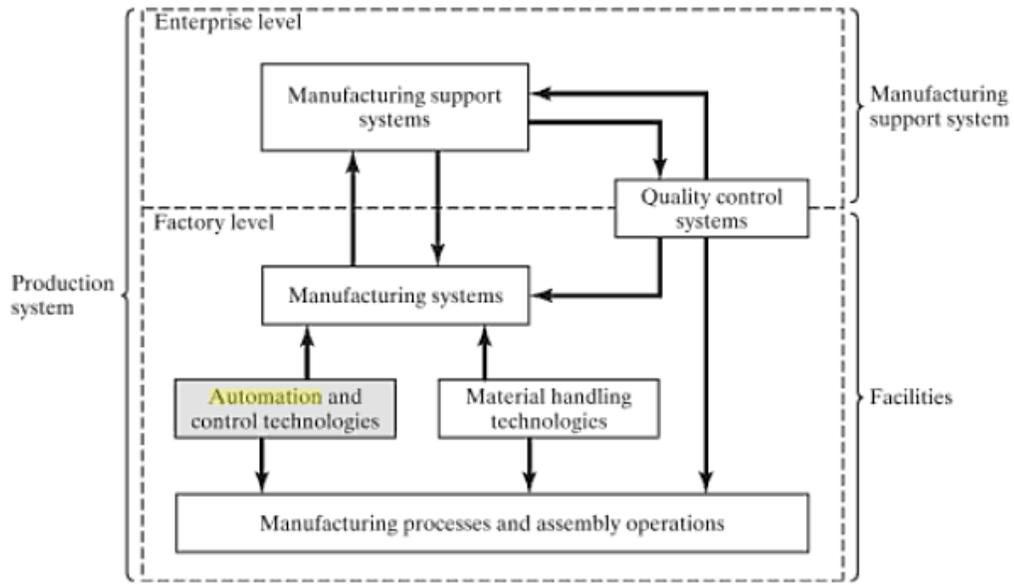


Figure 1: Automation and control technologies in the production systems Groover (2007: pp 20)

2.4 Electronic Procurement

New technologies have changed the way that business and organizational processes are conducted. Procurement processes are not an exception to this trend, and organizations from all sectors in industry started making early applications of electronic tools to achieve higher standards of performance.

To improve procurement process efficiency and reduce costs, it is important to eliminate waste and time from the purchasing related activities. One way to do this is to integrate the procurement process with the utilization of electronic based tools. The objective is to automate non value adding activities and speed up internal purchasing processes.

An example of the application of electronic tools in the procurement field is the use of EDI (Electronic Data Interchange) which has been in use for over two decades by important companies to link and support their business processes; EDI provides a collection of standard message formats and an element for business to exchange data through an electronic messaging service (Beynon-Davies, 2002)

An evolution to the use of EDI is Electronic Procurement; which is defined as the use of information technologies to facilitate business to business purchase transactions for materials and services (Wu, 2006)

The concept of electronic procurement started in the mid 90's when companies recognized that the procurement process is highly complex, requires significant expertise and is very costly (Schimi-Levi et al. 2003).

On the Beginning, the use of electronic procurement was limited to the purchase of indirect materials but nowadays with the improvement of e-procurement tools is it possible to use it also for direct materials purchase and management.

2.4.1 Benefits

A study conducted by Brandon (2002) shows the importance of procurement for a firm and the potential benefits to be achieved for the companies with the automation of procurement processes for routine expenses. Implementing a comprehensive strategic sourcing and procurement strategy can deliver significant rewards (Brandon, 2002)

Benefits of process automation explored from an IT perspective include, cost savings, disintermediation, quality improvements and strategic focus (Beynon-Davies, 2002)

The advantages of electronic procurement have been described by Coyle (2003); lower operating costs, improve procurement efficiency and reduce procurement prices are the three major aspects considered.

Lower Operation Costs by:

- Reducing paper work
- Reducing sourcing time
- Improving control over inventory and spending

Improve procurement efficiency by:

- Finding new supply sources
- Improving communications
- Improving personnel use
- Lowering cycle times

Reduce procurement prices by:

- Improving comparison shopping
- Reducing overall prices paid

Besides this, a study conducted by Weil in 2002, shows additional the expected benefits of e-procurement implementations including the following:

- Elimination of manual invoice processing--thus improving speed and accuracy,
- Supplier consolidation,
- Improved supplier intelligence (Weil, 2002)

To clarify some of the benefits of electronic procurement, the purchasing process presented early in this thesis will be used to show how electronic procurement can improve performance of procurement areas in some of the stages of the process.

Need Recognition: An electronic procurement solution at this early stage of the process can accelerate the response for urgent demands in the company by facilitating on time information when the need is produced and without any intermediaries.

Technical Specification: Electronic procurement solutions are very effective to reduce invested time at this stage through the use of tools that include the creation of online catalogs, standardized descriptions, and technical information published in the system.

Alternatives Evaluation and Supplier selection: Some of the most commonly automated tools for this purpose are RFI (Request for information), RFQ (Request for quotation) and RFP (Request for proposal). The automation of this process makes easy for the organization to manage suppliers in a more efficient and accurate way.

Purchase: Electronic procurement has proved to be of great value at this stage; the reason for this is that all the manual process is substituted by an automated solution that performs these activities in less time and with minimum buyer participation, allowing purchasing personnel to invest their time and efforts in core competences and strategic sourcing activities.

Delivery: Electronic tools are helpful to accelerate the information flow across different areas in the company giving benefits to purchasing, logistic, payment and inventories processes.

Evaluation: Electronic Procurement solutions facilitate information for supplier evaluation since all records of supplier activities are stored in databases ,when buyers retrieve information from those databases they are able to accelerate the evaluation process and make informed decisions.

2.4.2 Disadvantages

It is important to mention that electronic procurement has some disadvantages that managers must take into consideration when implementing the change in the organization. Among the disadvantages it is possible to mention information security issues, system reliability, lack of face to face contact with suppliers and the possible reluctance from company stakeholders to invest time and money to learn the new technology. (Coyle et al., 2003)

From a buyer perspective, electronic procurement implementation has been criticized by some authors; Ageshin (2001) states that buyers adopting e-procurement are becoming increasingly dependent on suppliers because of the wider adoption of JIT (Just In Time) practices, shorter ordering cycles and increased involvement of suppliers in product development.

As mentioned by Neef (2001) an important aspect to consider is the high cost of electronic procurement solutions. Therefore companies interested in this solution should make a deep analysis to define if their situation is suitable for electronic procurement.

However, with a good implementation strategy and the constant improvement of technology standards it is possible to diminish and even eliminate the mentioned problems.

Some disadvantages have been identified as well on the supplier side; among these disadvantages we can mention the following as the most important:

- Suppliers may be reluctant to adopt the idea of e-procurement because of the necessity of dealing with more than one marketplace
- High training costs associated with switching to e-procurement
- The high risk of compromising sensitive data

- Some suppliers will need to initiate a full organizational restructuring associated with technological changes related to e-procurement
- Suppliers might not like the idea of substituting mouse clicks for the human contact they are used to, (Ageshin, 2001)

Even when the supplier point of view is important for the relationship, the focus of this thesis is on the buyer side, the reason for this is that the supplier has usually no influence on the final decision of implementing electronic procurement; therefore further research is recommended to clarify all supplier side issues.

2.5 Implementation and change management

As mentioned earlier in this thesis; Implementation is a key factor for a successful electronic procurement strategy; there are two different issues that must be considered when implementing a new system, on one side it is necessary to consider the technologic aspect and on the other side the human factor. Since an information system is a socio technical system, implementation of such system involves the parallel implementation of both an information system and some form of human activity system (Beynon-Davies, 2002)

2.5.1 Technical Implementation

As stated by Beynon-Davies (2002) implementation strategy can take place in three major ways:

Direct Conversion: Using this approach means that the new system or process will directly replace the old system or process. It is important to point out that this type of implementation involves a high risk for the organization and it is not common to see it applied in reality.

Parallel Implementation: When using this approach, the two systems or processes run in parallel for a defined period of time, this is a more conservative approach and does not involve as much risk as direct conversions.

Hybrid Implementation: It is an evolutionary approach, the impact of the implementation is distributed more evenly over time; Particular components are implemented as replacements or pilots of major modules.

Technical implementation involves a number of well defined steps and activities, below it is presented a list of them to illustrate the process from a broad perspective (Beynon-Davies, 2002).

Software and Hardware acquisition: Refers to the acquisition of the packaged software and peripheral devices (in case of need); some of the most commonly used electronic procurement applications are sap and oracle but there is also the possibility to acquire customized systems designed according to each organization requirements.

Data preparation and conversion: Involves the information transfer to the system, involves activities such as creating supplier databases, electronic catalogues and pricing lists. Additionally it is important to define the information links to other departments of the organization.

Installation and testing: When all parameters have been defined and the information is loaded in the system, there is a testing period to confirm that there is no missing data.

Delivery: Going live in the system in its context of use (Beynon-Davies, 2002)

2.5.2 Social Implementation

Social implementations must be taken as carefully as technical implementations; the process must always consider the human aspect and avoid underestimating final user's perception of change.

