How can ITIL influence IT outsourcing

Bachelor Thesis within Informatics

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Abstract

The purpose of this thesis is to examine the impact of best practices framework like Information Technology Infrastructure Library (ITIL) on IT outsourcing implementation. This thesis will examine the research question:

“What are ITIL’s effects on IT Outsourcing implementation?”

The goal is to find out whether ITIL is applicable in IT outsourcing project, and if it has a positive or negative impact on it. The study of the impact of ITIL in IT outsourcing projects, will start by giving the reader an overview about ITIL and IT outsourcing critical success factors. This thesis is conducted through a cross-sectional study, and information has been obtained through secondary literature. The authors have also conducted a series of interviews with IT practitioners and an IT expert. The interviews has been done in a semi-structured way.

The outcome of this research show that ITIL definitely can have a positive impact on IT outsourcing implementation. A positive effect that has been discovered from this research is that ITIL improved the communication between service providers and customers. These studies also shows that ITIL can serve as a growth enabler by giving structure to companies work activities. On the other hand, organizations should consider ITIL more as guidelines than a framework. This research also discovered that using ITIL frameworks can make work procedures more complex and time demanding, and due to this, small- to medium-sized companies could face more struggle in the implementation phase of ITIL.
Table of Contents

1 Introduction .............................................................................. 1
  1.1 Background ........................................................................ 1
  1.2 Problem discussion .......................................................... 2
  1.3 Research question .............................................................. 3
  1.4 Purpose .............................................................................. 3
  1.5 Interested parties .............................................................. 3
  1.6 Delimitations .................................................................. 3
  1.7 Disposition ..................................................................... 4
  1.8 Definitions ...................................................................... 5

2 Frame of reference ................................................................. 5
  2.1 Introduction to ITIL ......................................................... 5
    2.1.1 Service Strategy ....................................................... 7
    2.1.2 Service Design ........................................................ 7
    2.1.3 Service Transition ................................................... 8
    2.1.4 Service Operation .................................................. 8
    2.1.5 Continual Service Improvement ............................. 9
  2.2 IT Outsourcing .................................................................. 11
    2.2.1 Critical success factors in IT Outsourcing ............ 11
    2.2.2 IT Outsourcing failures ........................................ 12
  2.3 IT Outsourcing Spiral ..................................................... 12

3 Method ....................................................................................... 15
  3.1 Research process ............................................................. 15
  3.2 Research approach .......................................................... 16
  3.3 Research Strategy ............................................................ 17
    3.3.1 Qualitative and Quantitative data .......................... 17
    3.3.2 Interviews ............................................................... 17
      3.3.2.1 Standardized interviews ................................. 17
      3.3.2.2 Non-standardized interviews .......................... 18
  3.4 Data collection ................................................................... 18
    3.4.1 Company Profiles .................................................... 19
      3.4.1.1 Enterprise one ............................................... 19
      3.4.1.2 Enterprise two ............................................... 19
      3.4.1.3 Enterprise three ............................................ 19
      3.4.1.4 Enterprise four ............................................. 19
      3.4.1.5 Expert: Robert Fabian ................................... 20
  3.5 Analysis Process ................................................................. 20
  3.6 Research credibility .......................................................... 20
    3.6.1 Reliability ............................................................... 21
    3.6.2 Validity ................................................................ 21
    3.6.3 Generalisability ..................................................... 21
    3.6.4 Time horizons ....................................................... 22

4 Empirical Findings .................................................................... 22
  4.1 Pdb ................................................................................. 23
    4.1.1 Application of ITIL in IT outsourcing ................ 23
List of figures and tables

Figure 1.1 Disposition of thesis.................................................................4
Figure 2.1 ITIL service lifecycle.................................................................7
Figure 2.2 7-Steps of improvement processes...........................................10
Figure 2.3 IT Outsourcing Spiral model ....................................................13
Figure 3.1 The research onion.................................................................15
Figure 3.2 Inductive and deductive approach...........................................16
Figure 4.1 Overview of empirical finding collection.................................22
Table 5.1 ITIL advantages and disadvantages comparison........................32
Table 5.2 ITIL framework and Spiral model comparison..........................35
1 Introduction

This chapter introduces this thesis work and background information. A background is included in this section to give readers a brief overview of IT outsourcing (ITO) and Information Technology Infrastructure Library (ITIL). Furthermore, the definition section is going to describe the technological terms that are used frequently in this thesis.

