1. INTRODUCTION

BACKGROUND

Since there's an ongoing development in all aspects of business world, the standard management approaches now involve new insights that are related with the project management concepts as well. Since competitivenes is enlarging within the global business area, companies are working diligently to improve their project management capabilities to strengthen their positions. In today's world, customers are seeking to maintain conclusive services that make them feel intelligent. Therefore, a company's capability of providing its customers with flexible and practical approaches is highly valued. Providing through such an approach requires a consciously organized manner such as an effective project management.

In today's global world, *project management* requires some additional tenets, not only the skill of managing. The market needs bring forth the concepts of time limitations and budgets. There is a competition in the market, which necessiates the businesses to strengthen themselves with an effort of creating customer oriented products or services for their customers. In the recent years the managers face with the necessity of effective use of the time, the budget, the resources and also the work force while trying to create value added services customized for their customers.

The project management concept serves as a pattern that covers wide range of services. An important factor to be highlighted at this point is that, there are some features associated with the project management which differ in some ways when we talk not about the manufacturing industry but the service sectors and the service chains.

The characteristics of the service sector modify the standard issues of project management and it seems like, a unique new approach for project management is being emerged. Customer satisfaction is crucial in the services market. The businesses have to carry out effective project management tools to be able to provide and maintain customer satisfaction.

Services can be seen to play an effective role in today's economy and account for the most of the growth in new position requirements. In means of the size of the services business, the world has witnessed an important increase with the expanding globalization.

In daily life, students go to school for their education, they drink a coffee at the cafeteria in the campus, they borrow books from the library, they make copies of the lecture notes at the photocopy center. At another side of the city, some people listen to the radio while they are using the public transportation, some other people make phone calls using the communication networks. Ladies go to hairdressers to have their hair be fixed, some other people go to banks to manage their financial situation. People work with the insurance companies to quarantee their houses, offices, cars, and other belongings, even their bodies. Managers fly between various cities through airline companies and stay at hotels in different cities of the world. The companies need their offices to be cleaned by people, bussinessmen leave their suits to the cleaner in order to have them purified. Companies establish partnerships with the logistics companies to receive transportation, warehouse management, distribution and many other related services and these are only some of the various services used by some people every single day.

However, customers don' t always feel happy with the services they receive. They

are sometimes not satisfied because of the quality of the service. Through the news, from the newspapers or from the people surrounding us, it is possible to hear people complaining about insufficient information received, late deliveries, impolite customer representatives, inconvenient service hours, endless queues, and various other problems caused by the suppliers.

Some service suppliers realize how they can please their customers hence, they plan, create, offer, manage successful projects and run productive, also profitable operations. The ones who can achieve these features turn out to be advantageous and are capable of climbing up the stairs of success.

When the current researches about the supply chain management are scrutinized, it can be seen that the concern of the researchers started shifting from theory development phase of the Supply Chain to the theory validation and materialization phase of Supply Chain Management. However, the services sector aspects of the supply chains and the project management tools to be applied in the service sectors rather than the manufacturing sectors haven't been studied much. The global market's conditions lead organizations to concentrate on the SCM principles to the service sector organizations. Thus, since there are yet very limited research on this concept, the attention is increasing. We expect more studies about this concern to be conducted, this is the main reason for me to work on such a topic.

The research aims to provide the people related to the services sector with accessible resource that presents the characteristics and requirements of some major topics as project management, services sector and supply chain management with their subject areas. And then determine the linkages between all of these key topics that exist in the global market today.

Throughout the study, the points that make the project management in service sectors different from the manufacturing sectors will be indicated. The assimilation of the service sectors and project management concept will be mentioned. Logistics, as business type in the service sector will be examined through a services sector aspect. The project management tools and the ways of applying them in the logistics sector will be pointed out.

The thesis explores a new area of Service Chains and a new vision to the project management in service chains are aimed to be provided. This study concentrates on leading the relevant people realize the strong linkages between these subjects in today's global world and finally contribute to the literature by introducing an approach, a perspective different than the other contributions of the others in the field.

This study is organized in 9 main parts. These parts categorize the linkages between the key topics of the thesis.

The initial chapter of the study is devoted to the *traditional project management* tools. The aim is that related people become more familiar with the basics of project management concept. The 2nd chapter explores the characteristics of the *service industries* which is the other major topic of the study. These two chapters aim to provide a basis for the later sections that issue the linkages between these two main areas. In the 3rd chapter, *Supply Chain Managament* is due to subject. The differences between the supply chains of manufacturing and services industries are outlined. In pursuit, the reason that logistics, a service industry, is being outsourced will be questioned. In the 4th chapter *logistics* is going to be analized in the sense that it is a customer driven services management. In the following part,

Chapter 6, a linkage was provided between the project management concept and logistics as well as supply chain manageent. Chapter 7 aims to explore a relatively new concept in the globalized market, *service chains.* In the following part, the tenets of this thesis was aimed to be tied together. Through a case study, these theoratical aspects were materialized in an application. Thus, a snapshot from practice is introduced.

The case study was conducted in a logistics firm in Turkey to support the outcomes of the study. The section issuing the project of a consumer electronics company may enable the to highlight the importance of the predetermined aspects of project management approach in the services sector, all through the study.

Due to the Confidentiality Policies, the Logistics Company will be referred as Company A and similarly, the Consumer Electronics Company will be referred as Company B. In order to treat the company information as strictly confidential, the details of RFQ, the facts and figures will not be shared. However, the case may still be beneficial since it gives a fairly accurate picture about problems encounteres and management techniques used in real-life project management

The thesis will be finalized with the conclusion, highlighting the outcomes of the study.

The appendix expand upon one subject mentioned throughout the thesis: Key Performance Indicators (KPI's).

LITERATURE REVIEW

On the project management issues, the breadth of Project Management is clearly illustrated by PMBOK Guide (2000). The Project Management Framework is determined, The Project Management Knowledge Areas are outlined. The

approaches are donated with various related figures and tables. The growth of knowledge and the practices in the field are captured. Nicholas (2001) also proposed the core principles of Project Management. He explained the philosophy and concepts of Project Management. The systems development in the differing phases of project management are also proposed. The resource examines the organization behaviour on the basis of the project organization structures. Murch (2001) proposes the best practices of project management especially for IT professionals. However, the researcher that is not specialized in IT systems may also benefit from the book in the sense that it also points out the principles, lifecycles of projects. Project management techniques are explained in regard to an IT perspective. Frame (1995) also introduce a framework for project management concept. The resource may be appropriate for the researchers just beginning the concept of project management, since it doesn't get in to the details but undertake the projects in major headings. Gray and Larson (2000) on the other hand, introduce a deep knowledge about project management. The professors propose a holistics, integrative view to project management. The approaches of the book are supported by various case studies throughout the resource. They emphasize how projects contribute to the strategic goals of the organization. Davidson (2000) explore the topic in question, in such a manner that leads a life of pressure to the readers. Through his electronic resource, all major aspects of project management are grouped and each chapter containing these groups can be explored in ten minutes as he proposes in the heading of the book.

Coming to the resources related with the Service Industries; Vandermerwe and Lovelock (1994) propose various case studies related with the Strategy and

Implementation of the Services. The resource is referred as European Casebook. Zeithaml and Bitner (2000) on the other hand, stress the belief that the services marketing is different from the goods marketing in significant ways. And propose that it requires different strategies and tactics. Lovelock and Wirtz(2004) introduce the readers with the major characteristics, aspects and requirements of Services Marketing. The concentration is based on people, technology and strategy. Ayers (2004) investigates the concept Supply Chain Project Management through a structured colloborative and measurable approach. He validates the knowledge areas of the supply chain and the project management.

Ballou (1999) explains Business Logistics management and issues planning, organizing and controlling the supply chain. Poirier and Reiter (1996) highlight the significant aspects of Supply Chain Optimization. Outlining a network and bringing the network to optimization is one of the main concerns of the resource. Lehrer, 1964 explains the proposed techniques of PERT-CPM.

CHAPTER 1

PROJECT MANAGEMENT

A *project* may be explained as a temporary effort undertaken to create a unique product or service. During a project, managers have to utilize time, money, labor in addition to the other resources that have been allocated. (Greer, 2001). Since there's an ongoing development in all aspects of business world, the standard management approaches now involve new insights that are related with the project management concepts as well. Since competitivenes is enlarging within the global business area, companies are working diligently to improve their project management capabilities to strengthen their positions. In today's world, customers are seeking to maintain conclusive services that make them feel intelligent. Therefore, a company's capability of providing its customers with flexible and practical approaches is highly valued. Providing through such an approach requires a consciously organized manner such as an effective project management.

Great strategies that are unimplemented have little value. On the other hand, well managed projects unguided by strategy may also be of little value. Even if they have value, this is probably, accidental. This is one of the primary reasons that projects should be managed through a systematic organization due to a well planned strategy.

Utilizing the project management tools effectively on the other side brings forth some considerations and responsibilities. It is certain that customers have to be treated so well through a profesional project management methodology. However, the businesses requires to carry out projects in an adequate way in respect to the constraints of time and money. The companies entail to comprehend the

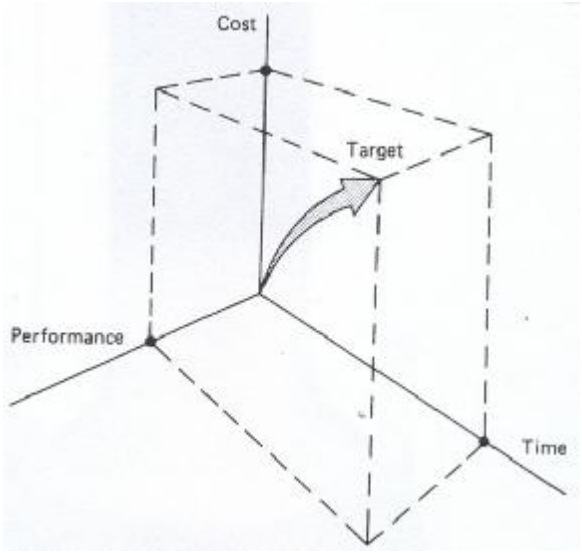
specifications of demanded products or services to offer them exclusively to the customers in a less costly but more profitable way.

1.1 PROJECT GOALS

The businesses have some goals during the time that the projects are being planned, realized and carried on. Companies in almost all sectors organize their budgets in accordance with their activity plans. Throughout the time that they manage projects, they intend to perform in accordance with the budget related to that project. Additionally, they set out time frames within which they aim to complete the required tasks of the project. The proposed time frames may be set out with the participation of the customers linked with the projects. The schedules are set out to maintain a time plan for the contributors of the projects.

Performance requirements are also one of the primary aspects of projects in organizations. Various tasks have to be carried out and executed with a high level of quality in order to lead all the efforts combine at a favourable end. John M. Nicholas frames these goals as the axes of a three-dimensional space, and indicates that project management is leading the projects to be realized in a manner that complies with all three goals of the costs, performance and time (Nicholas 2001) as shown in the figure 1.1. *Three dimensions of Project goals.*

Figure 1. 1 Three dimensions of the Project Goals.



Source: Nicholas 2001
[Adopted from Milton Rosenau, *Successful Project Management* .(Belmont, CA: Lifetime Learning Publications, 1981). 16.]

Many definitions have been offered in the literature for the project management. John M. Nicholas defines the concept as "a systems-oriented approach to management", basing on the fact that a project is a combination of interrelated tasks as well as work units that are accomplishing the work in a changing environment (Nicholas 2001). In order to run projects, various departments of the companies work together. During the determined time period each of them work on his/ her profession in his own way, back of which they join their outcomes aiming to create a single successful operation, that is prosperous at all respects.

1.2 HISTORY OF THE PROJECT MANAGEMENT

As a discipline, Project Management developed from several different fields of application, including construction, mechanical engineering, military projects, etc. (http://en.wikipedia.org/wiki/Project_management)

Frederick Taylor (1856- 1915) was an American industrialist who issued management techniques. What he did was applying a scientific approach in order to figure out the steps in completing a product and “using money to create added incentive for workers who exceed the “average” level of production” (Murch, 2001).

In 1911, Taylor published a book called Principles of Scientific Management that introduced work methods that are designed to increase worker productivity. His methods were adopted in the United States. Till the time when he proposed the new methods, the way to obtain productivity was to demand more workers or to have people work harder for longer hours. He contributed to the Management principles in the sense that he led the employees work smarter and he encouraged management. (Murch, 2001)

An associate of FrederickWinslow Taylor was Henry Gannt (1861- 1919). In his times, Henry Gannt was referred as the father of planning and control techniques in the United States. He became famous for his use of the “bar chart” which is also used as a project management tool today, referred as Gannt Chart. He has a study on the construction, work and management of Navy ships in the times of World War I. He realized that he it was possible to understand the complex structure of the navy ships thrıough charts. Drawing charts simplified the process and this fact, proposed by Gannt formed the bases for many modern management tools.

The other name to pronounce is Dr. W. Edwards Deming (1900- 1993). He is referred as father of the quality. His stressed on the quality, headed the American Society of Quality Control to create. What he indicated was the fact that it wouldn’t

be accurate if management was commited to quotas and punishing for mistakes. Instead, it needed to visionary leaders to achieve quality. Deming introduced his theory that is known as 14 Points in today's world which was realted to management.