E-procurement is a fairly complex reengineering process. It requires organizational readiness for both strategic and tactical applications. Organizational learning abilities in new technology will determine the extent and pace of the e-procurement adoption process. (Wu, 2007)

Preparing staff for the upcoming company changes takes importance within an organization which is facing innovation. Technological innovation, for example, cannot be developed and successfully implemented without the participation of other company resources such as its own personnel, according to Claver *et al.* (1998) for technological innovation to be considered a competitive resource, it should not only consist in having a large Research and Development department with regards to infrastructure (tangible resources), but also in the staff being trained and being aware that competitive advantage lies precisely in technological innovation; and also in this being shared by all the members of the firm as a result of a strong corporate culture (intangible resources). Therefore, these are two concepts that should be considered together at the time of determining the potential of any given innovation as a source for competitive advantage; it is not just a matter of developing the innovation, but also having the appropriate organizational culture and its staff trained and aware of their role towards the upcoming innovative process.

When creating an organizational environment which gives enough importance to innovation, it is important for the management to make their personnel part of this change, the staff should be considered as an important asset that can contribute to innovative ideas and that same group of people should feel motivated towards innovation. This can be conceived of as an absence of rigid rules and regulations, or low formalization, which allows for more individual initiative by subordinates and fewer negative responses by supervisors (Hage & Dewar, 1973). Therefore, the more the non-formal the firm structure is, the more adequate environment for innovation the company will have and make use of it.

The introduction of a new process within a company must be conducted simultaneously with the interaction and acceptance of the agents that will participate on it; the company staff must be part of this changing process and is a key participant on its successful implementation. As stated by Claver *et al.* (1996) due to the introduction of new technologies, there might be conflict and refusal by the workers, when they are faced with changes in productive and/or administrative processes, in those cases where the workers have not perfectly accepted this orientation; for that reason staff participation generates importance, as it is perceived as an active element in the innovation implementation process.

According to Stanleigh (2008), there are many things that managers do, that create a crisis in the management of change. The result of these actions is generally the opposite of what it is expected. Some of the actions that should be avoided when leading a change are listed below:

- Not engaging all employees;
- Managing change only at the executive level;
- Telling people they have to change;
- Sending staff on a change program and expecting change to occur. (Stanleigh, 2008)

To manage the social implementation, it is necessary to follow a number of minimum stages in order to decrease negative impacts and facilitate change adoption from end user's. According to Beynon-Davies (2002) this stages include the following;

User and group formation: Forming appropriate user groups for using the system. This will facilitate system adoption and diminish rejection from users.

User and operator training: Training users in work practices and procedures for use of the system. It is important to create sources of information and document all the process in an institutionalized format.

User acceptance: Acceptance of the system by user groups, this is achieved when users are familiar with the new procedures and understand the reasons of the change, for this part is required close managerial involvement

As stated earlier in this thesis, the profound impact of implementation must be carefully taken into consideration by top management in order to avoid failures, unnecessary rework and delays. Both technical and social aspects of implementation play a fundamental role for the success electronic procurement initiatives and information systems in general.

A general lesson to be learned from the more successful cases is that the change process goes through a series of phases that, in total, usually require a considerable length of time. Skipping steps creates only the illusion of speed and never produces satisfactory results. Making critical mistakes in any of the phases can have a devastating impact, slowing momentum and negating hard-won gains (Stanleigh, 2008).

2.6 Summary of Theoretical Framework

According to as Johannessen et al. (2001) the importance of innovation relies on the fact that it is a critical activity that is vitally important for most firms to embrace in order to create and sustain a competitive advantage. After this research, his statement will be put into the practical case of the two companies analyzed, meaning that conclusions will be made when defining which competitive advantages were achieved by the companies after implementing their innovation in the procurement area.

Innovation is what Damanpour (1996), would define as a new process within the organization; however the empirical findings will help to clarify if the implementation of electronic procurement as an organizational innovation could be considered either within the rank of project level, or as a company or strategic unit level based on Haiyang and

Kwaku (2001) statements. The data collected after conducting the interviews will help to conclude if the innovative process was executed by the firm just as a new procedure or as a company competitive strategy.

One of the main purposes of this study is to identify which elements trigger automation in the procurement area. Johannessen et al. (2001) argues about the causes of change, such as exponential advancements in technology, frequent shifts in the nature of customer demand, and increased global competition. After collecting the empirical information, enough data will be used as a tool to, first, explain the reason why this type of change has taken place in the firms being studied and, second, to identify which of the causes mentioned by Johannessen et al. (2001) were the ones that triggered the implementation of electronic procurement on the organizations that will be contacted.

Organizational culture plays an important role when implementing an innovative process within a firm. This thesis will dig on the factors of a Corporate Culture that makes the innovative implementation process to be conducted in a smoother and more effective way; Claver et al. (1998) mentions that for technological innovation to be considered a competitive resource, it should not only consist in having tangible resources, but also in the staff being trained and being aware that competitive advantage lies precisely in technological innovation; and also in this being shared by all the members of the firm as a result of a strong corporate culture (intangible resources). Based on this, the results of this study will help in determining which are the most suitable organizational culture scenarios that allows electronic procurement to be implemented as an innovative process that could bring competitive advantages to the firm.

Factors such as the absence of rigid rules and regulations, or low formalization, allows for more individual initiative by subordinates and fewer negative responses by supervisors (Hage & Dewar, 1973), meaning that this characteristics can lead to a better implementation of the innovation within the company. Once the empirical data has been gathered, conclusions will be elaborated about which of these key factors were determinant for the successful execution of the innovative project in the companies to be studied.

Coyle (2003) defines three major types of expected benefits which companies can achieve after implementing electronic procurement; these types are low operation costs, improved procurement efficiency and price reductions. Based on these potential benefits, the empirical findings from both companies will be analyzed to establish under which circumstances companies actually obtain such outcomes. On the other hand, Coyle (2003) mentions that electronic procurement has some disadvantages to be taken into consideration before the implementation process is conducted; the results of this research will give an idea of how companies prevent themselves from negative effects to obtain full benefits from electronic procurement.

The implementation process and the organizational ability to manage change, are critical success factors that according to Beynon-Davies (2002), must be taken into deep consideration to avoid project failure; with the information provided by the companies under study in this thesis, it will be possible to define the ideal starting conditions and general implementation paths that a company must follow to be successful when embracing electronic procurement. Aspects related to social and technical implementation will be considered to analyze the difference between the strategies used by each of the

studied companies, and how these strategies influenced the final output of the implementation process in the two cases.

The general purchasing process consists of a number of well defined activities such as need recognition, quotation processes and purchase order creation (Coyle, 2003); among these activities some of them are more likely to be translated to an electronic procurement scheme than others; therefore one of the main results of the study of the two companies in this thesis, will be to clarify in which of the purchasing activities, electronic procurement is a real and applicable long term solution rather than just a temporary way to solve sporadic limitations.

3 Method

The objective of this section is to explain how the study was conducted and to give support for its trustworthiness. The difference between qualitative and quantitative research will be discussed as well as the reasons for selecting one method over the other. Special attention will be given to the credibility and trustworthiness of the study.

3.1 Research Strategy

The research strategy selected for this thesis was framed under the following perspectives:

- Inductive approach: In which data will be collected to develop theory as a result of the data analysis (Saunders et al. 2007)

This research approach is linked to interpretivism, for this particular study, conclusions will be drawn from gathered data from the companies and placed in a meaningful context. Following Easterby-Smith et al. (2002), researchers in this tradition are more likely to work with qualitative data in order to establish different views of phenomena. This supports the data gathering process selected for this thesis.

- Descriptive Study: The object of descriptive research is to portray an accurate profile of persons, events or situations (Robson, 2002), and can be considered as an extension of both explanatory and exploratory research purposes.

The study conducted in this thesis is considered as descriptive since the main purpose is to create a general framework for optimal implementation of electronic procurement, based on the observation and description of actual events within organizational boundaries.

- Multiple Case Study: As stated by Robson (2002), a case study is a strategy for doing research which involves an empirical investigation of particular contemporary phenomenon within its real context. A multiple case study focuses upon the need to establish whether the finding of the first case occur in other case and, as a consequence, the need to generalize from these findings (Saunders et al. 2007)

The research strategy chosen is aligned with the inductive approach defined previously since it focuses on answering the question “why” more than the “what” or the “how”; besides, this approach permit the researchers to elaborate general conclusions taking as a base the analysis of the gathered information from the particular cases being studied.

3.2 Research technique

Qualitative research is an umbrella term covering several different research traditions which have in common a reliance on the collection of qualitative data. In general terms qualitative data is defined as non numerical data, commonly presented verbally in the form of word (Robson, 2007).

From a wider perspective it can be said that qualitative research is used to explore meaning and patterns, inconsistencies and conflicts in people's thoughts and behaviors (Jaye, 2002) it concentrates on words and observations to express reality and attempts to describe people in natural situations (Amaratunga *et al.*, 2002)

There is criticism against qualitative methods since it is hard to provide the necessary credibility for the results; the problem arises because qualitative is an observation based method where different observers may record different results and observations (Seale & Silverman, 1996).