1.1 Background

Highly competitive and turbulent business environment of 21st century makes companies and organizations to operate more efficient and effective. Businesses constantly look for solutions to improve service quality and reduce operational costs. Focusing on core competencies is an approach used by outsourcing which helped organizations to improve their business performance. Organizations have learned to focus on their key skills and capabilities while handing over non-core functions to external service providers.

For more than twenty years of outsourcing history, IT has a large share of the outsourcing market. The first major outsourcing initiatives to receive worldwide publicity were in 1989 when Kodak hired outsiders to buy, operate, and maintain its information processing systems. The need to move fast, adopting new technologies quickly and speeding up system development were some of the facts that supported IT outsourcing. (Sparrow, 2003)

Despite high volume of outsourcing contracts and continuous yearly growth, IT outsourcing projects are still suffering from unsatisfactory results. Matthews (2007) referred to a recent market study on outsourcing by Forrester Research, which found that more than 50% of the respondents reported outsourcing challenges due to poor project management skills, lack of effective outsourcing process, and inadequate or poor metrics and communication methods for measuring and monitoring performance. To address outsourcing challenges, which will be discussed in section 2.2, companies can apply various IT frameworks and best practices, which have been proven in IT service industry.

Among different IT frameworks, Information Technology Infrastructure Library (ITIL) has been widely used in IT industry. The reason for the wide usage of ITIL is because of its broad coverage of different IT operation stages compared to other frameworks like Microsoft Operation Framework (MOF). ITIL is a framework of best practices that has been developed over twenty years by the help of many global IT service providers and governmental agencies. Latest version of ITIL, version three, has an emphasis on various sourcing options including outsourcing. Shrivastava (2009) mentioned, the most important and requested element that incorporated into ITIL v3 was outsourcing and end-to-end services which made ITIL more Service-oriented.

ITIL includes a service lifecycle, which continuously integrate the business objectives into different phases of IT service operations. The lifecycle consists of five different phases; Service Strategy, Service Design, Service Transition, Service Operation, and Continual Service Improvement. Cartlidge A. et al. (2007) pointed out that, primary objective of ITIL
is to ensure that the IT services are aligned to the business needs and actively support them.

### 1.2 Problem discussion

Using IT service management frameworks is a current trend among IT service providers and consultancy firms. Pollard & Cater-Steele (2009) stated that a growing number of organizations are implementing the ITIL "best practice" framework in an attempt to improve their IT service management processes. Main objective of IT service management frameworks is to transfer knowledge and communicate best practices within IT industry. Outsourcing is one of IT disciplines that attempt to make use of ITIL. Service providers and outsourcing customer adopt ITIL with intention of implementing exceptional IT services.

Most research and academic articles that have been done so far, concerning ITIL, are limited to managing internal processes within IT organizations. After undertaking primarily research, very limited numbers of studies were found that investigates the impact of ITIL on IT outsourcing implementation. Those who approached ITIL and IT outsourcing tackled it solely from Service Level Agreement (SLA) perspective, which is a small part of ITIL. As Mirsa (2004) mentioned, SLAs, as part of ITIL, are aiming to meet the service needs of the outsourcing customer and if applicable, the needs of the end-users. The limited number of studies makes it difficult to perceive the actual outcome of using ITIL in conjunction with IT outsourcing practices.

Alongside the expected positive effects of using the best practices and frameworks on IT processes, there are possible pitfalls in utilizing ITIL that companies might face. Pollard & Cater-Steele (2009) argued that not all ITIL implementations are successful, and some companies have been disappointed with the outcomes. Meyer (2005) also mentioned that if IT organizations get bounded just to ITIL processes and theories, it can adversely affect effectiveness of entire IT organizations. He also underlined that sometimes the limited focus of ITIL can act as an obstacle for overall IT improvements.