The beginning of the modern project era is accepted as the year 1950. (http://en.wikipedia.org/wiki/Project_management) Since 1950, the projects were managed using Gantt Charts and informal techniques, tools in general. However, in 1950, two mathematical project scheduling models were developed. First is the *Program Evaluation and Review Technique, PERT in* short. It developed as part of the United States Navy's Polaris missile submarine program. The other one is the *Critical Path Method, CPM* in short which was developed in a joint venture by both DuPont Corporation and Remington Rand Corporation for managing plant maintenance projects. These two techniques spread into many private enterprises in the following times.

In 1969, the *Project Management Institute (PMI)* was established to serve the interest of the project management industry. The premise of PMI is that the tools and techniques of project management are common even among the widespread application of projects from the software industry to the construction industry.

In 1981, the PMI Board of Directors authorized the development of what has become the *The Guide to the Project Management Body of Knowledge,* containing the standards and guidelines of practice that are widely used throughout the profession.

The mentioned Gantt Chart, Work Breakdown Structure (WBS), Program Evaluation and Review Technique (PERT), Critical Path Method (CPM) concepts

will be detailed in the later chapters. Since the PMBOK (*The Guide to the Project Management Body of Knowledge*) contains the worldwide accepted standards of the project management, references to it will be made throughout the study.

1.3 PROJECT MANAGEMENT IN TODAY'S WORLD

Different than the traditional forms of the project management, today it is based on the person concept, the matter of a team, and the system fact (Nicholas 2001). Respectively, the project managers, the project team, and the project management system are some dimensions that distinguish today's project management.

1.3.1 Project managers

In organizations, there are managers who plan, direct and integrate the performances of different parties to bring them all to a conclusion so forth actualize various needs of a project. The project managers are accountable of all aspects of the current situation no matter which part of the project they are about. He is dedicated to achieving the goals that have been set related to the project. He is in charge of coordinating the various efforts, bringing them together in one line while keeping control on the costs and directing the participants to perform due to the schedules.

Management skill is a characteristics that exist in some people and don' t belong in others. However, Murch indicates that successful projet managers are not born like that disregardingly, they turn out to be successful by a combination of experience, time, talent and also training (Murch, 2001). Organizational skills are prerequisite for the project managers however the other attributes may not be naturally occuring. These attributes may need to be developed. Being part of a hands on project may be helpful for the development of such attributes.

The project managers are facing with changing conditions, technology, resources, requirements and also schedules because of the nature of the projects. This fact makes project management difficult. The technology help the system to organize matters at a level that will move the project further and in the current global business arena, the technology develops in an increasing speed. Thus, a project manager needs to be proficient at managing but in addition, he has to possess an ability as the technology changes. The proficiency doesn't remain as an option today, in contrast it is an absolute requirement of being a good project manager.

In companies, good preparation for the project and a broad understanding of the requirements of that job is the key tenet of surviving for the project managers in the global market.

Bussiness professionals aim to complete their tasks in accordance with some conditions; on time, within the budget, according to the specifications. Manager's primary concern is maintain a success in getting the work done and in the appropriate way.

1.3.2 The Project Team

Project management need a cooperation of a group of people, that individuals are responsible from seperate work tasks and bring them together cohesively in order to realize a common goal.

A very essential part of a project is recruiting and retaining qualified people. The reason that the word *essential* is used at this point is that without a skilled people it is not possibble for the managers to suceed in the management of the project.

The size and the composition of the group may differentiate in every project, depending on the nature and the requirements of unique projects. The team may

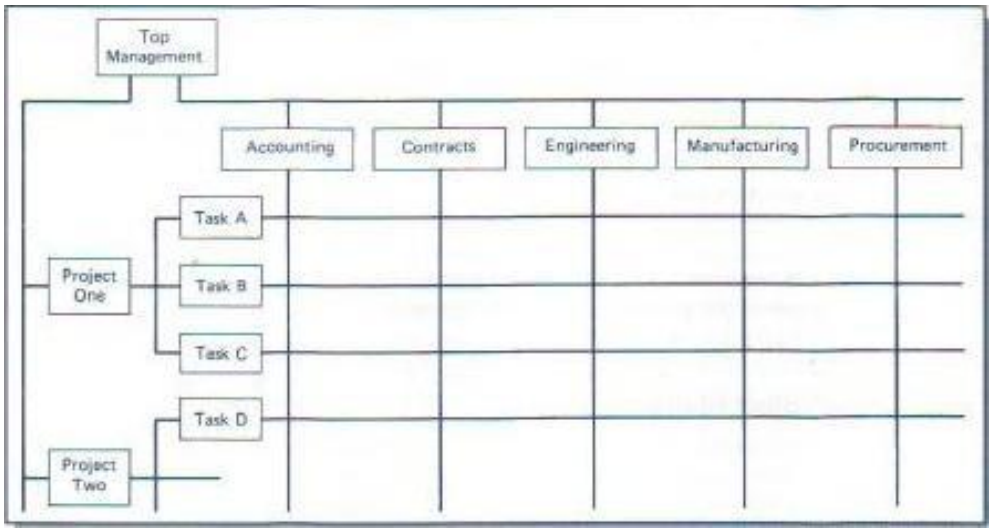
disperse when the project is over.

1.3.3 The Project Management System

There should be a project management system that the project managers as well as the team members should adopt to, during the time period that the project will be realized. Organization structure, information processsing, practices and procedures related with the company are the elements that the project management is composed of. The project management system should provide for the integrative planning and control so that the members of the group and the project manager can utilize.

Project organizations have vertical and horizontal elements (Nicholas 2001). Vertical elements include the breakdown of the tasks in the project. On the other hand, the horizontal elements are consisted of the functional units and departments involved in the project. The vertical and horizontal elements can be viewed in the Figure 1. 2.

Figure 1. 2 Vertical and horizontal elements of project organization.



Source: Nicholas 2001

1.3.4 PROJECT STAKEHOLDERS

The individuals and the organizations that are actively involved in the project or whose interests will be positively or negatively affected as a result of a project execution or project completion, they may also influence over the project and its results.

The naming or grouping of stakeholders is primarily an aid to identifying which individuals or organization view themselves as stakeholder.

1.4 PROJECT LIFE CYCYLE

1.4.1 Project Phases

Since it was indicated before, projects have a unique structure and they their nature differ from each other (PMBOK Guide 2000 Edition). Projects result in unique goods or services which are referred as deliverables in the literature. Any measurable, tangible, verifiable output that must be produced to complete projects are designated as ***deliverables.*** On the other hand, the collection of activities, usually resulting in the creation of a major deliverable is referres as ***project phases*** (Greer, 2001). Projects are organized into several phases that brings forth the opportunity to follow the evaluation of these unique deliverables which indicate the end of the phases. Dividing the project into phases will probably assist the companies to have control over their processes and maintain a concrete follow up to the steps of the projects. Additionally, the project phases will be beneficial for the managers and the groups for the reason that it lays the process on the table as a whole. Considering the whole picture, the ‘to do list’ can be arranged in to a precedence order according to the current requirements. Thus, it may become easier to observe the proceedings and to make improvements respectively. Along

these lines, it will be easier to provide links between operations of the performing organization.

When the mentioned project phases are seized as a whole, they form *the project life cycle*. Many definitions of project life cycle can be seen in the literature. At this point, it may be appropriate to introduce Greer' s that explains the project life cycle as a collection of project phases whose name and number are determined by the control needs of the organization involved in the project (Greer, 2001). Project Life cycles are refered as Systems Development Cycle in some resources.

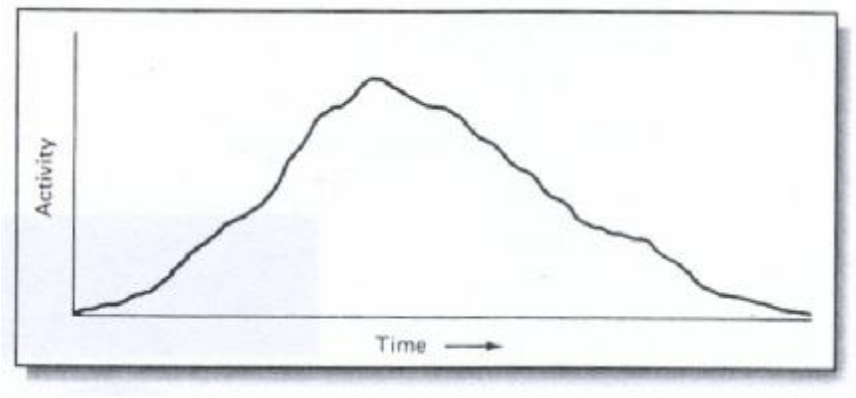
1.4.2 Characteristics of Project Life Cycle

The process of developnig, implementing, and operating within a system involves a logical sequence of activities, this is the cycle where the projects occur. (NICHOLAS 2001)

Number of phases in the project life cycle, the period between the beginning and the end of the project in other words, differ from one project to other depending on the nature of the project.

Since there are different definitions for this period in the literature, many of them share some common characteristics. In the early phases of a project, cost and staffing that forms the activity is comparingly low, it increases towards the end. As the project comes close to the end, it diminishes rapidly. The pattern is illustrated in the Figure 1. 3

Figure 1. 3 The activity in the lifecycle of a project.



Source: Nicholas 2001

Since projects may have similar names for the project phases, if the companies are using softwares for the project management, there can be variations. A software may have a single design phase while another has seperate phases for functional and detail design. (PMBOOK 2000)

1.4.3 Phases of Project Management

When a project is carried out, there are hundreds of activities that has to be undertaken in order for a project to be completed. If all deliverables were tries to be completed and all the tasks were accomplished at once, a chaos would occur for sure. As a substitute, the activities can be sequenced. In this manner all of the activities can be carried on sistematically, also logically. That constitutes the reason why the tasks and activities are grouped. The phases can be examined in five groups.

The first phase is *determining need and fisibility.* In this primary phase, the overall project concept is analized. The market research may be conducted, alternatively fisibility study's can be adopted. The project manager or the other specialists decide whether such a project should take place or not. A formal approval or

disapproval is revealed. There is a need for the related deliverables. Within this phase, goal definition, concept definition, needs analysis, market analyses, strategy definition, cost analysis are addressed. Only some of these activities or in contrary more of these activities may take place.

The proceeding phase is *creating the project plan*. If the project was decided to go live according to the feasibility study in the first phase, a detailed plan of the project has to be outlined. All of the activities that need to be done within the finite project duration, are to be issued. The activities are organized in a formal document which will form the basis for the project manager and the prospective team members who will execute the project in the course of time. This document, the project plan, will be useful in the sense that it relates the determined activities to the sequences of the feasibility studies done during the first phase. In addition, this plan will provide a written statement of the deliverable's information, the processes, the resources required to be maintained.

This document will also include an analysis of requirements of the projects. Network diagrams can be created to make the linkages clear and visible.

Work Breakdown Structure should be created and added to the project plan as well.

The project schedule, the budget of the project will be recorded on this document.

The project plan will be approved by the stakeholder, and the sponsors if there are any, before the project initiates. Hence, it will provide clear basis for the communication between the stakeholders. There won't be any confusions about the processes since all the agreed details, costs and the general scope of the project will exist on the formal project plan.

The next phase of project management is; *creating the product specifications.* The

expected outcome of the project are described in this stage. The flowcharts are drawn. The specifications of the deliverabes are written down on a formal document. These specifications have to be distinguished from the ones outlined in the previous phase of creating the project plan. In phase two, the deliverables were only stated so that the project plan could be created. Following the approval of the project plan of Phase two, the related people can begin to work on deliverables to detail them. Meanwhile, time and money may be spent. Thereupon, the stakeholder can examine the detailed format of the deliverable to assess. So forth, the team may need to make some modifications due to the stakeholder's comments. Since the deliverables had been evaluated by the stakeholders in the previous stages, the team members won't have to create them again and just make needed changes on the paper. Finally, the approval of the stakeholders will be taken in order to begin to the next phase.

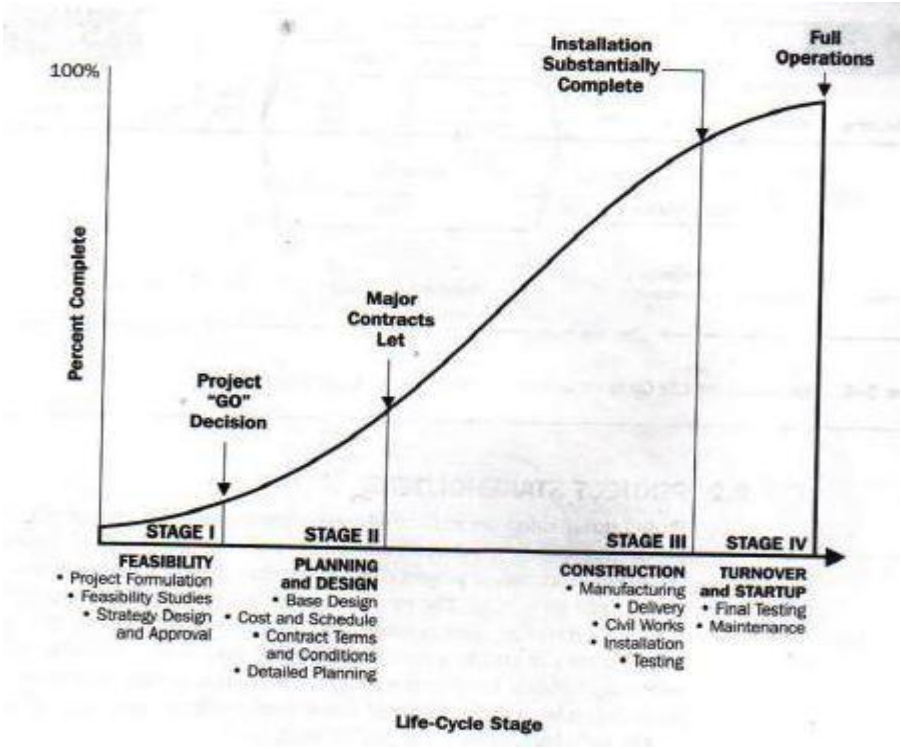
The forth phase is *creating deliverables.* Prior to this phase, the specifications of the deliverables were determined. However, creating the deliverables in accordance with the approved specifications is the process that takes time and energy. This is a time-consuming and resource-intense phase in which all the activities are completed with the aim of creating the prototype. (Greer, 2001)

The activities to be undertaken in the deliverable creating phase differentiates in every project. Nevertheless, some activities that may be issued are creating the prototypes, creating some parts of the deliverables, providing the services indicating in the project plan (Greer, 2001), and again, obtaining the approval of the stakeholders.