It is true that individual quantitative and qualitative techniques and procedures do not exist in isolation (Saunders, Lewis & Thornhill, 2007); however for certain types of research, qualitative methods gain relevance since they have proven to be more efficient to develop an understanding of the meaning of a set of actions through contact with how actors experience a certain situation in everyday social contexts (Johnson, Buehring, Cassell & Simon, 2007).

The role and relevance of qualitative research is associated with its perceived success in accessing informal organizational back stages and, significantly, investigating the cultural and symbolic aspects of organizational life. Qualitative management research is thus positioned as relatively superior to quantitative approaches since it enables access to, and fidelity to, key processes pivotal to understanding organizational members' behavior (Johnson *et al.*, 2007)

In scientific research qualitative research is often used to study phenomena about which relatively little is known, this is of high importance in the context of this thesis since electronic procurement is not widely used and the sources of information are limited.

Considering the previously mentioned arguments, it is clear that for the particular aspects which will be under research in this thesis, the most suitable methodology would be a qualitative approach. The reason for using this methodology lies on the fact that electronic procurement is not widely used and there are not enough sources to gather quantitative data on the field with the amount of time available.

3.3 Data gathering process

Data gathering process is important for any thesis work because it provides the necessary information to support and answer the research questions expressed in the formulation of the problem. Therefore as mentioned by Saunders *et al* (2007), it is fundamental to evaluate all possible data collection methods and to choose those most appropriate to the research question(s) and objectives.

Taking into consideration the type of required data and the available information in the market, it was decided to conduct a study of two Mexican owned companies that implemented electronic procurement as a regular business process.

One of the reasons to select these two companies is that both decided to use the same technologic supplier for the implementation of electronic procurement in their purchasing areas; in this case the electronic tool used, is provided by Oracle and is one of the modules of a full enterprise resource planning software.

Another important reason for selecting the companies is that both have been working on the implementation process for long periods, and it is possible now to identify and

summarize the challenges they had to face and the obtained benefits from a better and broader perspective.

Finally the decision was taken due to the fact that an excellent relationship with a local firm is absolutely vital for the success of the research process; in this particular case the contacts in both companies are willing to share their experiences and support the communication with other members of the company from whom it is important to gather information.

The first of the selected companies, Bimbo Group is a major manufacturer of food products, with their main focus on baking; it has operations in United States, Latin America and China; nowadays is considered as the second largest bakery company in the world. Bimbo Group has successfully implemented electronic procurement in their operations in Mexico and is currently planning to expand the project to their Latin American and United States subsidiaries.

The second company, Waldo's Dollar Mart, is the biggest discount retailer in Mexico and commercializes a variety of products that include food, cleaning supplies and low price electronic devices. Waldo's also implemented electronic procurement in their process but the benefits of the change did not fully meet the initial expectations of the project.

The principal contact on Bimbo Group is the manager in charge of the purchasing of indirect materials who was part of the implementation team and participated from the beginning of the process in different areas of the company. Respecting to the principal contact in Waldo's is the Category Manager in charge of the negotiation and purchasing of goods from suppliers in different Asian countries, these products are the most important for the company since their profit margin is the highest in the company.

The study will focus on the similarities and differences between these two companies and the factors that made one of the initiatives more successful than the other. Cultural and operational aspects will be analyzed to determine both positive and negative elements affecting electronic procurement implementations.

3.4 Interviews

Data gathering process will be conducted through telephone interviews. According to Kahn and Cannell (1957), an interview is a purpose discussion between two or more people. One of the reasons why interview will be conducted as a source of primary data it's because by carrying it out, access to trustworthy and reliable data will be granted. More specifically, the types of interviews executed will be more as qualitative interviews; this due to the specific case analysis being studied and considering the fact that it is necessary for us to understand the reasons for the decisions that our research participants have taken (Saunders et al, 2007).

There are different authors who categorize interviews according to it level of formality and structure; Healey and Rawlinson (1994) distinguish interviews between:

- Standardized interviews
- Non-standardized interviews

On this research the Non-standardized interviews will be performed, Saunders et al (2007) defines this type as semi-structured interviews. The main characteristic of this type is that it combines the formality and pre-established fixed structure of the standardized interviews, allowing space for additional questions or comments added by the respondent that could add valuable information in helping solving the inquiries stated on the research questions. These resultant data are likely to be used not only to reveal and understand the “what” and the “how” but also to place more emphasis on exploring the “why” (Saunders et al. 2007), fact that goes in line with the purpose of this research itself.

Validity is another factor why qualitative interviews were chosen to be the one conducted on this research; by executing non-standardized interviews, the opportunity window of having access to the interviewee experience and knowledge is opened and available for the researcher. As stated by Sykes (1991) the main reason for the potential superiority of qualitative approaches for obtaining information is that the flexible and responsive interaction which is possible between interviewer and respondent(s) allows meanings to be probed, topics to be covered from a variety of angles and questions made clear to respondents.

Additionally, in terms of reliability and in response to some critiques that could be made to the data quality gathered after conducting a semi-structured interview, it can be stated that the findings derived from using non-standardized research methods are not necessarily intended to be repeatable since they reflect reality at the time they were collected, in a situation which may be subject to change (Marshall and Rossman, 1999). Put in other words, the particularity, dynamism and complexity of the case under study makes it unique and appropriate for it to be studied conducting qualitative interviews and the value from this data collection method relies on the flexible approach that will be used for exploring such mentioned particular matter.

3.4.1 Interviews preparation

For the successful gathering of empirical data, the preparation of the interviews is an important element which provides credibility and trustworthiness.

According to Saunders et al (2007), credibility may be promoted through the supply of relevant information to participants before the interview. With this on mind, the authors decided to send in advance the questions to the participants and a brief explanation of the purpose of the thesis. By doing this, interviewees had the possibility to prepare themselves well in advance and gather meaningful information for the interview process.

As it has been mentioned before, non-standardized interviews will be conducted with the purpose of giving space to additional interaction between the interviewer and the respondent; thus, making a connection and establishing good rapport between both parties it's a crucial factor when determining the value of the information gathered.

Following this idea, the authors decided to record the interviews rather than taking notes of the responses and therefore, allowing the interviewer to give attention to the additional interaction when conducting the interview. As stated by Darlington & Scott (2002), even if it were possible to take notes at the speed that the interview progressed, this would be very distracting for the interviewee and also make it virtually impossible for the interviewer to attend to the crucial relational aspects of the interview.

Another important aspect that will be considered when showing the results of the empirical findings, will be the one related to the translation of the interviews.

The presuppositions that all cultural elements can be carried across unchanged in the translation process and that the translator can remain “invisible” are in need of rethinking if international or cross-cultural research projects are really seeking to extend existing knowledge to a global context, as is increasingly the case (Xian, 2008). However, for the case of the interviews conducted on this study, the respondents were interviewed in Spanish, their native language, therefore there was no limitation in terms of the precision of the questions asked and the clarity of the message they were trying to deliver.

Most authors have shown their concern about language translation based on the fact that any cross-cultural difference can affect the proper delivery of the intended message, however, this assumption is related mostly to social research in which cultural differences are evident and influence the research results. The use given to electronic procurement within organizations is not directly influenced by cultural aspects depending on each country. On the opposite, this concept is managed by organizations under similar terms and bases on an international context. This is the reason why there was no major limitation when translating the interviewees’ responses and the intended message included on their answers was not altered; by this means, the analysis and conclusions drawn remained reliable and useful for this study purpose.

3.4.2 Responses Comprehension

Once the interview process is completed, it is important to confirm that the received information is reliable and clearly represents the reality of the organization.

One way to test the understanding of the information gathered during the interview, is to summarize the explanations received, and allow the interviewee to evaluate the adequacy of the interpretation and also correct when necessary (Healy and Rawlinson cited in Saunders et al. 2007)

When the information of the interviews was collected; transcriptions and summaries of the responses were sent to the interviewees to give them the possibility to read through the documents, highlight important aspects and correct possible misunderstandings. This process helped to ensure the correct interpretation of the data and provided a solid base to confidently start the analyzing process.

3.4.3 Telephone Interviews

Telephone interviewing allows you to make contact with participants with whom it would be impractical to conduct an interview on a face to face basis, because of the distance, prohibitive costs involved and time required (Saunders et al. 2007)

Two main reasons were taken into consideration when deciding which interviewing method to use. The first reason was the physical location of the respondents, in this case both companies are located in Mexico City; and since the authors were located in Sweden at the time this thesis was written, it was virtually impossible to conduct face to face interviews, leaving as the most suitable choice the use of telephone interviews.

The second reason was the time required to conduct the interviews, since most of the respondents would not have enough time to answer all the questions in a single meeting, therefore they required more than one call to complete the interview at different times.

3.5 Sampling Methods

During the data gathering process, the selection of respondents and sources on information is a crucial aspect to achieve reliable and trustworthy results.

Due to the nature of the research it was decided to use a purposeful sampling approach, where the researcher considers the aim of the research and selects samples accordingly (cited in Koerber & McMichael, 2008).