Using ITIL framework is becoming a widespread approach in IT industry, and IT outsourcing is not an exception. Use of ITIL can lead to possible positive and negative effects on outsourcing implementations. It is important to be aware of ITIL effects on IT outsourcing practices, and if it can benefit service providers and outsourcing customers. In case of negative impacts, there is also opportunity to avoid or minimize the effect of pitfalls. Furthermore, it gives an opportunity to discover the actual relationship of using industry best practices with outsourcing operations.
1.3 Research question
Based on the above discussion, the following question have been identified, which are going to answer. The research question is:

- What are ITIL’s effects on IT Outsourcing implementation?

By answering the question above, this thesis can reach a consensus about the outcome that ITIL have on IT outsourcing. Furthermore, the answer can justify usage of this IT service management framework by IT practitioners.

1.4 Purpose
The purpose of this thesis is to examine if service providers and outsourcing customers can use ITIL as a tool to improve IT outsourcing implementation. This thesis aims to reveal the positive and negative effects of using ITIL framework on IT outsourcing implementations. Furthermore, this thesis will introduce the outsourcing industry to a new framework, to monitor the IT outsourcing services and give it more insight in applying best practice framework, such as ITIL, on IT outsourcing. This thesis is an investigation about effects that ITIL has on IT outsourcing.

1.5 Interested parties
Organizations with an interest and experience in implementation of IT outsourcing could gain an understanding of ITIL effects on IT outsourcing practices. This group includes IT service providers, consultancy firms, and IT outsourcing practitioners. In addition, customers of IT outsourcing services can also use the results of this study as a possible selection criteria for their outsourcing service provider. Moreover, in the academic world, researchers and students who have interest in IT outsourcing might find information in this thesis work interesting.

1.6 Delimitations
IT outsourcing is a broad topic, focus in this study is limited to implementation stage of IT outsourcing. Kehal and Singh (2006) referred to outsourcing implementation as institutionalization of outsourcing practices and procedure into everyday work of an organization. In other words, outsourcing implementation is the execution phase of outsourced activity by the service provider. With this in mind, the approach to study ITIL is just to examine the relationship with outsourcing implementation and if the framework is applicable.

This study do not intend to study the whole process of IT outsourcing from beginning to end. Parts not dealing with the IT outsourcing implementation phase will be excluded.
1.7 Disposition

This thesis is structured according to the traditional theme.

It starts with an introduction chapter to introduce the subject to the readers. This chapter is also includes problem discussion, research question and purpose sections to discuss the main problem area and what exactly is going to be examined in this thesis.

The Frame of reference is the second chapter, which outlines the theoretical base about ITIL and IT outsourcing implementation. This chapter also includes detailed information about different processes and activities within the ITIL lifecycle.

The Method chapter describes the choice of method in order to gain knowledge to fulfill purpose of this thesis.

In the chapter of Empirical Findings, results from interviews and secondary literature reviews will be presented.

Analysis chapter compares theoretical base with empirical observations. This chapter also includes the author’s own reflections and thoughts about the subject.

The Conclusion chapter will present the main conclusions made from the Analysis. It will also provide an answer to the research question.

Figure 1.1 Disposition of thesis
1.8 Definitions

*Outsourcing:* The transfer of responsibility for planning, management and operating services to an external service provider. (Sparrow, 2003)

*Service management:* service management is a set of specialized organizational capabilities for providing value to customers in the form of services. (Iqbal & Nieve, 2007)

*Information Technology Infrastructure Library (ITIL):* Produced by the Office of Government Commerce, the ITIL is a set of guides on the provision and management of operational IT services. (Sparrow, 2003)

*Service Provider:* An external company that supplies outsourcing services to the customer organization. (Sparrow, 2003)

*Outsourcing organization:* The organization that purchases the outsourcing service from an external service provider. (Sparrow, 2003)

2 Frame of reference

This chapter presents the theoretical base that will be used to analyze the empirical findings. An introduction to ITIL framework, IT outsourcing (ITO) and finally IT Outsourcing Spiral model will be presented. The focus in this chapter is to introduce the ITIL framework. The reason for this is to give the target audience a brief explanation about the ITIL framework and lifecycle. As mentioned before, the target audience are IT outsourcing practitioner who have experience working with IT outsourcing, but no, or little knowledge about ITIL.