The final phase is, *Testing and Implementing Deliverables.* Meanwhile, the

enhancements and the revisions are made if there is a need. The main target of the phase is to finalize the project product. The final tests can take place depending on the sector in which the project had been taking place. Applying final testings, making last corrections due to the test results, and receiving the approval of the stakeholders can be some of the activities carried on within this phase. In the following figure, the life- cycle stage can be investigated through PMBOK Guide's (2001) configuration. Figure 1. 4 illustrates a representative Construction Lifecycle.

Figure 1. 4 Construction Lifecycle



Source: PMBOK 2000 Edition

1.5 PROJECT MANAGEMENT PROCESSES

In order to accomplish all of the tasks concerned with the project and providing that the project has been executed effectively, some actions have to be taken. A series

of these actions have to be undertaken with the aim of bringing about the specific results relevant to the projects. These logically designed actions can be referred as processes and there are some standard processes that have been underlined by the Project Management Institute. (Greer, 2001) The processes including *initiating, planning, executing, controlling, closing* are better to be applied to all of the project management phases explored in the prior sections of the study. It would be appropriate to examine each of the processes for further understanding of how they are needed for the completion of the phases.

Initiating is the prior process which refers to the authorization of a phase. It has to be undertaken to present that there is a commitment for a particular project phase to begin. Initiating resemble the green light from the client to begin the current phase. (Greer, 2001)

Planning, is the concern that through which the people related with the project can move further within the duration of the phase thus the project.

The process following the planning is, *executing,* by which the project plans are realized. Project plan execution, team development, information distribution, solicitation, source selection and contract administration are the subprocesses of the executing process.

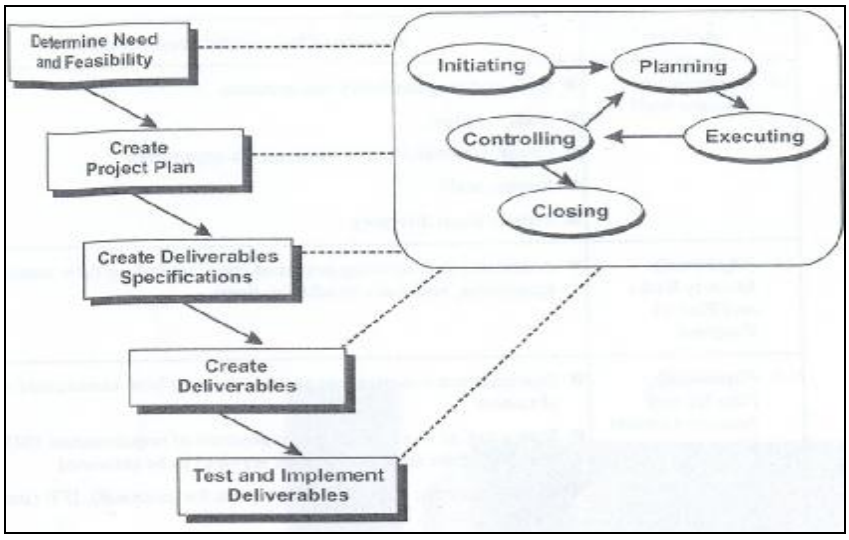
The forth process is *controlling* which involves comparing actual performance with the planned performance. The prior plans may not be identical with the actual outcomes of the efforts. If there are any divergences from the initial plan of the project, the possibble measures have to be taken in order to return to the main path of the plan. The man plan can turn out to be realized again through some corrective actions. Also in the controlling process there are some subprocesses including;

progress reporting, overall change control, scope change control, cost control, quality control, quality assurance, risk control.

The final process is *closing* which aims to terminate the duration of the phase. Since the projects involve different actors a formal format should be used for clarifying the end of the phases so that the discussions can't be in question. Closing refers to the approval of the stakeholders and the other parties involved in the project about the outcomes of the phase so that it can come to an end. This final process of closing is consisted of some subprocesses as well. These can be stated as scope verification administrative closure and contract close out.

The life cycle and the processes of the project management are closely related with each other. The project manager and the team members need to go through the processes in order to be able to properly manage and complete the phases of the project life cycle during the management of a project. The figure 1.5 demonstrates the linkage between the processes and the phases in the lifecyle of the project management.

Fıgure 1. 5 Project Phases and the Project Management Processes



Source: (Greer, 2001)

The project life cycle is linear since every phase exists due to the existence and result of the previous phase. However, this is situation is not valid for the project management's processes on the grounds that the processes occur repeatedly during the project duration throuhout all of the phases.

The outputs of each phase are determined by the deliverables which are directed by the project life cycle. Despite, the project managers are directed and influenced by the project management processes since it identify the actions that he/ she has to undertake in order to add a value to the project success.

1.6 TOOLS AND TECHNIQUES RELATED WITH PROJECT MANAGEMENT

In projects scope planning is needed to take place. Scope planning may be explained as the process of clarification of the project details and documenting the work of the project. The product/ service description and the project charter are the initial matters of the project scope planning. The results of scope planning are scope statement and scope management plan. The scope statement identifies the project objectives as well as the project deliverables. In this sense it serves as an accordance between the project and the project customer.

In project management, the major project deliverables should be divided into smaller and comparingly more manageable parts. This process mey be referred as the scope definition of a project. An accurate scope definition of a project carries a unique importance in the sense that the final project costs can be expected to be higher. Then the result would cause the work to be undertaken again, the project time would increase while the productivity decreases and the workforce would be demotivated.

Determining and defining the scope of a project, in other words laying out the plan, is possibble through several tools and techniques. Work Breakdown Structure (WBS), the Gantt chart, the PERT/ CPM charts are the primary tools in plotting the path that also represents a schedule network.

1.6.1 WBS (Work Breakdown Structure)

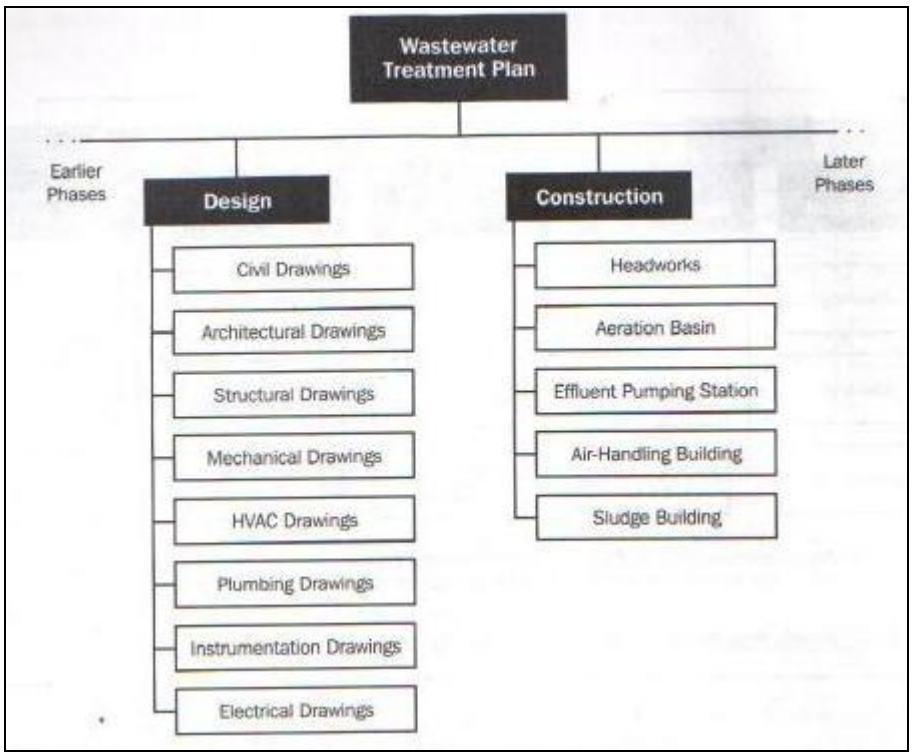
"A WBS is a deliverable- oriented grouping of project components that organizes and defines the total scope of the project." (PMBOK Guide, 2000)

It can also be explained as a complete depiction of all of the tasks that are required in order to achieve successful project completion. (DAVIDSON, 2000)

The WBS is generally used to form a common structure that is confirmed by the related people and it is normally presented in a chart form. The WBS corresponds to a task list. The tasks and in other words, activities are listed in accordance with the structure of the projects. A sample WBS may be seen in the following figure 1.6.

As shown in the figure, every descending level, is a deputy of a more detailed description of the project deliverables. The WBS illustrated is only a sample. It doesn't aim to indicate the full scope of any organization.

Figure1.6 Sample Work Breakdown Structure for Wastewater Treatment Plant



Source: PMBOK 2000 Edition

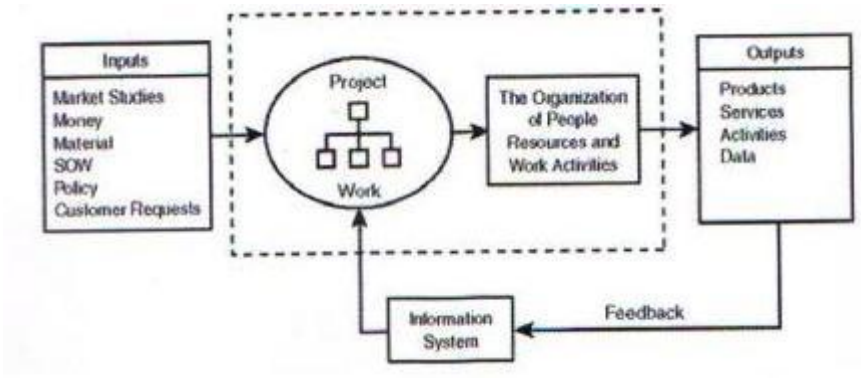
There are few kinds of breakdown structures that are used with the aim of donating the project information. These are;

- *Contractual Work Breakdown Structure (CWBS)*
- *Organizational Breakdown Structure (OBS)*
- *Resource Breakdown Structure(RBS)*
- *Bill of Materials (BOM)*
- *Project Breakdown Structure (PBS)*

The simplest form of WBS is the outline. However, it can also appear as a tree diagram or other forms of charts. As shown in the figure1.6 in the outline form, WBS lists the each task, each associated subtask, milestones, and deliverables.

When the project has many layers it is more appropriate to use a tree diagram form of work breakdown structure. Various subtasks contribute to the overall accomplishment of activities, which also contributes to the completion of phases. The completion of a phase leads to another phase and finally the whole project is completed. A tree Diagram form of WBS is introduced in figure 1.7.