Purposeful sampling enables you to use your judgments to select cases that will best enable you to answer your research questions and to meet objectives (Saunders et al., 2007)

From a wider perspective, purposeful sampling means that the researcher is looking for participants who possess certain traits or qualities, the most important guiding principle is maximum variation; that means that researchers should seek to include people who represent the widest variety of perspectives possible within the range specified by their purpose (Koerber & McMichael, 2008).

One of the main reasons to use purposeful sampling was that this type of sampling is used when working with very small samples (Saunders et al., 2007); argument that fits adequately with the characteristics of this study.

As stated on the purpose section, the aim of this thesis is to identify what triggers electronic procurement initiatives and the possible benefits and outcomes to obtain after the implementation process has been finished.

Taken the purpose as a base for the purposeful sample selection, it was decided to interview personnel with experience on the implementation process of electronic procurement in the organization. For the first part of the research, where motivators for implementing electronic procurement will be analyzed, it was decided to interview personnel working only at managerial levels of the organization; the reason for this is that at lower levels there is very little or no involvement in this type of decisions, and the information provided by these persons may not be reliable.

For the second part of the research, where the questions to be answered involve operational aspects, benefits and outcomes of the implementation, it was decided to interview both managerial and operative personal from the organization in order to get a broader perspective of the acceptance and final perception of the system.

Bimbo Group

In the case of Bimbo Group, the purchasing department is divided in four major areas depending on the goods they purchase for the company; these areas are the following:

- Indirect Materials
- Spare Parts
- Raw Materials
- Services

Electronic procurement project was not approved for the four areas, however it was decided to interview the manager of each one of the areas to understand the motivators or barriers taken into consideration to approve or reject the project in each one of them.

For the second part of the research, the interviews consider the same managers of the categories plus a key user of each one of the areas, in most of the cases key users are senior buyers in charge of generating purchase orders in the system and creating catalogues for internal use. These senior buyers are the major users since they administrate and update the information in the database; therefore they are the ones with more knowledge and inside perspective of the process. By interviewing both managers and final users it is expected to get a broad perspective of the system across the purchasing department.

Waldo's

Waldo's purchasing area is organized in categories which depend on the type of goods they purchase, these categories are listed as follows:

- Non eatable (Cleaning Supplies)
- Candy and Snacks
- Beverages
- Basic eatables
- Housewares
- Tools and electronic
- Direct Store Delivery
- Decoration

It was decided to interview also four managers from different categories, selecting for this process the four categories with higher expense budget in the company and higher number of transactions. These categories are Basic eatables, Candy and Snacks, Decoration and Housewares. By selecting these categories it is expected to get a wide picture of the use of the system.

For the second part of the research, it was used the same process as in Bimbo, where the logic was to select both managers and key users from the categories to get a broad perspective of the process at different hierarchical levels. Key users in Waldo's case are buyers and assistant buyers that create and send purchase orders to the suppliers, the difference with Bimbo's case is that the database is administrated and updated by a third party from another area according to the requests of the purchasing area.

3.6 Data Interpretation

The process of data interpretation for a qualitative research is not an easy task since there is no standard way to quantify the responses or the gathered information in a meaningful context. Therefore it is important to organize and arrange all the received information to be able to categorize it and get a better understanding of it.

The first step will be to prepare information for analysis because the interviewing process will not provide standardized data, therefore it is important to categorize and summarize records in order to discard non valuable information that is not useful to solve the inquiries stated on the research questions.

For the interpretation process, it is going to be used a descriptive framework, which consists of making use of the same theoretical framework that was used to define the research questions, and apply it to conduct the data analysis after the information has been gathered.

Following Saunders et al. (2007), statement, using descriptive framework approach will link the research into the existing body of knowledge in the subject area, helping to get started and providing with an initial analytical framework. The key issue with this approach is that theory already created will be used as a primary source to support and explain the empirical findings, instead of developing it from the collected data.

4 Empirical Findings

This chapter presents the results of the data collecting process, the information is shown in two steps, the first one focuses on the initial scenario of the companies before implementing electronic procurement while the responses collected on the second part, describe the implementation process and the final results of the project for each of the companies.

As previously mentioned, the interviewing process was conducted in two different stages. On the first part, managers of both companies were asked questions about three different dimensions considered at the time the decision of implementing electronic procurement was taken; these dimensions are listed as follows:

- 1) The importance of innovation processes as a trigger for electronic procurement
- 2) Operational aspects of the purchasing process
- 3) Cultural and organizational elements

For the second part the questions tried to obtain enough evidence of how the implementation process was conducted, as well as the benefits and the perception of both managers and final users of the system.

The responses of the companies are presented below in a separate way, starting with the answers of Bimbo interviewees.

Relevant responses from the interviewees of both companies will be summarized and quoted to get a better understanding of the internal environment of both organizations.

In order to simplify the presentation of the collected information and also with the purpose of keeping the respondents confidentiality, the interviewees' identification will be presented as is shown in Figure 2:

COMPANY	POSITION	SHORTNAME
BIMBO	Raw Materials Department Manager	Manager A
BIMBO	Indirect Supplies Department Manager	Manager B
BIMBO	Spare Parts Department Manager	Manager C
BIMBO	Service Department Manager	Manager D
WALDO'S	Basic Eatables Department Manager	Manager E
WALDO'S	Snack & Candies Department Manager	Manager F
WALDO'S	Decoration Department Manager	Manager G
WALDO'S	Housewares Department Manager	Manager H
BIMBO	Spare Parts Department Key User	Key User A
BIMBO	Indirect Supplies Department Key User	Key User B
WALDO'S	Basic Eatables Department Key User	Key User C
WALDO'S	Snack & Candies Department Key User	Key User D
WALDO'S	Decoration Department Key User	Key User E
WALDO'S	Housewares Department Key User	Key User F

Figure 2: Short names given to interview's respondents.

4.1 Bimbo Interviews Phase I

The strategy of Bimbo Group has always been to compete in the market using best business practices to become a leader in their segment. The first question of the interview was in line with this and the managers responded in a very similar way.

When questioned about the importance of innovative processes for the strategy in their organization, managers from all four areas agreed on the idea that innovation is a primary driver on their daily activities; an example of this, is the answer from the indirect supplies area manager, who answered as follows: *“Personally, I consider that innovation must be promoted across the organization in a way that we can constantly develop our business processes, there is always a better way to do things”*(Manager B, telephone communication, 2009-04-29)

Considering the responses from the managers, it is clear that innovation is important for Bimbo Group; however, it is also clear that innovations are carefully analyzed before actual implementation. As mentioned by the manager of the Services Area: *“I support the idea that constant innovation is important for the company, but we need to be careful when implementing new processes, all variables must be considered, in order to be able to ensure that the proposed innovation is appropriate and applicable”*(Manager D, telephone communication, 2009-04-29)

For the second question, managers answered also in a similar way but with slight differences from area to area. The question was about which one they considered as the most important element on the decision of implementing electronic procurement.

On one side, the indirect materials manager explained that for them the most important factor was cost reduction in their process, since the articles purchased by that area are not usually critical, and the price is one of their key performance indicators. This was similar to the answer given by the raw materials manager, who explained the following: *“process efficiency and cost reduction are at the same level of importance since raw materials are the base of the operations of the company and because of that, efficient supply of materials at a low price is always on our mind as buyers when conducting a purchase”*. (Manager A, telephone communication, 2009-04-29)

For the manager of the spare parts area, the most important aspect was process efficiency, but he also highlighted the fact that even when reducing cost is relevant, the prices of some of the supplies, tend to be high due to the level of required specialization and small number of available suppliers.

Finally, the services manager answered that their main concern in the area was cost reduction, however he also mentioned that due to the constant changes in the required type of services, it is crucial to have an up to date information system to respond to the requests from their internal clients on time.

The third question was only answered by two of the managers; since this question was about the pitfalls in the purchasing process faced before electronic procurement and two of the areas decided to not implement electronic procurement; therefore, not all areas experienced the change on the process.

The manager of the indirect supplies area; mentioned that the main negative factor before electronic procurement was the slow information flow and poor visibility of the purchasing process across the company.

The manager of the spare parts area pointed out, that for his process, a very usual problem was also related to slow information flow, he made an example to clarify the idea: *“In our usual activities we faced problems with the information flow across different stages of the process, an example of this was the required approval for purchase orders, which is a step to be able to create a purchase order an assign budget for it. Before electronic procurement, this process caused delays on the deliveries, affecting and even stopping production lines in the plants”.* (Manager C, telephone communication, 2009-04-30)

The fourth question was related to the importance of the different activities in the purchasing process; the purpose of the question was to understand from a managerial point of view, which one of the stages is considered of critical importance.

The manager of the services area said that all purchasing stages are considered important; he was not able to make a difference, and limited his answer to say that he considered the purchasing process as a unit that cannot be separated on importance levels.

The managers of indirect supplies and spare parts, provided similar answers on their questions, both managers agreed on the idea that supplier selection and quotation processes are the core of the purchasing processes. Additionally the indirect supplies manager explained that for his area, the purchase order creation is only relevant in terms of the time consumed on the process, but is not regarded as an adding value activity.

Raw Materials manager stated that, due to the necessary quality standards, supplier selection is the most important part of the process. Finally, a general perception of the managers is that the invoicing process is not within their departments' scope.