2.1 Introduction to ITIL

High quality IT service providers share common characteristics. Common processes and practices significantly improve overall implementation and delivery of IT services. Service providers should put customers’ business needs first and customers, preferably with the help of service providers, should define their business strategy. Based on business strategy, required IT services should be designed and transit to operational environment. After implementation, service providers need to maintain IT services according to service levels agreed with customer. Finally, services, which are provided by IT organizations, should also be measured and improved continuously.

Office of Government Commerce (OGC) introduced information Technology Infrastructure Library (ITIL) in late 1980s. ITIL is a public framework that describes best practices in IT service management. According to Cartlidge A. *et al.* (2007), the initial version of ITIL consisted of a library of 31 associated books, covering all aspects of IT service provision. This initial version was then revised and replaced by seven, more closely connected and consistent books (ITIL v2) consolidated within an overall framework. This second version became universally accepted and is now used in many countries by thousands of organiza-
tions as the basis for effective IT service provision. In 2007, ITIL v2 was superseded by an enhanced and consolidated third version of ITIL, consisting of five core books covering the service lifecycle, together with the Official Introduction.

The main objective of ITIL framework is to help business organizations, improve quality of IT services and service management. Emphasis is to use customers’ business objectives to define the required services and continuously improve them. ITIL Lifecycle (Figure 2.1) consists of five phases:

- Service Strategy
- Service Design
- Service Transition
- Service Operation
- Continual Service Improvement

Each phase has an input, multiple processes and output, which are used by the next phase. It is important to understand that each phase of the lifecycle should be executed and completed prior to starting the next phase. In the following sections, highlight the characteristics of each phase will be presented.

*Figure 2.1 ITIL Service Lifecycle
Source: Marval Nordic.*
2.1.1 Service Strategy

Service Strategy is the core element of ITIL lifecycle. This phase defines high-level, strategic IT services that should be offered by IT organizations. According to Long J. (2008) first, IT organizations must identify the market for its services. This, in turn, identifies the services to be offered to customers and projects to develop those services. Then, IT organizations should be prepared by defining success factors and prioritizing projects. Finally, Service portfolio can be developed to outline characteristics of services.

Service Strategy phase also defines type of service providers that IT organizations could use to supply services. There are three different types of service providers:

- **Internal service provider**: IT service provider embedded inside the business unit.
- **Shared service unit**: Internal IT unit provides shared service to the rest of the organization.
- **External service provider**: External organization that provides IT services to the business. IT outsourcing can be categorized in this type.

Service strategy, like other phases of ITIL lifecycle, consists of different processes. A process is a set of activities, which is intended to carry out specific objectives. Each process has inputs, outputs, and outcomes to create a valuable change. Processes also have a built in feedback system to measure the outcome and improve the quality.

The ultimate output of Service Strategy phase is Charter Service document. The Charter Service is the detail description of customers’ needs, market space and required services, and the basic input to Service Design phase.

Service Strategy phase consists of three core processes: Financial Management, Demand Management, and Service Portfolio Management (SPM).

2.1.2 Service Design

The second phase in the ITIL lifecycle is Service Design. Service Design is a stage in the lifecycle, which a new or modified service is developed and made ready for the Service Transition phase (Long J., 2008). Primary task of this phase is to design the final service solution to meet the business requirements. As a result, Service Design package is developed and handed over to Service Transition.