FIGURE 1. 7 A tree Diagram, as another form of WBS

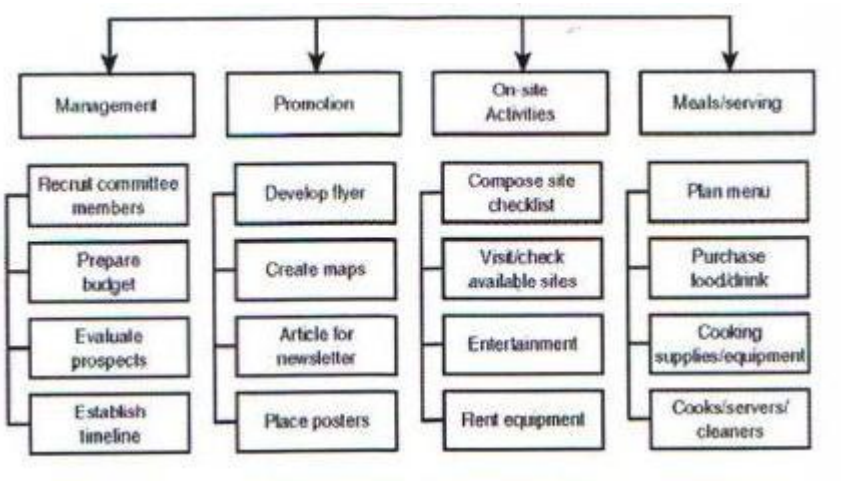


Source: Davidson, 2000

Both two types of WBS, the outline and the tree diagram, offer benefits in different perspectives and both differ from each other in means of their efficiencies. The tree diagram WBS efectively seperates the functional activities of a project however it is not able to present high levels of activity details. On the other hand, the outline form of WBS is capable of conducting the details required for the achievement of special tasks. Combining these two forms of charts in a single format would able the WBS to give an accurate snapshot of how the project is organized and which team groups of responsible of what. By constructing such a diagram, the effective aspects of each would be combine and strengthen each other, while the weaknesses of each would conceal the other's. By using a diagram consisting both the tree

diagram WBS and an outline WBS, the project managers can view the whole picture at one time and assure the totality of the entire project. An example of such a WBS is introduced below:

Figure 1. 8 A combination tree diagram and outline WBS

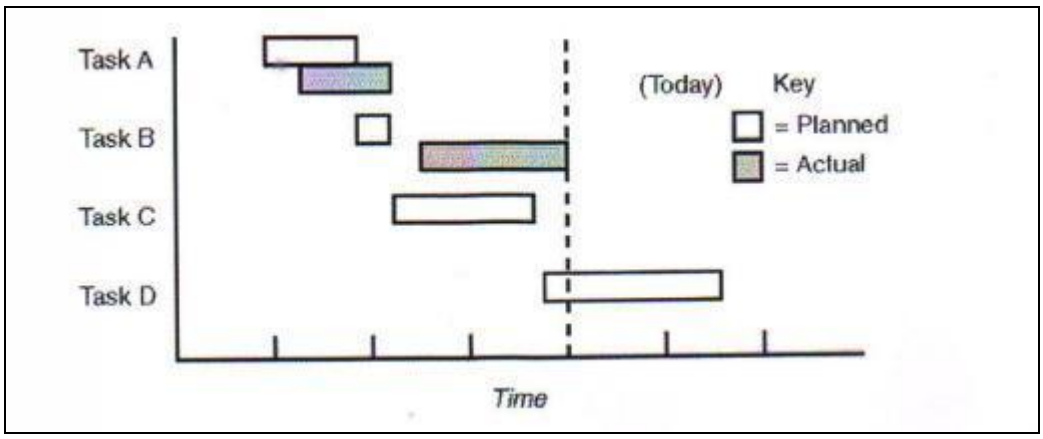


Source: Davidson, 2000

1.6.2 GANNT CHART

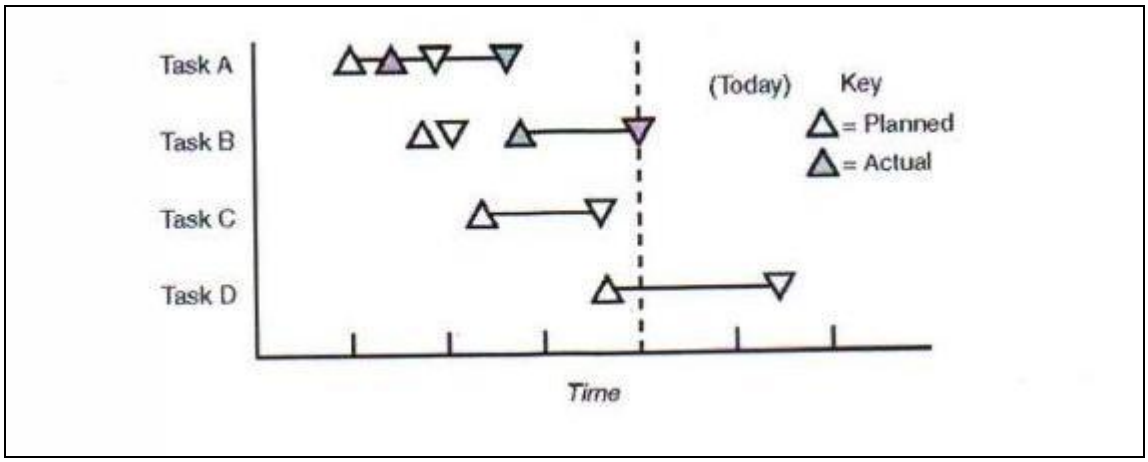
Gannt Chart is a useful tool for relating to *what- if* questions. When the sequence of evets are explored, managers need a shifts on the duration, the number of the working days accordingly with the advance of the need. Some different types of Gannt charts are as illustrated in the following figures.

Figure 1. 9 Gannt with Bars



Source: Davidson, 2000

Figure 1.10 Gannt with Triangles



Source: Davidson, 2000

1.6.3 PERT/ CPM

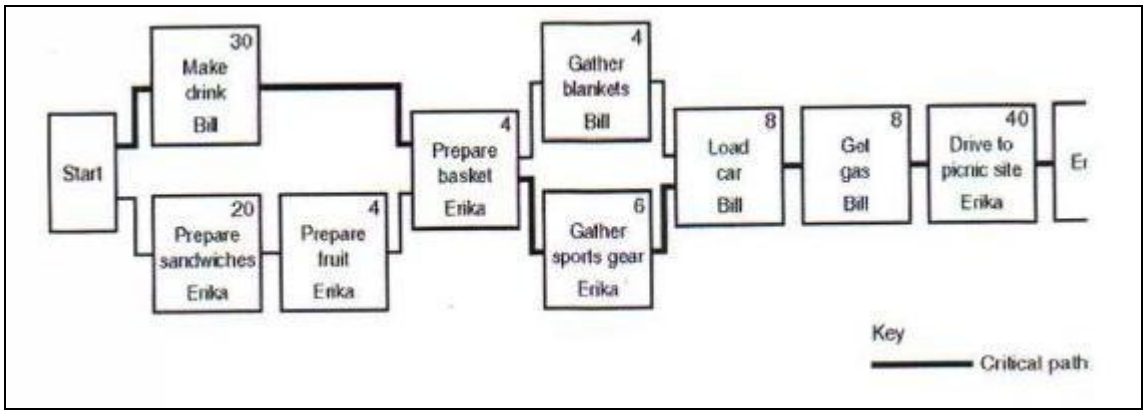
The Program Evaluation and Review Technique, PERT in short, offers control up to a level. Most of the resources in the literature indicate that it has become essential for many projects.

The usage of PERT, may provide a project manager with the ability to identify a

task or set of tasks that represent a defined sequence crucial to project success.

The critical path method, CPM, "calculates a single, deterministic early and late start and finish date for each activity based on specific, sequental network logic and a single duration estimate." (PMBOK, 2000)

Figure 1.11 PERT/ CPM network



Source: Davidson, 2000

1.7 PROJECT MANAGEMENT IN THE SERVICE INDUSTRIES

Project management used to provide ways through which the processes could be managed effectively in the manufacturing industry. However, taking the recent years into account, it wouldn' t be convenient to regard project management just as a tool for industry.

In today's business environment, the project management serves as a management pattern that covers wide range of services. Many service industries such as banking, consulting, accounting have realized the fact that they may utilize from project management tools to serve their customers at an optimal level. Since what services sectors provide to their customers can not be touched, seen or heard, the strongest

asset of the service offering companies is “satisfaction”. The way how the customers are treated and how they feel themselves while providing services may strongly affect how they perceive the processes.

In human nature there’a a common reality that people exaggerate the roughnesses when they are disconcert and they may experience a feeling of cheer just because of a small, meaningless and irrelevant reason.

Similarly, if the customers are satisfied with the services they receive, they wouldn’t create problems. They wouldn’t mention the daily contrariness they come accross to. Though, if they are contented, they will probably stress even on the unimportant problems and intensify on the small inconveniences just to reflect their annoyance.

The service sector can said to be going through a revolutionary change. This situation, clearly, effects our lives. New services are continually being launched to satisfy the customers needs that the customers don’t even know that they would expect such a thing. The customers turned out to be impatient when delays or errors occur. The service provider need to offer higher and higher performance than competitors. This will be valued by the customers. Poor performances are not credible anymore. The customers don’ t tolerate them.

An important factor to be highlighted at this point is that, there are some features associated with the project management which differ in some ways when we talk not about the manufacturing industry but the service sectors and the service chains.

The major divergence can be assessed through the fact that the output of services is not tangible by its own nature. The characteristics of the service sector modify the standard issues of project management and it seems like, a unique new approach

for project management is being emerged.

Technology, resources, requirements and also schedules are due to a change because of the disappearing borders and widening globalisation. As a consequence, the projects become more complex. Project managers have to follow the developments in these areas.

Since the procedures depend mostly on the people in the services sector, the uncertainty is more probable. Thus, this human involvement makes the conditions more difficult for the project managers in the service sectors.

Between the numerous service industries, logistics and supply chain management are between the areas in which these differences can be clarified apparently. Since the supply chain issues are going to be detailed in the latter sections, it would be appropriate at this point to explore the characteristics of the service sectors. This would provide us with the insight to realize the matters arrising uniquely in the supply chain project management concept. A better understanding of both the supply chain project management and the nature of the service businesses will naturally direct us to the newly rising issue of “the service chains” which will issued in pursuit.

CHAPTER 2

SERVICE INDUSTRIES

2.1 NATURE OF SERVICE SECTORS

Services can be seen to play an effective role in today's economy and account for the most of the growth in new position requirements. In means of the size of the services business, the world has witnessed an important increase with the expanding globalization. This fact caused an increase in the necessity of the labor force as well. The value added services are now expected to be served, this can only be maintained through the labor force employed by services. Various industries, including manufacturing, agricultural, human resources etc, there is a large scale of services industries being used efficiently, and this fact has not been realized before. The companies cover wide range of activities such as cleaning up, supply chain management, security, supply of food, human resources etc. Since the coorporations are seeking ways of optimizing their processes and concentrating on their core competencies, they are frequently prefering to outsource mentioned internal services to the 3rd parties who can perform these activities more efficiently.

Many services are difficult for customers to evaluate. A successful project management should lead the customer have a positive perception about what has been going on. Even if there is a problem which he is aware of, this considerate relationship would compel him to behave smoother and understanding about the problems.

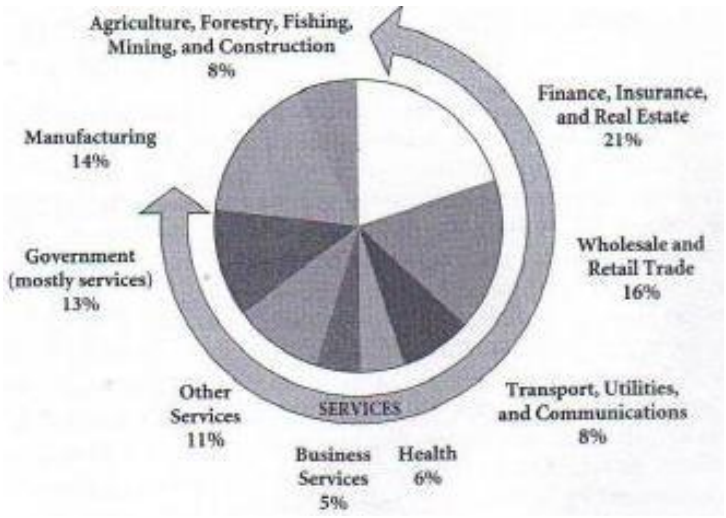
Service providers can reduce customer's perceived risk before a service purchased by helping them to match their needs to specific service features and educating

them to be able to determine what they should expect while getting services and also after the service delivery. A firm that develops a reputation for considerate and ethical treatment of its customers will gain the trust of its existing customers and benefit from “positive word-of-mouth referrals. ” (Lovelock and Wirtz, 2004)

The marketing communication strategy also differ in the service sectors. The service providers need to underline tangible factors in services that are comparingly difficult to evaluate. To clarify the sequence of the service performance is not as concrete as when clarifying the course of when buying goods and products.

The service industries expand all through world and the related organizations vary in size. There are widespread international companies operating in services sector such as insurance, banking, finance, logistics, airlines, hotels. On the other side there are some locally owned small businesses which include restaurants, laundry centers, beauty centers. Regardless of the sizes of the companies the size of the service sector has been expanding in most of the economies of the world countries. To illustrate this expansion, the major service industries that contribute to the gross domestic product (GDP) of the USA economy can be viewed through figure 2.1.

Figure 2.1 Contribution of Service Industries to U.S. Gross Domestic Product 2001



Source: Lovelock and Wirtz, 2004
U.S. Bureau of Economic Analysis, Survey of Current Business, November 2002, TABLE 2, P.32

As determined by a research, the services in the developed countries accounted for 66% of the GDP in 1995, and 32% accounted for the manufacturing industry. However, till today this amount increased tremandeously that its volume reached up to 58% of worldwide gross national product. (Baltacıoğlu, Ada et al, 2006)

In the sector, it is a major need to gain a good understanding of what the consumers want to receive and how. The strategies of service offering may than be materialized accordingly. One of the main tenets of projet management in service sectors is the human involvement in the assessment phase. In production, customer evaluation procedures vary from the evaluation processes of the service chains. Due to the customer satisfaction to be achieved through the processes, long term relationships between the service providing companies and the customers may be provided.

The operations system consists of the personel, facilities and the equipment needed

to run the operations. Only the front stage is visible to the customer.

In the services sector it will be more reasonable to determine the segments that he is able to provide better services. Businesses should determine their core competencies and these value the companies, depending on their level of performance on the related attributes.