The objective of the fifth question was to understand how the different areas decided to automate their processes, and additionally which was the criteria considered when taking the decision of not automating certain activities.

The raw materials manager explained that for the particular process and the agreements they have with some suppliers, automation was not an option; he commented: *“For the first stages of supplier selection and quotation, we prefer the traditional process; electronic means are sometimes perceived by internal users as aggressive, because it creates a tense environment founded on the base that automation leads to personal reduction on the long run”* (Manager A, telephone communication, 2009-04-30)

For the purchase order creation he admitted that benefits could be obtained but at the initial stage of the project, he decided not to participate and wait to see how the system worked in others areas, the manager finished the question stating the following: *“My department can still be productive with manual processes, as of now I don't think that it is worth to take the risk of engaging in automation due to the reason explained before”.* (Manager A, telephone communication, 2009-04-30)

According to the indirect supplies manager, the purchase order creation is the most feasible process to be automated, he mentioned that: *“Purchase order creation is a repetitive activity that takes up to 60% of our time and does not require analysis, the information is easy to standardize; by eliminating the manual procedure, buyers have more time to work on important issues such as seeking for new suppliers and better prices”*. (Manager B, telephone communication, 2009-04-29)

The spare parts area manager answered similarly, he also stated that purchase order creation process was the one he identified as the easiest to automate; his explanation was based on the argument that this procurement stage just requires the creation of a standardized and frequently updated database; which allows to execute every purchase under similar parameters that will save time and effort for the user.

The services area manager explained that for their particular case, it was not possible to standardize the information to automate the purchasing process due to the fact that each service is different and requires human intervention in all stages.

When the authors asked about the considerations taken before the implementation regarding corporate culture aspects, the raw materials area manager expanded his answer from the fifth question adding that they considered cultural aspects on the area, and after evaluating them, was when he decided not to implement it because of the resistance he perceived on his staff members.

The services area manager stated that he presented the project to his team, and the decision taken in consensus was not to implement it due to the fact that the operation of the area was not easy to standardize. *“During the meetings that I had with my team, I received feedback from some of the members clarifying the fact that the specification of each of the service purchasing orders is unique and requires human participation, therefore engaging in automation is pointless and even counterproductive”* (Manager D, telephone communication, 2009-05-01)

During the interviewing process, it came to the authors attention that both managers, the one from indirect supplies and the one from spare parts decided to promote together the project implementation in both departments, therefore the findings gotten from their answers are similar in most of the cases, this was noticed during a conversation apart from the previously defined question of the interview.

On this regard the indirect supplies manager explained the following: *“I wanted to mention that we were not isolated from the organization in terms of preparing people and promoting the project implementation; I worked together with the spare parts manager during the implementation in order to obtain feedback from both teams and to gain acceptance from inside the organization”* (Manager B, telephone communication, 2009-04-29)

Finally, the managers from the two implementing areas decided to outsource a team of consultants experienced in electronic procurement; this, first, with the purpose of providing support to the final users before, during and after the implementation and operation; and secondly with the objective of granting the successful development and execution of the project.

4.2 Waldo's interviews Phase I

Waldo's is a retail company participating in a much competed industry; due to this, it faces continuous pressure to develop and sustain business strategies that will allow the firm to stay in line with the requirements imposed by their competitors in terms of technological development, business processes and cost reduction strategies.

When discussing about the importance of innovation for the organization, the shared perception was that innovation is an important element on their competitive strategy, based on the fact that the market leaders are constantly defining new standards which are seen by the company as benchmarks to follow. In other words, as their competitors are constantly investing resources on innovative strategies, Waldo's managers perceive this as a direct pressure to improve their own processes and avoid staying behind the industry leaders.

In regards to this point, the Decorations area manager mentioned: *"We know how important innovation is, however our priority for investing on this type of projects it's based on a resource optimization focus; on the extent in which our competitors are allocating resources to this kind of projects with confirmed successful results, our organization will decide to engage in such ventures"*. (Manager G, telephone communication, 2009-04-30)

When asked about which categories were considered as the most important when it comes to the decision of implementing electronic procurement, managers responded that more than one category should be the reason for implementing electronic procurement. Manager D said: *"I consider that our justification for engaging on this automation process has a double face reasoning; on the first, it is a fact that we are a small company when compared to our main competitors, therefore, we know that if we don't follow the industry trends we take the risk of staying behind losing considerable market share. Furthermore, another of our primary organizational strategies is focused on optimizing resources, and since one of the main benefits of this particular innovative procedure is cost reduction, we consider that we can transfer those benefits to our final customers. This is the reason why we decided to implement it"*. (Manager G, telephone communication, 2009-04-30)

Two main problems were identified when managers were questioned about which was the purchasing process stage in which most of the problems were evidenced. The first one was related to the manual purchase order creation in which human mistakes were the cause of different problems and it generated repetition of work by the employees. On this matter, Manager H mentioned: *"Previously, when creating purchase orders manually, we experienced problems because the employees had to type information about prices and item descriptions; therefore the orders were submitted with invalid information and were returned, delaying the whole purchasing process"*. (Manager H, telephone communication, 2009-04-30)

The second stage that presented relevant problems was the one related to budget approval for purchase orders. The interviewed managers explained that before submitting the purchase order to the suppliers, a manual approval by the budget administrator was required; the problem was that since this authorization was done manually, it took too long to complete the purchasing process; which generated delays in the following stag-

es. With the purpose of clarifying this aspect, Manager F illustrated the idea with this example: *“We could have completed the creation of a purchase order in a couple of minutes, but waiting for the budget approval could take more than we expected. Sometimes our orders stayed on the budget administrator desk for several days”*. (Manager F, telephone communication, 2009-05-01)

To the question of which of the purchasing stages they considered as critical for granting the optimal performance of the procurement process; the general response was that the most important phase during their procurement process was the quotation stage. Their reason was mainly based on the fact that Waldo’s market positioning strategy is to offer the lower prices on each of their product lines, factor that is influenced directly by the prices offered by their suppliers. Put in other words, the price offered to the final customer is affected by the price bargained and agreed with each of the offered products supplier.

On This matter, manager H commented the following: *“Due to the fact that none of the prices of our products should be over 1US dollar, it turns as a priority the fact of agreeing a competitive product when bargaining with our suppliers. One of our main departmental objectives is to increase the company profit, by this means, the quotation process is perceived as a critical aspect when aiming to achieve this objective and also when looking for having and reporting optimal performance indicators within our department”*. (Manager H, telephone communication, 2009-05-01)

Regarding the feasibility of automation of purchasing process, managers E & G concurred on the opinion that, between the purchasing flow processes, the most feasible to be automated is the purchase order approval and creation one. One of the managers mentioned: *“when manually executed, purchase order creation process faces two problems: First, there is an implicit risk of executing it in the wrong way due to the continual human intervention. And secondly, the process execution itself its extremely slow and it affects the whole department efficiency. Therefore I consider that the purchasing process that should be considered as a priority when deciding about implementing electronic procurement is the one already mentioned, purchasing orders creation and approval”*. (Manager G, telephone communication, 2009-04-30)

A different opinion was given by manager F. He stated that, from his point of view, the process that was most likely to be automated was the purchase order sending one, due to the fact that it is a simple process and similar for each of the orders sent to each of the suppliers. *“Purchase order sending process is time consuming and doesn’t require any major professional skills for it to be executed. This is the process to be automated before than any other”*. (Manager F, telephone communication, 2009-05-01)

In regards to the considerations given to the corporate culture aspects, managers mentioned that due to the fact that e-procurement implementation was instructed by the company’s upper management, the staff was encouraged about the project focusing on the potential benefits to be obtained after the implementation. Manager E described this event on the following words: *“Before the project implementation, an internal campaign was designed with the purpose of promoting the e-procurement benefits between the staff members, and be able to gain their acceptance and understanding. To be hon-*

est, I consider that this decision was more imposed than consulted and concerted". (Manager E, telephone communication, 2009-04-30)

4.3 Bimbo's Interviews phase 2

The questions contained on this second phase of the interview are focused on understanding how the implementation process was performed, and to identify the either positive or negative implications after the project execution.

On the first question, interviewees were asked to describe briefly their procurement processes before and after the electronic procedure implementation. These were the findings:

Before electronic procurement

- User sends a request for materials to the purchasing department
- Buyer search in the market for possible suppliers (only for new products)
- Request for Quotation
- Purchase order creation (manual)
- Send purchase order to the supplier (manual)
- Product receipt
- Inform receipt to the payment department
- Close purchase order
- File storage for future references

After electronic procurement

Quotation processes and supplier selection are still performed in the same way as performed before electronic procurement. Currently electronic auctions and online RFQ are being analyzed for future implementation

Electronic catalogues must be created for each supplier with updated information about item description and prices.

- System detects automatically inventory level
- Buyer selects the number of items to purchase
- Purchase order is automatically sent to suppliers via email
- Product Receipt
- Automatic notification to payments department
- Automatic closure of the purchase order

Moving on to the second inquiry the respondents commented the following about how the implementation process was carried out. As previously mentioned, only two of the purchasing departments decided to implement electronic procurement.