There are some specifications of services which make them different from the goods. It has been pointed out before that services are intangible; they can't be stored, can' t be patented. Another specification is that they are heterogeneous. In contrary to the standardized goods, the satisfaction of the customers depend mostly on the actions of the service offering company's staff. It is not at ease to compare whether the service offered was same with what was demanded. There is a simultaneous production in accordance with the consumption in the service industries. All actors within the process effect each other aas well as the delivery of the services and the outcomes. Another factor distinctive to the services is the perishability. It is quite difficult to synchronize supply and demand when services are in question. Unused services can't be returned for a future usage. (Zeithaml, Bitner, 2000)

2.2 PERFORMANCE MEASUREMENT AND OPTIMIZATION IN SERVICES

The major point of services is that there is a tangible result. It is not possible to see or touch the outcome of the services. This situation brings forth the difficulty to evaluate the performance of the services offered. Customer satisfaction becomes more crucal since the human involvement creates high levels of uncertainty as well. Since the outcome of the service industries are intangible, the customers always

prefer to know the quality of the services they receive. They prefer being informed about the effectiveness of the processes they go through. One way of measuring performance in the service industries is using Key Performance Indicators. (KPI's). A sample form of KPI's used in warehouse management services may be found in the appendix on the final page of the thesis.

Another unique aspect of the services is the pricing strategy. A cooperation needs to be accurately informed about its costs while providing services, the value he is going to introduce the customers and also the pricing strategy of its competitors. In manufacturing, determining costs is more concrete when compared with the services sector. A manager needs to be certain about whether the quotation he offers is sufficient to cover his costs or not. Since various industries are being served in the services sector, the pricing format that the customers are wishing to work through differs. A cooperation needs to be able to set prices in accordance with the demand of the customers. If a logistics company is offering warehouse management services, his customers may wish to receive price quotations based on various matters such as; the number of units to be stored, or the square meters he is going to use in the warehouse, the cubic meters that his products surround, the number of pallets to be handled in a day etc.

Since the services combine multiple elements, the pricing strategies also needs to be flexible. Since the customer satisfaction is the primary concern, companies should not apply a strategy such as hiding additional costs, that will come into light only after the usage of the service. Such a manner would damage the relationship and cause diminishing levels of respect and trust. In services sector, the coorporations should consider long term outcomes of the daily events. A corrupted

customer trust would certainly not benefit him in the long run.

The customers in general, need to remain the strong side while receiving services. They need to feel that even if the service provider is specialized in his business area, the customer's opinions and suggestions are still important for him. In this sense, the customer should be seen as a part of the process assessment phases. The desired participation needs to be determined, and customers need to be motivated.

In the service industry, the environment plays a crucial role on shaping the perception of the customers. The insight of the customers may turn out to be negative or positive regarding to the atmosphere. Tense environments may create stress on the customers and this can effect their evaluations in both ways. In contrary a pleased background can turn their moods in a positive manner which will certainly add value to the final success of the services being offered.

Human Resources aspect of service sectors constitutes another milestone. Since the majority of the operations will be human related projects, the way people actuallize their duties, their talent on the subject is a determining factor of the evaluation of the service projects as a whole. There is a reality that servicing business become successful through effective management of their human resources.

2.3 SERVICE RECOVERY

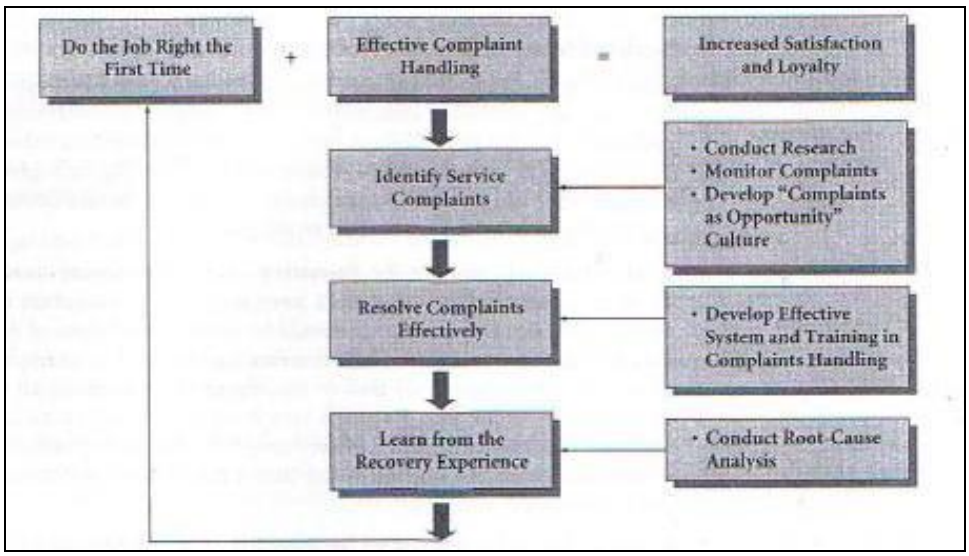
In the services sector it is not at ease to measure the performance. For service providers the customer feedback is a helpful way of reviewing itself. The level to which the company can handle the complaints may be more successful while resolving the problems and optimizing the processes. Customers may tolerate the problems if they believe that the solution is being searched. Otherwise, they will immediately shift to the partnership of another company providing the similar

services more effectively.

The impact of effective service recovery is obvious on customer loyalty. Customers may complain continuously during the time that projects run. However, when these objections are taken into account seriously and resolved satisfactorily, it is more probable that the customers involved in the project will remain loyal.

The best choice is, certainly, to serve appropriately at the first time. However, in the services sector, this is not very presumable because of the human factor in the processes. That is why, there is a need to mention the effective service recovery systems. As far as there is a probability of unsatisfactory experiences the managers need to guarantee themselves with effective procedures for service recovery. Three principles may be pointed out to guide the related people when there is a need for recovery. The customers have to feel comfortable about giving feedback to their service suppliers. In pursuit, there should be an appropriate arena for the service recovery. Finally some compensation levels should be determined. (Lovelock and Wirtz, 2004) These 3 dimensions of service recovery systems may be visualized in the following figure 2.2.

Figure 2. 2 3 Dimensions of Service Recovery Systems



Source: : Lovelock and Wirtz, 2004
Adapted from Christopher H. Lovelock, Paul G. Patterson, and Rhett Walker, Services Marketing: Australia and New Zealand (Sydney: Prentice- Hall Australia, 1998), 455

Service recovery should be carried in a proactive way. The personnel of the service offering firm should realize the uneasiness of the customer and search thoroughly whether the customers are experiencing dissatisfaction or not. Realizing and paying attention to the dissatisfactory situations of the customers before the customers finds a chance to complain, will provide the service offering people with the opportunity to recover.

The recovery procedures need to be planned also. Depending on the nature of the projects, some repeating problems may be faced. It may not be possible to designate them out of the system. In such a case pre developed contingency plans may be helpful to interfere the service failures. The employees will need to know about the plans in order to be able to implement them immediately when they face a failure.

The complaints and suggestions of customers are good for the companies in the sense that, complaining and suggesting customers mean that they want to continue the business with them and they are hopeful for the problems to be solved. This situation indicates the goodwill of the customers

In today's world, marketing strategies go along with the operations, that are tried to be carried out through a cost- effective manner rather than concentrating on the customer. Having a broad knowledge about the customers and their needs, also being a specialist in the area related with the services to be offered, the research and develeopment, sales personnel of the companies in service industries can find cost- effective solutions on behalf of their companies and their customers as well.

2.4 THE REASON OF INCREASING IMPORTANCE OF THE SERVICE INDUSTRIES

As the technology develops the capabilities of companies and their productivity increases in parallel. In manufacturing, agriculture and other sectors, the companies are enlarging and this leads to an increase in the percentage of the labour force. (Lovelock and Wirtz, 2004)

An important fact to be highlighted is the *out of sight* service sector lying within the bussinesses of large companies. So-called hidden services involve various activities. More and more organizations are prefering to outsource activities that are not their core businesses. They believed that some activities can be performed by their professionals more efficiently and less costly for the companies. When these internal services such as recruitment, accounting services, office cleaning, supply chain management, advertising and many more, in total, a great size of services originates.

The service providers serve to individual customers and also to the bussiness consumers. The performance is transitory in the services sector this fact differs from the manufacturing sectors.

The distinctive features of the services industries have been pointed out in this section. Even if various resources have been devoted to the services marketing, the existing strategies relating the subject haven't been analyzed for some other rising areas of the current business area. For instance, one important rising area of business is the supply chain management and logistics. The research issuing the probable relationship between these areas is very scarce. How a supply chain management tools can be applied in the services sectors haven' t been studied broadly yet. In order to be able to establish such a relationship, it may be useful to explore supply chain management approach at this point.

CHAPTER 3

SUPPLY CHAIN MANAGEMENT

Supply Chain Management concept has been stressed within the global market during the recent years. With the advance of globalization, the relations of companies became more complex. The coorporations of today are considered as a whole with their suppliers, and other accompanying units they are related with, while accomplishing tasks. Since it is not possibble for companies to compete in the market without these accompanying units, there is a need for a system that manages the various aspects for firms, that is the reason for the supply chain to rise. Many definitions have been given, many explanations have been made till today. Supply Chain Management, SCM in short, is considered more than only a set of techniques designed to deliver products or services to the consumers, as a substitute, it is a comprehensive and dynamic management approach that helps the growth oriented companies to become advantageous in the competitive market. (Ross, 1998)

In the Handbook of Supply Chain Management by Ayers (2001) the supply chain management is defined as the design, maintenance and operation of supply chain processes for satisfaction of end user needs.

Another explanation of SCM is that it provides companies with a boundry – spanning channel focus where “all steps of a product’s movement, regardless of corporate, political or geographical boundaries, from raw material supply through final delivery to ultimate user to satisfy a particular customer group” are planned and supervised. (Cooper, 1994)

In this context, the definitions altogether rise a point that SCM consists few

dynamics. The first dynamic reflects supply chain management as an operations management technique that enables companies to move beyond simply optimizing logistics activities only but all functions such as marketing, manufacturing, finance are also optimized with the aim of constituting a whole integrated system. In this sense, the managers can synchronize the performances at each step while doing continuing their tasks. In businesses, there are some operational activities that have to be undertaken. These can be grouped as; Inbound logistics, processing activities, outbound activities and support activities are functional groups of operations activities (ROSS, 1998). Another dynamic of SCM may be referred as the extension of integrated logistics management to the performance of interchannel logistics activities. The cooperations may be capable of linking the internal logistics functions with the logistic functions of the suppliers.

The operational aspects of the supply chain include organizing and optimizing the internal functions of a firm with the other parties involved within the business. This aspect enables companies to compete in the global marketplace. On the other hand, there are also strategic aspects of supply chain, that enables the companies to manage the complex structure of various partners effectively.

In the recent years, many resources in the literature refer supply chains as a network. This network of facilities and options contain information about each aspect. The aim is to transfer value to the customer whether in a form of products or services. There are downstream and upstream linkages between different aspects of the chain. The supply chain is created by various realitionships between suppliers and customers.

Supply chain management, brings forth new knowledge. It has introduced new

practices and skills that the related people in companies should benefit. Recently, there is an intensive competition between companies in various sectors. They try to differentiate by adopting new management tools, some concentrate on new segments of customers, and there is a broad range who have turned to analyze their processes as a whole. Instead of trying to make difference through their management goals, it may be more effective to try to improve themselves in the scope of these new practices of SCM.

Determining the supply chain management approaches is crucial for organizations in the sense that these borders will also configure the borders of projects pursued under the supply chain concept. In the previous sections of this study, the concept of *scope definition* was explored. Scope management holds a same level of importance for the supply chain management concept. The attitude of the companies shape the scope. They may expand or limit the scope in accordance with their general approach. It is a necessity for companies to widen their visions and be aware of the fact that applying true and effective supply chain management requires new perspectives. The internal functions of the company may be revised if there is a need in order to be in accordance with the scope.

An increasing number of companies are realizing and adopting these new perspectives to their organizations. The aim is to concentrate on the core competencies, optimize the processes and become strong enough to be able to compete and also win in the competitive market. Hence, conforming all these current developments within the industry, it is probable that the competition turns out to be between the supply chains instead of the companies. (Ayers, 2004)

Supply chain management application requires strategy making as well as

operations excellence. Supply chain management is not just a “left-brain” discipline. It also requires “right-brain” thinking (Ayers, 2001). As indicated in Ayers’ words, SCM is not limited to managing various number of transactions needed to get a product from producer to the user. It also requires a strategy to be developed in order to fullfill the needs of the business areas that are expecting to be served.

In the globalized bussiness area, the companies are seeking ways to improve their long term performences. In the competitive market they are forced to apply enhancements to every steps they have in their processes but analize all their activities as a whole at the end which brings forth the supply chain concept as including these activities as a whole. The supply chain management, that the companies are trying to optimize, is contains various logistics activities. Transportation of goods, management of bonded and free warehouses, information systems management, inventory management, materials handling, operations planning, customer service and order planning, packaging, distribution can be mentioned as some of the main logistics functions. Further information about logistics in the supply chain will be provided in the latter sections.

John Langley, from the Georgia Institute of Technology pointed out some proposals for the future of SCM. (Ayers, 2004) The following table illustrated his suggestions and also notices upon these suggestions may provide an insight for us for the future of SCM, just after analizing the SCM strategies, perceptions and applications within today’s global market and before determining the differences between the supply chains between the service sectors and manufacturing sectors, Ayers’ s Propositions for future SCM can be explored in the following table 3.1

Table 3. 1 Propositions for the Future of SCM

	Proposition	Description
1	Managers must understand the customers' customer.	If you are far back in the supply chain — one or two levels away from end users, you must understand how end-user needs will affect your customers and you.
2	"Not everything that can be counted counts, not everything that counts can be counted."	Defining useful measures is deceptively difficult. Many traditional financial measures are too simplistic for effective SCM.
3	Failure to use information technology well precludes achievement of objectives.	Examples of technology support include supply chain pipeline visibility, exception-based notification and collaborative information sharing.
4	Logistics/SCM is the sweet spot for collaboration.	This proposition is attributed to Michael Hammer, author of *Reengineering the Corporation*.[7] The theme is that any organization needs the support of others to succeed.
5	Outsourcing will grow in importance.	Services like those provided by 3PL providers and contract manufacturers will continue to grow at rates exceeding 20% annually.
6	"Multinational" and "global" are worlds apart.	Just because a company operates in many countries, it isn't operating a global supply chain. This is true even if the products are the same from country to country. The advice "Think globally, act locally" may lead to isolated local supply chain designs.
7	An organization needs to know its competencies.	Three criteria are helpful in defining these: 1. Do we have the needed skills? 2. Is the activity consistent with the organization's mission? 3. Do we have the ability to invest in this capability? A "No" to any of the above questions makes that activity suspect as a competence. If it is not a competency, it should be the role of a supply chain partner.
8	Winners will identify and implement the best strategies.	The most important feature of this proposition is that winners must have a strategy. Obviously it helps to have a good one. The strategy should be customer-driven and produce the right mix of innovation, differentiation, effectiveness and efficiency.

Source: Ayers, 2004

The nature of the services sectors require a unique structure of Supply Chain mangement. When the manufacturing industries are due to the subject, the SCOR model, developed by the Supply- Chain Council is a standard for supply chain management of the manufacturing companies. In the model, the manufacturing company is considered as the central unit, the suppliers and the customers form the other units also acting similarly with the central manufacturing firm. The Scor Model is illutrated below.

Figure 3. 1 SCOR Model

Source: www.supply-chain.org

3.1 SUPPLY CHAIN MANAGEMENT IN SERVICE INDUSTRIES RATHER THAN IN MANUFACTURING

In order to create en effective strategy in for projects in logistics sector, a collaborative manner is usually helpful. Collaboration along the supply chain may be beneficial for the projects success. Bringing partners from outside the company into planning and executing supply chain operations may facilitate as an assistance to create great strategies that improves the whole process and finally make the project management more crucial. Colloborative manner can be shown as one of the differences between project management in logistics and the sectors other than the service sector.

In the recent days, a new fact appeared as the economy evolves from manufacturing to services. It is important to be aware of the situation and analyze whether the experiences gained through dealing with the manufactoring sector can

directly be extrapolated to service supply chains or not.

The effect of traditional manufacturing – oriented supply chain strategies on the operational and financial performance of firms in both service and manufacturing sectors is compared. The results highlight similarities and differences between the two sectors – demonstrating that effective supply chain strategies in one sector may not be appropriate in the other sector. (Sengupta, Heiser, Cook, 2006)

As the influence of service sector expands, atention should be directed to the supply chain management in this field so that the nuanses different than the usual supply chains of manufacturing can be realized, the issues and complexities within service supply chains can be understood.

In service supply chains, human labor plays an effective role of delivering value to further steps within the whole chain. For a service organization, the strategic use of capacity facilitates operational agility.

On the other side, physical handling of a product guides to standardized procedures and settled controls in the manufacturing supply chains. In services this situation can't exist since most of the decisions are taken locally. The facts may vary unexpectedly and uncertainities in outputs are high especially because of the human involvement.

The focus of efficiences in service supply chains is on management of capacity, flexibility of resources, information flows, service performance and cash flow management. These are different in manufacturing sector so it would be better for the managers to identify these issues and make some benchmarks before pursuing supply chain strategies that they are familiar with from their previous experiences in manufacturing sector.

Another reality of the service supply chains is that there isn't a chance to utilize an offer at a later time of its proposal . If a service is not used when it is provided, it can not be kept for future usage of the people and the industries. The matter of fact can be referred as *perishability* (Baltacıoğlu, Ada, Yurt et al, 2006).

In regard to these differences between supply chains of the two industries, as it was mentioned before, some similarities also exist between the supply chains of these two sectors. In both sectors, a demand exists and demand management has to be conducted. Likewise, in the manufacturing sector and also in the service sector there is customer relationship management, in addition to the management of supplier relationship.

When two sectors are analyzed from a managerial implications point of view, some differences are also highlighted, which lead to several managerial implications.

First one is the fact that the specific strategies for predicting performance vary within each sector. For instance, in manufacturing sector, operational performance is predicted through a firm' s strategies for hedging risk. Though, financial performance is predicted by the strength of long- term relationships and attention to their supply network.

The second is that the impact of specific Supply Chain Management strategies on performance also varies across the manufacturing and service sectors.

To point out once more, it is crucial for managers in manufacturing and service sectors to consider the impact of sector – specific considerations when benchmarking techniques from other sectors.

CHAPTER 4

LOGISTICS AS A CUSTOMER DRIVEN SERVICES MANAGEMENT

John Langley, from the Georgia Institute of Technology, comments on the supply chain as a "network of resources that supports fulfillment and satisfaction of customers" and he notes logistics to be 30% of the supply chain composition. He indicates that the manufacturing and material acquisition aspects constitute the rest, 70% of the supply chain (Ayers, 2004).

Logistics is regarded as an integral part of the business in today' s world. With the fact that the competition in the world' s market, the companies can't increase the sales price of their products or services. Instead they seek ways to decrease their costs in order to increase their profits. Now they prefer improving their logistics operations since logistics is a major factor in determination of costs. In the world market, properly they may improve their margins of profit. In the earlier years, cost were considered to be controlled through economies of scale and sales volumes. (Balachandran, 2004) However, in recent times, costs can only be controllable through a accurate analysis of operations and effectiveness. Value of each activity can effect the whole process incredibly. While overviewing the process as a whole, the alternatives should be examined as well to optimize every step and reach to an effective result. Logistics can be used as a beneficial tools to provide effectiveness.

In various sectors, people are prefering to outsource some activities and operations that are not related with their core businesses. Logistics is one of these operations which companies find reasonable to pass on to specialized companies in this sector. In accordance with this preference of the companies, logistics have become an important service bussiness. Companies from various sectors, don't attempt to

manage their logistics themselves but outsource this service. Since these activities require time and energy to be managed, by extracting management of these operations they remain with the ability to use this energy and time in their core bussinesses instead.

There are many services that are offere by logistics comanies. They manage the collection, transportation warehousing and delivery of the products.

The goods can be transported between countries through different modes of transportation. In some countries the logistics companies also provide customs clearance services to their customers. Regulatory authorities demand some clearences when import and export operations are in question. As mentioned, logisticians may organize the required documentation and procedures about customs and related taxes. Companies don’t want to deal with these matters but they wish some other professionals to do it in the name of them.

Warehouse management is realized by logistics companies. This may not only mean storing goods but it can also involve some value added services such as warranty card printing, users manual insertation, bandroll assurance, batch number follow up, repackaging, rebarkoding etc, actualized within the warehouse.

For some customers, cross dock areas may be coordinated when there is no need for products to be stored and wait in the warehouse. Instead, they may be unloaded from the trucks and reorganized in the warehouse in accordance with their destinations. Logistics companies can help their customers to obtain from time if they can orgaize the cross docking system effectively.

Distribution is another service offered by the logistics companies. There are various types of distribution such as; Macro and micro distribution, Cold Chain

Transportation etc. Payments may also be collected from consignees.

In means of distribution, the logistics companies can perform well provided that they optimize the usage of the vehicles in their fleet along with the effective use of time. (Balachandran, 2004) The types, sizes, number of the vehicles used should be in compliance with the needs of the customer and the nature of their operations. They work on the operation details including the addresses of the distribution points while determining the number and the type of trucks to be used in the operation. Optimal routes are designated. Lead times should be determined taking the possible delays into consideration. In the competitive market, the companies that are capable of providing the optimal solutions in means of routing and timing as well as avoiding and reducing the delays can succeed establishing long term partnerships.

Depending on the volume and the duration of a logistics project, a logistics company may use its own vehicles to give distribution services or it may also use service from other carriers. The geography where the operation will take place, as well as the location of the distribution points can also affect this decision. The customers would most probably prefer its own vehicles depending on the reason of safety. One of the prior expectation of the customers is safety. Throughout the world there is a wide-spread solution in means of security; Track and Trace Systems. Through the usage of the satellite systems, companies turned out to be able to view their fleet 24 hours. As far as they provide the possibility of control to their customers, whether the company uses his own vehicles or not shouldn’t be the concern for the customer. Customers expect to transport their goods in the appropriate conditions and at the right time.

Some companies willingly work on one-time jobs. These companies don't have customers on regular basis but they make use of their vehicles whenever there is a spontaneous need. On the other hand, some other companies make investments for their clients of long term projects. By choice, they dedicate needed number of vehicles to a specific operation to make round trips. Whichever is prefered, one of the significant aspects of project management is the customer satisfaction.

Logistics services is in a developing stage. The companies are in a competition due to which they are trying to provide value added services to their customers that can make their lives manageable. There are some retail customers who sell small units even the smallest grocery in Turkey. They may expect from their logistics partner to provide door to door service and to receive their receipt, deal with the collection of the money, the control the payments, and pay the money back to them at the end of the day. This is an important indication of the position that the market has reached to. The logistics company can deliver the goods to the doors of every single customer and than with his receipt he can control the payments while collecting the money.

While providing services to logistics customers, another the important factor for the service provider is whether the company can focus on the speed of the operation in addition to the quality of the service. In order to preserve the partnership with customers, the companies have to draw their attention to its performance instead of its profit. In Turkey, it is possibble to examine some logistics service providers working with their customers wihout any profits even if this is not the perfect solution.

The companies should evaluate the concepts with the aim of building a relationship

that can be productive for both sides. A win- win solution would be the basis for a long term partnership since both of two sides can be satisfied. These operations can provide the partners with mutual advantage.

During an operation, there are some factors that effect the performance of the company either positively or negatively depending on the conditions. The problems may arise because of the irregular organization of the customers time to time. An example can be mentioned considering the warehouse management. When the customers print invoices to their customers and give collecting order to the warehouse software however the system may not let the personel to collect the good since required amount of that product is not in the warehouse. If the customer didn't order the goods priorly, the warehouse will remain out of stock since the order collection time. Otherwise it could have replanished itself.

The logistics company should be able to provide demanded types of reports. By presenting such reports, a basis for forecasting of the further months can be provided. This will be beneficial for the warehouse staff to plan themselves in accordance with the incoming operations, and it is also beneficial for the customer in the sense that they can relate some solutions depending on their frequency of previous deliveries. They may determine their weaknesses and also make some improvements if a requirement comes into light after the analysis.

The documentation quality of a logistics company is regarded as one of the key points from which the quality of the service provided by the company can reveal itself. It possesses the previous operations apparent and make the personel capable of indicating what has been done during the previous businesses.

Uncertain lead times, unreliable transit times, multiple consolidation may cause

some problems. Logistics involve many phases of the supply chain management.

4.1 THE REASON FOR LOGISTICS TO BE OUTSOURCED

When companies decide to outsource activities, it is more professional to prepare a Request for Proposal (RFP), Request for Quotation (RFQ) in other words, to be sent to the ‘’Top 2 List’’ or ‘’Top 3 List’’ determined in the sector. The RFP is the most time-consuming of all the steps. Some companies hire consulting firms to assist them in completing the RFP. Most companies complete the process themselves. The RFP should include: a company profile, an organisation chart, customer information transportation requirements, project description, square footage, product flow, transactional information and computer systems information. Other thing that may be included are: company goals, priorities, order lead time, number of SKUs, handling specifications, peak hipping periods, and any information that will familiarise the third party logistics with the company.

There are some companies which has adopted required cost analysis, feasibility studies and decided to outsourced on or more of its activities. However, there are also some companies who don’t really consider outsourcing or don’t really consider changing the cooperation he has been outsourcing from. But, their central offices abroad establish a policy relating to the market searches and alternative service providers periodically. It is an ease to conveince a company to outsource a service from a cooperation which has contains the specifications that the company expects to see. In contrary it is difficult to conveince a company to outsource an activity from a different supplier if such a change is not urgent for it. However it is almost possibble to conveince a cooperation to change the supplier since it doesn’ t experience problems and can continue living with it.

CHAPTER 5

SUPPLY CHAIN PROJECT MANAGEMENT

The professionals in the field are seeking to deepen their knowledge on their professions. *Knowledge* refers to the talents that can be achieved through experiences and training. On the other hand they need to *practice* that refers to the procedures, structures, the vocabulary, the techniques that enables them to materialize that knowledge.

Knowledge and practice exist both in project management and supply chain management disciplines. Four elements can be considered as bricks of supply chain project management that will be illustrated.

With an intend of comprehending the constructive elements of supply chain project management, the following figure can be viewed. It may provide a rough draft in the readers minds. Figure 5. 1 İllustrates the components that form the supply chain project management.

FIGURE 5. 1 Components of SCPM

Source: Ayers, 2001

The management in supply chain requires ways different than the approaches we

were used to encounter. Many bussinesses realized the importance of an internal synchronization of the different sections, tasks and departmants related with the companies. However, taking the projects and activities into consideration, it can be seen that there are still gaps between the planning people of the companies and the other hands on people applying these predeveloped strategies and plans. There are some factors of growing importance in the global bussiness area which cause these gaps to reduce. The divergence groups of an organization have to emerge as soon as possibble in order to carry out projects and sustain their businesses through a composite structure.