The implementation process was carried out using the support of a consultancy firm; consultants were available for personal training before, during and after the implementation process using procedures manuals and personal meetings.

Processes were gradually modified and necessary changes were performed to adapt the system to the requirements of each stage in the purchasing flow.

A meeting calendar between managers and final users was defined to inform about the progress of the project and as a way for final users to request necessary changes.

A new position was created in the purchasing department; the role of this person was to ensure the successful implementation of the system and support users with their inquiries and needs related to the electronic procurement project. An additional activity of this person was to contact suppliers to inform them about the new purchasing process and perform the training of users of the system from the supplier side.

One of the managers pointed out the fact that the implementation was a very slow process, he explained it as follows: *“The implementation process was performed step by step, the company decided that the new system should not interfere too much with the normal procedures, only in that way we were able to be productive during the process”* (Manager C, telephone communication, 2009-04-29)

When questioned about what would they change to improve the implementation process, Bimbo buyers talked about the importance of involving other purchasing related areas, the reason for this is that some of the system functionalities are not just useful for buyers but could also benefit other areas; an example of this are payment and logistics departments.

The fourth question was focused in discovering how the process was received by the members of the organization. It was clear that Bimbo’s final users accepted the system because they found it easy to use; a crucial aspect was that managers were constantly involved and proactively solved and helped to minimize problems.

Regarding this issue Key User B commented: *“By using the new system the process is much faster and efficient, we had some problems in the beginning but overall I think that it has represented great operational benefits”*. (Key User B, telephone communication, 2009-04-29)

To the question about the most recognizable benefits and disadvantages identified by users of the system, Bimbo buyers pointed out the following benefits:

- Information availability
- Faster purchase order creation
- Time savings on the overall process
- Decrease of human mistakes

About the negative outcomes, buyers commented that they have noticed a slight reduction on the personal contact with their suppliers; additionally they stated that the creation of the electronic catalogues is a time consuming task that was not considered when planning the project and is taking too much of their time.

Time appropriateness is an important factor to determine how well prepared is a company to engage in new ventures; Bimbo users consider that the timing for the implementation of the project was right. They changed their processes gradually and took the necessary time to do it in a soft way.

Users were asked to evaluate the results of the project; The answers to this question on Bimbo side reflected the success and acceptance to the system, most of the buyers evaluated the project with four or five, a way to measure the success of the strategy is reflected on the fact that the project is being copied to other Bimbo subsidiaries in other countries.

When questioned about where they considered that the organization is situated in comparison with other organizations in the same industry, Bimbo managers mentioned that electronic procurement project, is one of the constant company strategies that has the purpose of positioning the firm as a segment leader in terms of processes and technology. In general terms, project users consider that this kind of initiatives have been a key factor when determining the business success and their current position as leaders in their market.

The following is B manager's opinion: *"I consider that when compared to other companies on the food industry, Bimbo group has a considerable competitive advantage. We are recognized by our quality and process efficiency; electronic procurement implementation is important, but is just one of many strategies aiming to sustain this competitive advantage"*. (Manager B, telephone communication, 2009-04-29)

In terms of the return on the investment after the project implementation, Bimbo managers consider that it was an accurate investment and it contributed with several benefits to the company. However, these benefits are not easy to quantify in monetary terms because it has implications in different firm levels. Indirect sales manager, one of the project leaders mentioned: *"The project success will be perceived on the long term, it is quite complicated to quantify it as of now. In overall, the company is feeling sure and confident about the investment on e-procurement"* (Manager B, telephone communication, 2009-04-29)

4.4 Waldo's Interviews phase II

The following is the managers and final users' explanation about their purchasing process:

Before eProcurement

- Store requests products to the purchasing department

- Buyer search in the market for possible suppliers (only for new products)
- Request for Quotation
- Purchase order creation (manual)
- Send purchase order to budget administrator for approval
- Send purchase order to suppliers
- Purchase order tracking
- Product receipt
- Payment schedule
- Purchase order closure and storage

After electronic procurement:

Quotation processes and supplier selection are still performed in the same way as performed before electronic procurement.

- System detects inventory levels
- Purchase order creation from electronic catalogue
- Automatic budget approval
- Purchase order is automatically sent to suppliers via email
- Purchase order tracking status available online
- Product receipt
- Payment programming
- Payment
- Purchase order closure

The implementation process in Waldo's was the same for all areas within the purchasing department. According to the interviewed persons, the process was very dynamic. The first stage of the implementation process was the training of final users using three day workshops for each area where they were introduced to the system and the main functions. During the entire process a telephonic support center was available for user requirements. Additionally, procedure manuals were created and distributed to final users.

A relevant issue of how the implementation was performed was mentioned by Key User E: *"In my opinion, the implementation was executed in a sudden way, from one day to the other the process were changed and this generated confusion, in part because us as users were neither ready nor trained to use the system"*. (Key User E, telephone communication, 2009-05-02)

Waldo's Buyers explained that it would have been important to slow down the implementation process and perform it in a more gradual way to give them the chance to be familiar with it before using it. Key User F clarified the aspect: *"The implementation of the system was too fast and there was not enough training time, we were pushed to change the process and use a new one that did not covered all the necessary aspects to*

be successful; a better result would have been possible with more time to learn and adapt". (Key User F, telephone communication, 2009-05-02)

On Waldo's, the system was not received in the same way by everyone, according to the users, the process of purchase order creation and approval is much faster; however some users think that the system is no easy to use and sometimes buyers have to perform their activities in the manual way that was used before. An example of this was provided by Key User D: *"The new system is very rigid for some activities; sometimes we need to create the purchase orders manually because changes on prices and descriptions are not easy to update on the database". (Key User D, telephone communication, 2009-05-02)*

Despite of the critics to the system, some users admitted that purchase order creation, approval and sending have been accelerated in a remarkable way; this liberates users from repetitive tasks.

Waldo's users identified the following benefits:

- Faster purchase order creation and approval
- Time reduction in repetitive tasks

When questioned about the negative aspects, the most relevant issue mentioned was that the system is not easy to use, related to this, Key User F mentioned the following: *"Sometimes when we create purchase orders, the system does not work as expected and it is necessary to restart the process, it has happened that we need to create the same order more than two times to obtain the desired result". (Key User F, telephone communication, 2009-05-04)*

The perception about the timing for the implementation of the process in Waldo's is not as good as in Bimbo. Most of the comments reflect that the change caught the company unprepared; buyers agreed on the fact that the change should have been carried out more gradually to allow users and suppliers to get used to it; also this would have permitted the company to adapt to the unsuitable aspects of the system without affecting the normal operation of the department.

When questioned about how they evaluate the results of electronic procurement in their organization, Waldo's buyers mostly evaluated the success of the initiative with three in a scale of five; some of them stated that they need the system to be closer to their real process and needs.

An aspect that appeared again was the need of a better training and support from the managers for the correct use of the system. Regarding this, one of the Key User commented: *"We need more participation of the managers in the process, it is important that they understand our needs and the difficulties we face with the system". (Key User C, telephone communication, 2009-05-01)*

When asked about the company position towards the competition, Waldo's managers assured that they are technologically well positioned because they are actually using the

same tools as their competitors. Manager E mentioned the following: *“The use of different technologies for processes improvement has been a frequent priority in our organization. Firm positioning and consolidation is obtained not only by having any given technology but also by looking for alternatives about how to improve processes implementing this technology and being aligned with the market trends”*. (Manager E, telephone communication, 2009-05-01)

Waldo’s purchasing department members mentioned that as of now, the investment hasn’t given the expected turnover; on the same way, they commented about the fact that the expected benefits will not come on the short term.

On this regards, manager G argued the following: *“At the beginning, we had huge expectations about this project, however, in terms of return over investment, at this moment we haven’t obtained the expected results. We are still optimists, some processes have been improved and we are hoping to make some adjustments in order to obtain the maximum benefit from the new system”*. (Manager G, telephone communication, 2009-05-01).

5 Analysis

On this section of the thesis, the information gathered from the two companies will be presented and summarized in four broad topics; at the same time, it will be compared with the theoretical framework in order to give a better understanding of the differences and similarities of the strategies applied on both companies.

5.1 Innovation Triggers

After analyzing the answers received regarding the importance of innovation, it is possible to state that for Bimbo the desire for innovation arises in a natural way from inside the company boundaries, it is perceived as a need to improve processes and maintain their position as market leaders.

As a consequence, this gives to Bimbo the capability of obtaining a sustainable differentiation derived from its internal motivation towards innovation; hence, Bimbo's behavior towards innovation goes in line with the arguments exposed by Johansen et al. (2001) who states that Innovation is a critical activity that is vitally important for most firms to embrace in order to create and sustain a competitive advantage. External influences are not that important since Bimbo acts independently and following their own vision.

Waldo's case is different, the organization does not perceive innovation as a fundamental way of improving their processes, it is seen more a needed element to be competitive within their market. There are certain reasons why firms decides to embrace change, in which can be mentioned exponential advancements in technology, frequent shifts in the nature of customer demand, and increased global competition (Johannessen et al. 2001).

Empirical findings showed that Waldo's propellant change factor isn't any of the previously mentioned; their main reason for change was because they wanted to keep the same operational standards when compared to their competition, and one of those was the implementation of electronic procurement within their purchasing department.