Features associated with the project management, may differ in some ways when we talk about logistics. A company' s definition of SCM will set the limits for projects pursued under the supply chain banner. An important element of supply chain project management knowledge is "scope management". Knowledge area and its implication for project definition should be explained more detailed at this point.

The company viewpoint will expand or limit the scope it is willing to pursue. In too many companies, the supply-chain responsible manager' s vision are not broad enough. They are more like functional managers in procurement or distribution areas given new titles. Without a recognition that managing supply chains requires a new perspective, a company is likely to be disappointed in its efforts to improve its supply chains.

Looking from a logistics point of view, the person who is going to communicate with the customers. The reason is that it is a high probability that the manager who is going to deal with will also be not very well aware of these new perspectives. So

it is crucial whether the authorized person from the logistics company is capable of reflecting the new shifts and propose what the customer actually wants to hear. The customer has to be satisfied about the improvement the new system will bring to her company.

CHAPTER 6

SERVICE CHAINS

People receive services from some people or organizations while they are offering services to some other parties. They are customers and the suppliers at the same time. Businesses who are trying to fullfill the needs of their customers are also the parties that are expecting to receive services and usually, they can be said to purchase a larger scale compared to the individuals. Thus, a chain can be the subject in the service sectors due to the fact that there is a demand as an income, which gains value throught the period in which the service is created and there is an intangible outcome of services.

The concept ***service chain*** has newly being discussed as far as it is seen rarely in the current researches. It is beginning to be seen a distinctive concept since the nature of the service processes make it different from the traditional chains where goods and products are the subjects. In the recent years the service specialists tend to realize the unique structure of the service supply chains and this will lead to new studies to be conducted. It would be useful for the service industries to have some theoretical aspects of their tasks, which they had been undergoing.

The intangibility factor makes services differentiate from the other industries. The outcomes of the service industries can not be tolerated similar to the manufacturing industries. When the service sectors are tried to be listed, a new era of discussion may be in case of a rise. For instance, logistics sector is considered to offer tangible products such as providing warehouses, offering vehicles etc. However, since the main task of logistics companies is to organize the supply chain and logistics complexity, this study accepts it as a service industry. There are some customers

demanding services and the logistics industries are offering solutions accordingly.

Since there isn’t a fabrication process and a standard template for the services, the offered services may differ in each case, shaping in accodance with the structure of the customer organizations and demand. The human factor that is highly dominant in service sectors hinder a fixed format of services to be offered to customers. The human being interior to the services causes the industry to face many uncertainties as well as complexities.

CHAPTER 7

PROJECT MANAGEMENT IN LOGISTICS AND SERVICE CHAINS

As it may be mentioned in the previous parts of the study, the project management procedures differ from the traditional approaches of the project management when we talk about logistics. In the recent years, there is a tendency for outsourcing logistics activities as has been explored in the precedence parts of the thesis. When companies decide to outsource activities, they may send Proposal for their Tender. Alternatively it may only be heard from the “sector related people” as a “sector gossip” that the mentioned company is seeking a logistics partner.

Analysing the situation from a logistics firm point of view, regardless to how the company gains such an information, it refers to ***a beginning of a project*** as soon as the company is informed about a customer who needs to maintain logistics services. The fisibility phase initiates pursuingly and the life cyle of the project depends on the results derived from the fisibility studies.

Analyzing the issues from a logistics firm’s point of view, the time period in which a proposal is prepared and introduced to customers may be considered as a ***project*** to be managed by itself. Since it experinces the four main phases of project management; feasibility phase, planning and design phase, creating product specifications phase and creating deliverables phase it requires concentration. As soon as the mentioned time period is over, there are two opportunities. The proposal may result negatively and the quoted potential customer that may decide not to cooperate with this logistics firm. In contrary, the decision of the potential customer may be on behalf of the logistics company. In such a case, similar to the period of proposal preperation, the time period beginning with the positive decision

of the customers, itself, may be regarded as *a project* to be managed.

A *project* of a logistics company may be a potential customer's need of services. A series of meetings take place with the involvement of the customer and the logistics companies and the nature of the processes of the customer firm is analized. Due to the communications, the meeting may end up with deadlines set for the logistics companies to prepare quotations related to the services in question. As an alternative, new appointments can be given for future meetings intending to share further information about the operations. In turn, there is also a probability that the meeting end up negatively, just by the indications of wishes for future partnerships related with the future needs.

Depending on the goings-on of the meetings the lifecycles of projects may be shorter or longer. When a commitment on the issues are achieved, the further series of activities begin for both sides. The team at the logistics company will work on the current conditions, necessities and expectations of the potential customer firms. They determine effective strategies and prepare proposals accordingly. The ideal result of this period is the positive reaction of the customers, declaring the decision of new partner selection on behalf of that company.

In logistics, during a project management process, it is very important whether there is a space between the people who make the strategy and those who do eveyday work. If there is a large space, getting these two groups together is quite urgent for the projects success.

Projects in logistics should be measurable. Since the outcome of the services is tangible, the customers value the performances of the logistics companies relying on some matters such as being on time, serving appropriately, reporting accurately

and so on. Supply chain projects are effective when they move the company from where it is to where it wants to go to. Companies in various sectors go through self-assessment by means of their supply chains and due to the results that appear and depending on the structure of the companies, an ongoing tracking of progress may begin toward both supply chain and project management excellence. If there is an idea of outsourcing the logistics operations, it is crucial for the logistics partner to draw a map showing the existing picture of the operations. Than it can develop a strategy to bring forth some advantages to that company. Even from the proposal phase, it is very important for the partner to show the steps they will pass through so that the company can see where it will begin and where it will come to at the end of the project. It is very important to be capable of managing the project in a measurable manner.

8. CASE STUDY

The Business Development and Planning Director of a Turkish logistics firm, Company A, received a phone call from the Logistics Manager of a leading Consumer Electronics Firm, Company B. He indicated that due to the optimization efforts in their supply chain, they had been outsourcing the logistics activities for 3 years. They had been working with the current company for 3 years, however they were now going through a tender to see and analyze the alternative companies in the logistics sector. He requested the e-mail addresses of the related people to send their Request for Proposal, RFQ in short. The first thing the director of Company did was to send an invitation for an internal meeting during which the potential operation, probable income of it and a feasibility analysis of the project could be adopted.

COMPANY BACKGROUND

Company B is a Consumer Electronics company which offers various types of products for its customers. The goods include different segments such as media, entertainment, music, professional products and many others. Since the company doesn’t have production in Turkey, the branch in Turkey imports the goods from several countries of the world. It has a vendors network structure within the country through which it manages their sales.

To analize the nature of their supply chain, the goods are imported from various countries in the world. Bonded warehouse management, warehouse management, value added services in the warehouse, transpotation of goods to the special accounts and the vendors, and the management of the reverse logistics are the activities included in its logistics operations in Turkey.

FEASIBILITY PHASE

During the internal meeting of the business development and planning department of Company A, the RFQ of was examined. The requirements of the logistics operations of the potential customer were analized. It was commited that Company A would voluntarily attend the tender. So, RFQ was going to be undertaken again to provide the information that was going to be base for design of the strategies.

The document, included many detailed information required for the planning group to determine the structure of the operations that are going to be proposed.

As acquired through the RFQ, the general information about the nature of Company B' s operations was as follows;

Since the company didn't have production in Turkey, the goods were imported from several manufacturing branches in countries throughout the world. There was an international operations department within the company structure of Company B. The members of this department were organizing the recieval of the ordered goods from the manufacturing branches in various countries to Turkey and deal with the customs procedures after the arrival of goods. The logistics department of the firm is responsible from the further operations of the goods that need to be stored in a bonded warehouse till the customs procedures are completed, than they need to be transfered to the warehouse to be stored. Some value added services are performed to the goods in the warehouse prior to their distribution to the vendors.

They were managing, also controlling the transportation of these goods to Turkey and were dealing with the customs procedures after the arrival of goods to Turkey. Parallel with their arrival to Turkey, the logistics department was also interfering the system and was managing the bonded warehouse in which the goods would be

stored till the customs provisions and procedures of importation are completed. Once the procedures were completed, the total responsibility passed on the logistics department and they were then obtaining the goods to be transfered to the predetermined warehouse to be stored till their selling.

In the warehouse management process was not consisted of keeping the products as inventory, additionally value added services were needed to be provided. Insertation of user's manuel, sticking of bandrols, printing of guarantee cards were some of these value added services.

Within the system, the sales staff organized the order lists as printed documents containing the products that have already been selled to the warehouse. And the warehouse staff collected the goods in accordance. They prepared the goods and ship them to their destinations. There were some products that returned from the vendors with various reasons, the goods were grouped in accordance with their physical conditions. So called reverse logistics operation was managed in the warehouse. The logistics partner was responsible of the distribution operation of the goods. There were vendors in various cities in Turkey and in addition there were some special customers of Company B where full trucks of goods were shipped.

The planning team of Company A had decided that such a project should take place in their company and right after the analizing the overall operation an approval was revealed and by gathering detailed information about the nature of the project, the team began the proposal preperation activities.

PLANNING AND DESIGN PHASE

RFQ contained excel sheets with numerical data of the sales volume of the

previous months, the volume that was stored in the warehouse and the circle times of products, the quantity of the Stock Keeping Units (SKU), the format of the quotation and rate structures, value added services volume, quantity and positions of distribution points. In order to create a detailed plan of the project, all of the reqirements concerning the project were outlined. The tasks needed to be undertaken within the project duration were determined and the people that were going to be responsible of accomplishment of these tasks were issued. With an aim of lead a disciplined work, deadlines were set for the related people to complete their tasks.

The planning team was going to work on the data to determine the requirements. After concluding the study with clear results, the human resources department was going to determine the cost of the needed number of people with required specifications for the operations. The purchasing department was going to make a cost analysis and determine the required budget. The operations department was devoted to formulate the fixed and variable costs of the warehouse management operation. A project manager was appointed, she needed to follow up with the *to do's.*

CREATING PRODUCT SPECIFICATIONS PHASE

The planning team worked together on the data to apply simulations and determine the needed warehouse, personel, equipment, vehicles to carry out the operation.

The daily movement volumes of inbound and outbound operations, in addition to the stable volume that is being stored for indicated number of days helped the team to determine the required area in the warehouse on bases of square meters. The types of the pallets used in the operation and the dimension of the boxes of the

products to be palletized helped the team to determine the structure of the shelves to be used in the warehouse.

The time required for each value added service, VAS to be completed was indicated in the attachments of RFQ on seconds and minutes bases. Combining this information with the early knowledge of handling products in the warehouses the team found out the number of the needed staff and the breakdown of their tasks.

In accordance with the dimensions of the packages of the products on unit bases, the quantity of products that can be loaded on trucks were determined. An analysis of the distribution points concluded with determined routes. The broad look at the outcomes indicated the required number of trucks for the distribution operation.

While the studies were being concluded the needed equipment was determined step by step.

After ascertaining these results the related people were informed so that they could begin their duties.

Many departments within the company were going to carry out some tasks, so-called deliverables. Finally, when the results were converged, the expected outcomes of the project would be signified.

CREATING DELIVERABLES PHASE

Up to here, the specifications were outlined and the tasks were designated to the related people. As the next step, the people shared their outcomes with each other. The time and energy consuming stage was being passed through. Continuous meetings were organized during which the proposed improvements for the operations of the potential customer were discussed. The cost analysis were made and the prices to be offered were discussed regarding the profit margins. The

market conditions and the probable proposals of the competitives were issued in means of operations, costs and so on.

Finally, the proposal of Company A to Company B was prepared containing the confirmed improvements that were decided to be made in case of a positive result of the tender. The proposed new structure of the optimized services, the number of personel, costs, the physical dimensions of the warehouse, the quantity, quality of the vehicles were all indicated in the proposal.

The improved flow chart of the operations was configured on Microsoft Visio which is usually beneicial in the sense that it provides a sympathic overlook at the processes as a whole.

There was a pricing format attached to the RFQ. Company B determined the pricing format itself and shared it with all of the alternative firms in the market who were attending the tender. Company B demanded the prices to be formulated on cubic meter basis.

PRESENTING THE PROPOSAL

As soon as the proposal was introduced to Company B a period of waiting initiated. This period may be referes as a transition period. The planning team concentrated on the aspects of customer satisfaction whic plays an effective role in the service industries as mentioned in the theory setions of the thesis. During this period, visits to the proposed warehouse were organized, the quotations were analyzed, meetings with planning team members of Company A and analayzing team members of Company B were organized.

The alternative companies in the sectors were being analyzed by the potential customer and they were going to be eliminated from the tender through shrinking

short lists. In every decleration of the shortlist one of the companies were losing the opportunity to become the logistics provider and partner of Company B. And after every short list, the remaining companies were seeking ways of making their proposals seem more attractive.

It was again a phone call which informed Company A about the Company B & Company A cooperation decision. The introduced improvements, optimizations and also the rate structure were reasonable. It was only than that Company B stated that they didn' t really intend to make a change in their logistics partner. However, they had to introduce a tender in the market due to a company policy of the central office of Company B. Nevertheles, the way Company A treated its customer, the way it valued the customer remarks, the way it was handled the criticisms about its proposal played an effective role of for Company B to consider a real change. The quality of this early service was a leading factor in Company B' s decision on behalf of Company A.

CONSTRUCTION PHASE

The plans were revised in accordance with the agenda of the last meetin with customer during which the final decisions were made. Respectively the proposed time frames were set out with the participation of the related managers of Company B and the previous warehouse responsible who was closely linked with the project. As it has been targeted, the schedules were set out to maintain a time plan for the contributors of the project.

Purchasing Department. The predetermined tasks and the project plan was now going to be materialized. The Purchasing Department procured the needed forklift, reachtruck and the transpallets in the needed amount. A newly constructed

warehouse of 5500m² was devoted to the customer. Hence, the purchasing specialists of Company A managed the UPS, ADSL connections. They were going to manage the purchasing of the RF terminals and manage the assembling of the access points. They were going to control the assembling of the security systems including Closed Circuit Television (CCTV). They were responsible of ordering the shelves at the predetermined quantity of modules. They needed to provide the fences needed in the warehouse. They also had the purchasing of the standard company outfits for the project staff at the warehouse. In addition, a container office was determined to be purchased.

Information Technology (IT) department was going to work with the software company that the Warehouse Management System (WMS) was going to be outsourced from. That software was going to be used for organizing, optimizing and controlling the warehouse management activities.

Human Resources Department was going to deal with a very essential part of a project; recruiting and retaining qualified people to configure the project team in the operation. The specifications of the team members were indicated on a report and introduced to the Human Resources department with the time durations in which the new members needed to be recruited. FLT operator, RT operator, inbound staff, pickers, value added services team, outbound staff, the people in charge of loading the trucks and a person to deal with the reverse logistics were required. During the early days of “go live”, the project would require comparingly high number of staff, however, once the operation become systemized, the required number of team members would decrease.

Considering WMS, the team leader in the warehouses needed to be an IT talented

person. He had to be capable of handling daily problems faced because of the system.

Construction Engineer. An area of required m² was going to be seperated by fences. In this secured area, the most expensive products that are physically small were going to be stored. Unique tables were going to be designed for the usage of VAS operations. The construction engineer was going to follow these activities till they are completed. He was responsible of the measurement of the humidity levels within the building.

Distribution Organization. There were some standards needed to exist on the vehicles in order to provide security for the consumer electronic products of high value. Company B demanded the Track and Trace Solution. The vehicles were going to be followed through a system with a satellite connection. In addition to the Company A staff, the Company B staff was also going to be able to view the vehicles operating in its operation. Another important aspect of the distribution organization was the lead times. Since the delivery of products would highly affect the supply chain management of the sellers, distributing on time was crucial. The deliveries on time had great effects on the customer satisfaction. The planning team of Company A, stressed on this topic since it would lead the customer's perception of the operations.

Insurance. The Insurance department of Company A was going to organize a meeting with the related department of Company B with the aim of providing a confirmation on the limitations of both sides in means of insurance.

EXECUTION PHASE

In the ideal world, it is expected that the preperations are completed. Even the

testings take place. Then, the operation may be able to initiate. However, in the real life, the processes may not occur in the expected way and at the expected time. Hence, the project manager who was trying to contribute highly to the establishment of the system as a whole within the supply chian of Company B, she faced various changing conditions. In the Company A's project related to Company B there had been difficult circumstances faced because of this uncertainty.

The warehouse management was going to be handed over to Company A from the company who had been managing Supply Chain of Company B for 3 years. The initial arrival date of the products to this new warehouse was definite. The procurement of the shelves of the warehouse and the RF Hand Terminals were needed to be provided before this predetermined time of the arrival of the goods. However, little obstacles caused bigger ones to create and the bigger ones reflected worse problems that was almost turning out a chaos. Company A was facing the risk that the shelves and RF terminals would arrive at the warehouse after the products. Even if it was not the prefered case, it materialized like this. Through a successful management of the operation, the chaos was prevented and it was still not too late to systemize the inventory when the equipment arrived at the warehouse.

After *go live* period, the periodically prepared and introduced reports, and monthly organized Key Performance Indicators (KPI) meeting would be the subject of matter. Meanwhile, the enhancements and the revisions were going to be made in case of a need. The main target of the phase is to finalize the project product.

9. CONCLUSION

In the global marketplace, the competitivenes is enlarging and companies are working diligently to improve their project management capabilities so that they can become adventageous. On the other hand, customers are seeking to maintain conclusive services that make them feel intelligent. Regardig to these issues, it may be indicated that a company's capability of providing its customers with flexible and practical approaches is highly valued.

In the face of globalization, the structure of the companies demonstrate that long-term cooperation aggreements between buyers and sellers are increasingly common. Companies tend to establish strategic partnerships with external 3rd party service providers.

The current articles and researches produced by the researchers study the project management, service sectors, supply chain management, logistics concepts seperately. Existing resources in the literature widen the knowledge about these areas however the fact that all of these concepts are combined in the application is in its infancy. This study aimed to provide a linkage between these areas and point out the main aspects of project management in the service chains.

Services industry involves wide range of industries that aim both individual customers and business customers to fullfill their requirements. The needs vary accordingly, the services to be launched develop in accordance. The situation becomes more complex, the project management becomes more crucial. A logistics project involves many aspects to be performed at the same time by different departments of the company since everyone plays an important role to create a

succesful overall result. The project management should be applied effectively and the work should be recognized hard to ensure an excellent performance.

The concept “supply chain project management” may help distinguish between traditional project management aspects and the current market requirement; supply chain project management. Since project management, services management, supply chain management are unique concepts, they have unvisible linkages between each other. Especially in the recent business area where the importance of the service industries have been increasing, the topics are considered more seriously. Supply chain and also the project management are due to a revolutionary change. The way they are undertaken depends highly on the industry in which they are going to be considered.

The tie between them has been realized in the recent years yet, there are few researches related with the subject.

The service industries are required to be understood uniquely and the standard project management tools as well as stabilized supply chain management tools have to be adopted to operations in accordance with the new concerns.

The nature of the service industries make the project management approaches different than they are in manufacturing industries. Supply chains and logistics are areas of attention and they have to be treated accordingly.

This study attempted to establish generalized rules in service sectors to assess the influence and difference that the supply chains bring into the service chain project managements. The thesis specifically examines the effects of service aspects on the traditional project management tools. For service projects the customer satisfaction is a determining factor for the service company’s success. During the study, the

manufacturing and services industries were in some way compared to understand what kinds of differences exist across these two industries.

During a live case, the actual requirements of service supply chains were fullfilled. This snapshot of practice supports the theretical approaches predetermined project management aspects of service chains.

Since many resources about the project management, services marketing, the supply chain management exist in the literature, researches combining these major areas is very scarce. Depending on the rising importance of project management in the service industries within the global business area, the future researches may concentrate on the subject.

REFERENCES

Aghazadeh, Seyed- Mahmoud. 2003. "How to Choose an Effective Third Party Logistics Provider". *Management Research News*. Vol.26 Number 7 2003

Ayers, James B. 2004. *Supply Chain. Project Management. A Structured Collaborative and Measurable Approach*. USA: ST. Lucie Press. Pg. 1- 109

Ayers, B. James 2001. *Handbook of Supply Chaiin Management.* CRC Press LLC Pg. 35- 121

Ballou, H. Ronald. 1999. *Business Logistics Management. Planning, Organizing and controlling the Supply Chain*. (4th edition). New Jersey: 1999, 1992 by Prentice- Hall, Inc. Pg. 81- 107

Baltacıoğlu, Tunçdan and et al. 2006. A New Framework for Service Supply Chains. *4th International Logistics and Supply Chain Management Congress*

Berman, Barry and Joel R.Evans. 2004. *Retail Management-A strategic Approach.* (ninth edition). New Jersey: Pearson Education LTD.

Coyle, John J. And et al. 2004. *The Management Of Busıness Logıstıcs A Supply*

Chaın Perspectıve Coyle, Bardı, Langley.(7th Edıtıon.) Copyrıght 2003 South-Western: a division of Thomson Learning. Second Edition, S. Balachandran, Response Books, A Division of Sage Publications India Pvt Ltd.

Frame, J. Davidson. 1995. *Managing Projects in Organizations*. (Second edition). California: Jossey-Bass Inc.,Publishers. Pg. 27- 227

Gray, Clifford F. and, Erik W. Larson. 2000. *Project Management. The Managerial Process*. USA: Mcgraw-Hill Higher Education. Pg. 89-21, 358-433

Lovelock, Christopher, and Jochen Wirtz. 2004. *Service Marketing. People, Technology, Strategy*. (Fifth Edition). New Jersey: Pearson Prentice Hall.

Moder, Joseph J. And Cecil R. Phillips. 1964. *Project Management with CPM and PERT*. Renhold Publishing Corporation

Murch, Richard. 2001. *Project Management. Best Practices for it Professionals*. USA: Prentice Hall.

Nicholas, John M. 2001. *Project Management Business and Technology. Principles and Practice*. (Second edition). New Jersey: Prentice Hall. Pg.19- 157

Poirier, Charles C. And Stephen E. Reiter. 1996. *Supply Chain Optimization, Building the Strongest Total Business Network*. San Francisco: Berrett- Koehler Publishers, Inc. Pg. 264- 288

Project Management İnstitue. 2000. *A Guıde to the Project Management Body of Knowledge (PMBOK Guıde)*. Pennsylvania USA pg. 1- 90

Russell, Roberta S., and Bernard W. Taylor III. 2003. *Operation Management.* (Fourth edition).New Jersey: Pearson Education LTD.

Schönsleben, Paul. 2000. Integral Logıstıcs Management
Plannıng & Control Of Comprehensıve Busıness Processes. 2000 BY CRC Press LLC
St. Lucie Press is an imprint of CRC Press LLC

Sengupta, Daniel R. Heiser, Lori S. Cook 2006. "Manufacturing and Service Supply Chain Performance: A Comparative Analysis". *The Journal of Supply Chain Management.* Fall 2006 pg. 4- 14

Seurıng, Stefan and et al. 2003. *Strategy And Organızatıon In Supply Chaıns.* Germany: Physica- Verlag Heidelberg .

Vandermerwe, Sandra and Christopher lovelock.(with Marika Taishoff). 1994. *Competing Through Services. Strategy and Implementation*. Great Britain: Prentice Hall İnternational (UK) Limited.

Zeithaml, Valarie A. And Mary Jo Bitner. 2000. *Services Marketing*. (2nd edition) . USA: Mc Graw-Hill Companies. Pg. 1- 199

APPENDIX
Key Performance Indicators

	KPI	Description	Calculation and Scope	UOM	Frequency	Source	Target
1. Goods arrival at warehouse							
1.1	All Shipments	Stock of all incoming shipments shall be receipted, put-away and be available for delivery creation within 4 hours of agreed booking time		%	Monthly	Service Provider\WMS	99.5%
1.2	Shipments			%	Monthly	Service Provider\WMS	99.5%

	KPI	Description	Calculation and Scope	UOM	Frequency	Source	Target
2. Warehouse Performance							
2.1	Pallet Storage / Configuration & Utilisation by product	The Service Provider will report the average pallet storage against agreed cubic meterage by pallet.	Average storage density to be reviewed every 6 months.	m^3 per pallet	Monthly	Service Provider\WMS	
2.2	Available to Pick Accuracy	Number of product pieces issued against total number of pieces on pick request	$\frac{\text{Actual product qty issued on delivery}}{\text{Requested product qty to be goods issued on delivery}}$	%	Monthly	Service Provider\WMS	99.8%
2.3	Stock Accuracy	Sum of the absolute number of product pieces reported as either positive or negative difference after consolidated monthly cycle counts		%	Monthly	Service Provider\WMS	99.99%
2.4	Total Inventory Accuracy by landed value	Value of product against total value of product throughput (using net landed cost)	$\frac{\text{Value of product missing in WH}}{\text{Total value of materials moved in WH}}$	%	Quarterly	Service Provider\WMS	99.992%
2.5	Stock Damage in Warehouse	Value of product against total value of product throughput (using landed cost)	$\frac{\text{Value of product damaged at WH}}{\text{Total value of materials moved in WH}}$	%	Monthly	Service Provider\WMS	99.98%

	KPI	Description	Calculation and Scope	UOM	Frequency	Source	Target
3. Customer Delivery Reliability							
3.1.1	On Time Delivery In Full for timed deliveries	Percentage of deliveries which are delivered on time in full		%	Monthly	Service Provider\TMS	99.8%
3.1.2	On Time Delivery In Full for Nominated Day delivery distribution	For delivery on required day, but accounting for all known customer restrictions		%	Monthly	Service Provider\TMS	99.5%
3.1.3	On Time Delivery In Full – Parcel	Percentage of deliveries which are delivered on time in full		%	Monthly	Service Provider\TMS	98%
3.2	Unidentified Stock Loss Missing in Transit	Value of product against total value of product throughput (using landed cost)	Value of product missing in Transit / Total value of materials moved in Transit	%	Monthly	Service Provider\TMS	99.98%
3.3	Stock Damage in Transit	Value of product against total value of product throughput (using landed cost)	Value of product missing in Transit / Total value of materials moved in Transit	%	Monthly	Service Provider\WMS	99.98%
3.4	Availability of …			%	Monthly	Service Provider\TMS	99%
3.5	Availability of …			%	Monthly	Service Provider\TMS	100%

	KPI	Description	Calculation and Scope	UOM	Frequency	Source	Target
4. Other Areas							
4.1	Availability of systems	Service Provider will measure & report system availability and outages in the month.		%	Monthly	Service Provider\IS Systems	99.9%