According to Wu (2007) an innovation taken not on account of an independent assessment of the innovation's usefulness, but rather because other organizations have already adopted that innovation, cause normative pressures in the institutional environment, and may yield few benefits and limited competitive advantage to the adopting organization, at least in the short run. Waldo's is an example of this, since it is identifiable a follower rather than as an innovator; Bimbo sees itself as an example for other companies and this in line with their organizational precepts. In general, innovation processes in Bimbo are in line with their internal needs and therefore final solutions solve in an efficient manner their difficulties, and help to achieve successfully their objectives.

On the other hand, Waldo's is aware of the importance of the innovation process but their innovations does not come as an answer to their needs, it comes as an answer to the trends in the market

The result with this type of strategy is that the innovations do not fully solve real problems of the organization; the reason for this is that the solutions are not created to suit the particular problems of Waldo's operation but just to be aligned with their competitors' market behavior.

The final result for Waldo's is not perceived as a failure, the reason for this is that the innovations implemented have been already proven to be successful in other companies and in fact they deliver real benefits; however since these innovations are standardized, they don't fully consider the real needs of the company.

5.2 Purchasing operation and outcomes

Bimbo obtained more benefits from the system because before the implementation, great effort was taken to analyze their initial situation. Only two out of four areas decided to implement the system, the decision was taken considering the type of operation and needs of each one of the areas. An important element during the implementation process was that the two areas worked together and shared information along the roll out. The obtained benefits almost fully satisfy Bimbo's goals because the development of the project was performed according to very clear needs.

We can summarize the benefits for Bimbo in the following way:

- Information availability and uniformity
- Physical documents elimination
- Improved efficiency and speed on the process
- Human mistakes reduction

Coyle (2003) mentioned that lower operating costs, improve procurement efficiency and reduce procurement prices could be the three major benefits to be obtained from eProcurement. Considering the benefits obtained by Bimbo it can be perceived that the main benefits were achieved in terms of procurement efficiency.

As for the other two categories of benefits, according to the answers of Bimbo users, these benefits are not easy to represent in economic terms, it is not possible to deny the improvement on the process and the savings on paper based transactions, but at this stage of the project the company mentioned that they don't have a reliable way to compare the investment against the obtained benefits.

When considering the benefits obtained by Waldo's we can also summarize them as follows

- Budget approval for purchase orders
- Improved efficiency and speed on the process
- Information availability

At first it might be possible to think that both companies obtained the same benefits, but after making a deeper analysis it is evident that the benefits obtained by Bimbo are much more representative in terms of efficiency and scope. Waldo's benefits are less evident mainly due to mistakes and omissions during the initial stages of the project.

An example of the gap between Waldo's final users' needs and the actual benefits given by the system arose when they were asked about which of the purchasing processes they considered the most important. Waldo's staff answers clearly showed that the quotation processes are one of the most important on the firm, however, at this early stage of the new electronic procurement system, solutions towards this activity cannot be exploited yet since the organization is not ready to fully implement the system and take advantage of the potential solutions offered by it; issue that generates certain degree of dissatisfac-

tion on the actual users because they don't perceive that the electronic tool is fulfilling their needs. As stated by Wu (2007), due to the heavy investments on electronic procurement technologies and the need to gain acceptance across several functional areas, top management commitment is vital to the successful implementation of such systems; Evidently, this was not the scenario in Waldo's evaluation and implementation process.

Final users in Waldo's were not consulted by the direction of the company, this in the end caused problems and the system did not cover all the operational needs of the purchasing areas.

Overall, the purchasing processes for both of the companies are conducted through similar steps when compared to the way they used to be performed before electronic procurement; the main difference lies on the speed these steps are carried out. Both Bimbo and Waldo's creation, approval and order purchasing processes were highly benefited by the change. This assumption goes in line with the managerial perception from both organizations; they mentioned that those processes were the ones more easily to be automated due to the fact that they were not too complex neither so determinant in the whole process in general.

There were also negative comments about the system; among these, we can highlight the fact that for final users, the automation of purchase orders delivery to the suppliers has brought a significant reduction in the interaction between buyers and suppliers. This issue is regarded as important because it affects the relationship and as stated by Age-shin (2001) some suppliers might not like the idea of substituting mouse clicks for the human contact they are used to.

An additional negative aspect that was found on the answers is that buyers complained about the requirement of creating electronic catalogues of supplier products in order for the system to operate correctly; buyers mentioned that this was initially perceived as additional work; nonetheless this problem is easily surpassed with the time saved in all the other processes.

Finally, the fact that not all the areas were involved in the project, generated comments from the managers; they indicated that the purchasing area interacts with many other areas inside the company, therefore they mentioned that an initiative as big as the one of implementing electronic procurement should also include and provide benefits to the rest of the company, an example of this could be the payment process.

5.3 Social Organizational Aspects

As stated previously, some actions that should be avoided by managers when leading change are, among others, not engaging all employees in the change process, managing change only at the executive level and telling people they have to change (Stanleigh, 2008)

The interviews showed that final user opinions were highly considered in Bimbo before the implementation; users were consulted to understand their needs and identify potential improvements or pitfalls. That was the stage in which two of the managers decided not to participate when they identified that the system was not going to be good for their areas and if they would have done it, it could have generated dissatisfaction and rejection even before the project implementation.

The communication between managers and final users facilitated the acceptance to the system from all members from the company.

As technology alone does not ensure successful adoption the success of an eProcurement initiative depends on users and buyers making use of the new system. The success of the project also depend on communication to the users (Vaidya, Sajeew & Callender, 2006)

On Waldo's case, a mistake was to ignore final user opinions before the implementation; the process was imposed to all the areas without considering the needs and ideas from buyers. There was an evident lack of communication between manager and final users.

Additionally, Waldo's final users rejected the use of the new system. The reasons for this rejection concur with the arguments of Vaidya et al. (2006) whom stated that the two major obstacles to increase support among users are their level of technological awareness and acceptance and their willingness to change long established internal business processes

Waldo's efforts before the Project implementation were mainly focused on convincing the final users about the potential benefits e-procurement could bring, which is an important aspect to be considered in order to smooth the progress of the implementation process; however, trying to understand the user's needs and connecting these needs to the system applicability would have bring major benefits for the company.

The result of this omission is that final users are not so comfortable with the system because they don't feel that it is solving their particular problems; however the new system is still perceived as useful in some of the processes.

5.4 Implementation

The implementation process in Bimbo was partially delegated to a consultancy firm with experience in electronic procurement, the support of this company provided Bimbo with the necessary tools for the successful completion of the process of training final users; it also provided a reliable source of information for the users during and after the implementation.

As stated by Beynon-Davies (2002), a parallel implementation in which both manual and automatic processes run in parallel for a defined period of time does not involve as much risk as direct conversions. An example of this is the implementation process in Bimbo, which was gradually carried out, and the change from manual to automatic activities did not affect considerably the daily operation of the purchasing area. However, some members of the organization think that the process was to slow, this might be seen as a problem from a financial perspective, since when companies think in terms of the return of the investment, the high price paid for this type of systems is expected to generate tangible benefits in shorter terms.

An important element for the success of the project was the creation of an internal position in Bimbo; this person was in charge of the project management from inside the company and at the same time worked as a link between the consultancy firm and the internal users thus providing a wider perspective of the achievements and faced prob-

lems. Additionally this position helped to improve the internal communication flows and accelerated organizational learning.

In regards to Waldo's case, the implementation was carried out in a more dynamic way, which in terms of project management is adequate; however this fast process had negative implications, particularly on the training of the final users, whom at the end were not able to exploit all the functionalities of the system. The speed of the change of processes and the direct conversion from manual process to electronic procurement generated operational conflicts, which increased the distrust on the system.

It was mentioned before that for technological innovation to be considered a competitive resource, it should not only consist in having a large Research and Development department with regards to infrastructure, but also in the staff being trained and being aware that competitive advantage lies precisely in technological innovation; and also in this being shared by all the members of the firm as a result of a strong corporate culture (Claver et al., 1998); In regards to the Project implementation in Bimbo, perception from final users is positive due to the fact that the disposition for change was planned and spread throughout all the organizational levels. A different scenario happened in Waldo's Company, in which this sudden change generated confusion and the employees that were supposed to end up using the system on a daily basis, were not properly trained nor informed.

Despite of the initial conflicts, the purchasing operations in Waldo's slowly managed to adapt to the system and started to obtain benefits in different activities of the purchasing process. It is possible that if the implementation process would have been carried out more carefully, the benefits would have been much more evident, and as mentioned by the final users, this could have contributed to increase user's willingness to use the system.

6 Conclusions

In this chapter, the most important findings will be summarized in order for the reader to get a general overview and a clear understanding of the results of this research in regards to the stated purpose.

From a E-procurement triggers perspective and derived from the results obtained during the investigation; it is possible to conclude that for both of the companies, one of the causes for the project implementation was the necessity of making the purchasing process the most efficient possible thus avoiding the chance of making mistakes due to the decrease of human intervention within the process.

Following this statement, another of the triggers for this innovation is the perceived necessity of making their employees to invest time in additional duties with more strategic focus and with the potential of creating additional added value, rather than just spending time on manual and repetitive daily tasks.

The desire for innovation on the studied companies was raised because of different factors; one of those was originated by the wish of satisfying operational needs and therefore maintaining a competitive advantage on their market. The decision for innovation on the second company was enhanced neither for internal needs nor market leading purposes; it was decided mainly because of the purpose of following a recently established trend in the industry. On the short term, this behavior showed that adopting and implementing any technological procedure without considering the firm's internal environment, will lead to a different scenario in which the real operational and organizational problems will not be fully solved.

Additionally, another important factor that was considered when deciding about eProcurement implementation was the cost reduction objective on the purchasing area, since on every company project the potential benefits are aimed to increase the firms' revenue. However, for the case of the two studied companies, these benefits can't be immediately perceivable; they are seen more as a result of a long term sustainable strategy.

In regards to the implementation process and the way it was conducted by each of the studied companies, it can be concluded that the main differences between both organizations are mainly based on key factors such as preparing the staff for the change and the participation level that was given to the employees when planning and deciding the details about the Project implementation.

In order to guarantee a successful implementation, it is necessary to have an expertise team which can guide the internal learning and will determine the adequate pace in which the process changes should be conducted; firms should bear in mind that a sudden implementation could generate adaptability problems in the final users.

When companies give participation to their aimed final users and consider their needs and opinions before implementing an innovative process, the final outcomes will solve operational problems in a smoother and most effective way and will be accepted by the staff members, participants that at the end of the day will be dealing with the new system in a day to day basis.

Not to listen or understanding final user needs and opinions could bring severe problems for the correct use of the system and also originate rejection from members of the organization.

It was also noticed that the communication in all stages of the implementation process between top level management and final users, is a key factor to solve and correct problems before they cause major disruptions on the project.

Regarding the outcomes and implications of the implementation process, it was observed that the most immediate benefits are those related with process efficiency; this is evident in the improved speed of the purchasing process, the human mistake reduction and in the availability and reliability of information across the entire purchasing process.

A great part of the success of eProcurement systems depends on the way in which the implementation is carried out in aspects such as training and change management.

The economic benefits in eProcurement projects are reachable and measurable in the long term once that the systems have achieved an optimal level of maturity and integration with organizational processes. Firms willing to engage in eProcurement must be aware of this in order to prevent themselves from failure originated by the creation of false expectations.

Among the negative aspects, it was identified that eProcurement use originates a certain weakening of the relationship with suppliers due to a decrease on the personal interaction between both parties; the reason for this is that a great part of the purchasing process is performed automatically and using electronic means, thus originating the interaction to be limited to strictly necessary meetings.

7 Limitations and further studies

This section will briefly describe the limitations of this study and the possibility for future research in order to expand the knowledge on the area

One of the limitations of this thesis is the number of sources used for the gathering of empirical data; the reason for this is that eProcurement initiatives in organizations are in most cases in early stages of implementation and maturity, therefore it is not possible to clearly identify the outcomes of such projects.

Given the fact that eProcurement is a broad topic, the authors of this thesis decided to study only the inter-organizational aspects of the firms; however the adaptability and participation of the company's suppliers is a fundamental success factor in these types of ventures.

For future studies, it would be interesting to analyze the outcomes obtained from mature eProcurement initiatives by a larger number of companies within the same market,

Finally, a significant study focused on the importance of supplier participation in the eProcurement process, would be of great use in order to obtain a broader understanding of both buyer and supplier perspectives.

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Appendix

Appendix 1: Interviews Template

Interview for phase 1

- 1) How important is innovation of processes for the strategy in your organization?
- 2) Within the next categories, which one you consider the most important when it comes to the decision of implementing e-procurement. Please expand your answer:
 - Cost reduction.
 - Process efficiency.
 - Information Uniformity.
 - In order to be aligned with the Industry technology trends. (Benchmark)
 - Another one (please mention)
- 3) Which was the purchasing process stage in which most of the problems were evidenced?
- 4) Which of the purchasing stages do you consider as critical for granting the optimal performance of the procurement process. (explain)
 - Supplier Selection
 - Quotation
 - Purchase order creation
 - Invoicing
- 5) Which of the purchasing flow processes do you consider to be the most feasible to be automated?
- 6) Before implementing electronic procurement; did the company considered corporate cultural aspects such as adaptability, acceptance and training of the end users

Interview for phase 2

- 1) Briefly describe the purchasing process before and after electronic procurement implementation
- 2) How was the implementation process carried out?
- 3) If you could change or improve a part of the implementation process, what would this be?
- 4) How was the new process received by the members of the organization?
- 5) Which are the most evident positive and/or negative changes with the new system?
- 6) What are your comments about the appropriateness of the time in which the electronic procurement project was implemented in your company?
- 7) From 1 to 5 (where 1 is complete failure and 5 is complete success) how do you evaluate the results of electronic procurement in your organization?
- 8) After implementing electronic procurement; where do you consider that your organization is situated in comparison with other organizations in the same industry? (in terms of technologic development)
- 9) Do you consider that the obtained benefits justify the investment in the project?

Appendix 2: Interviews Template (Spanish)

Interview for phase 1

- 1) ¿Qué tan importante es la innovación de procesos para su estrategia organizacional?
- 2) Entre las siguientes categorías, ¿cual considera la más importante en términos de la decisión de implementar e-Procurement? Por favor explicar
 - Reducción de costos
 - Eficiencia en los procesos
 - Uniformidad de la información
 - Para estar en línea con las tendencias tecnológicas de la industria (Benchmark)
 - Otra (por favor mencionar)
- 3) ¿Cuál es la etapa dentro del proceso de compras en donde más problemas se presentaban?
- 4) ¿Cuál de las etapas del flujo de compras considera críticas para garantizar el óptimo desempeño del proceso de abastecimiento? (Explique)
 - Selección de proveedores
 - Cotización
 - Creación de orden de compra
 - Facturación
- 5) ¿Cuál de los procesos del flujo de compras considera el más factible para ser automatizado?
- 6) Previo a la implementación de eProcurement; ¿La compañía consideró aspectos de la cultura organizacional tales como adaptabilidad, aceptación del sistema y entrenamiento de los usuarios?

Interview for phase 2

- 1) Describa brevemente el proceso de compras antes y después de la implementación de eProcurement
- 2) ¿Como fué llevado a cabo el proceso de implementación?
- 3) Si pudiera cambiar o mejorar algún aspecto del proceso de implementación, ¿Qué sería?
- 4) ¿Como fué recibido el nuevo proceso por los miembros de la organización?
- 5) ¿Cuáles son los cambios positivos y/o negativos más evidentes con el nuevo sistema?
- 6) ¿Cuáles son sus comentarios con respecto al momento organizacional en el que fué implementado el proyecto de eProcurement en su empresa?
- 7) En una escala de 1 a 5, (donde 1 representa un fracaso total y 5 representa un éxito rotundo) ¿como evalúa los resultados de eProcurement en su organización?
- 8) Después de la implementación de eProcurement; donde considera que su organización está ubicada con respecto a otras organizaciones en la industria (en términos de desarrollo tecnológico)
- 9) ¿Considera que los resultados obtenidos justifican la inversión realizada en el proyecto?

Appendix 3: Bimbo

Bimbo Group was founded in 1945, nowadays is one of the most important bakery companies in the world in terms of production volumes and sales.

Bimbo has presence in 18 countries in America, Europe and Asia. Bimbo has operations in the following countries: Mexico, United States of America, Argentina, Brazil, Colombia, Costa Rica, Panama, Salvador, Honduras, Nicaragua, Venezuela, Uruguay, Paraguay, Czech Republic and China

Bimbo Group fabricates and distributes over 5,000 different products; among these, the most important are breads, rolls, buns, tortillas, chips, snack cakes, cookies, donuts, cakes and pastries.

The structure of Bimbo Group consists of 105 plants around the world which makes it the biggest food company in Mexico and Latin America; Additionally Bimbo, has one of the most extensive distribution networks in America covering more than 1,800,000 points of sale.

Bimbo has more than 96,800 employees and during 2008 the annual sales of the group represented 7,424 million dollars.

The mission of the group for the year 2010 is to become in the biggest bakery company in the world and one of the most important food companies; with this in mind the current strategy of Bimbo Group is focused on expanding operations to new markets.

Information was retrieved from Bimbo Group (2009)

Appendix 4: Waldo's Dollar Mart

Waldo's Dollar Mart is a retailer company founded in 1999 on the Mexican market, the focus of the company is to buy and sell low price products and become an option for the low income sector of the market.

Waldo's commercial strategy is based on the concept of creating an American shopping experience through the use of international and recognized brands of high quality at low prices; the concept of the stores is that the price of the products is always equal or less to one dollar.

The logistic processes are supported by two main distribution centers and two cross docks located in the United States (for imported products) and Mexico. Approximately 53% of the merchandising is produced in Mexico and around 40% is imported from countries such as Singapore, China, United States, Vietnam and India.

Nowadays, Waldo's has 297 stores in different regions of Mexico and has over 5,000 employees.

Information was retrieved from Waldo's Dollar Mart Mexico (2009)