According to Cartlidge A. et al. (2007), to have consistent IT services and activities, Service Design must adapt a holistic approach with the use of Four Ps of design:

- People: the people, skills, and competences involved in the provision of IT services.
- Products: the technology and management system used in the delivery of IT services.
- Processes: the processes, roles, and activities involved in the provision of IT services.
- Partners: the vendors, manufactures, and suppliers used to assist and support IT service provision.
A structured design document will be produced after applying different design processes and activities on the Charter Service document. Service Design Pack (SDP) is the document, which contains the detailed design specification. A formal and structured approach is required to produce the new service at the right cost, functionality, quality and within the right time frame (Rudd C. & Lloyd V., 2007). The SDP will be the guidance document to build the actual service solution, in Service Transition phase.

The SDP is developed through processes that form the core elements of the Service Design phase. The core processes are Service Catalogue Management, Capacity Management, Availability Management, Service Level Management, Information Security Management, Supplier Management, and Service Continuity Management.

2.1.3 Service Transition

The Service Transition phase implements the required service solutions, which are designed according to customer’s business needs. As it is mentioned in Official introduction to the ITIL service lifecycle (2007), Service Transition delivers the required service solutions by receiving the SDP from the Service Design phase and delivering into the Service Operation phase. To implement the service solutions in an effective and efficient manner, necessary resources need to be planned and coordinated according to the estimated cost and quality. Prior to moving the services into production, there may be a period of testing and validating to ensure satisfactory quality (Long J., 2008).

Processes within Service Transition phase outline the base for service implementation. Three of these processes are Change Management, Service Asset & Configuration Management (SACM), and Service Knowledge Management span throughout the rest of the ITIL Service Lifecycle. The other four processes, which solely carry out just in this phase, are Transition Planning and Support, Release and Deployment Management.

Service Transition phase obtains Service Design Package (SDP), which is created in Service Design phase and contains detailed design and requirements of IT services. SDP is used as an input to Service Transition and processes within this phase, transform the design specification into Service Release. Service Release is the actual IT service, which will deliver to Service Operation phase and operational environment.

2.1.4 Service Operation

After designing and implementing IT services, service providers should coordinate the activities in an operational environment. The main focus of Service Operation phase is to manage and carry out ongoing IT activities. This is the point where customers see the actual value of using the service lifecycle. Service Operation phase can be viewed as the ‘factory’ of IT. This implies a closer focus on the day-to-day activities and infrastructure that are used to deliver services. The overriding purpose of Service Operation is to deliver and
support services. Management of infrastructure and operational activities must always support this purpose (Official introduction to the ITIL service lifecycle, 2007).

Service Operation phase contains set of processes to support effective and smooth operation of IT services. Main focus of processes is to keep an eye on ongoing IT activities, communicate any irregular events and fix those irregularities. Effective communication is also necessary between service users and IT organization for successful operation of IT services. Service Desk is the primary point of communication between users and IT service provider in case of service disruption or Request for Change (Cannon D, 2007).

The core processes that form this phase are Event Management, Incident Management, Problem Management, Request Fulfillment and Access Management.

Besides management of ongoing IT activities, Service Operation phase provides valuable inputs for service improvements. Problem Management, Incident Management, and Request Fulfillment processes assist IT organizations to identify improvement areas. Information produces by this phase used as an input into Continual Service Improvement phase.

### 2.1.5 Continual Service Improvement

Business needs are continuously changing, and IT organizations need to dynamically keep its services effective and efficient. Continual Service Improvement (CSI), the last phase of service lifecycle, attempts to continually align and re-align IT services with business objectives. This involves the use of 7-Steps improvement process (Figure 2.2) that collects and analyzes data, provides recommendations, and implements those recommendations. In support of the improvement process, Service Level Management collects information from IT users and customers and data from the operation of the services. Service measurement and reporting, provides standard vehicles for describing the performance of the services (Long J., 2008).
It is essential to use information from previous phases of the service lifecycle to introduce service improvements. CSI combines principles, practices, and methods from Quality Management, Change Management, and capability improvement. The CSI also works to improve each phase in the service lifecycle, as well as the current services, processes, and related activities and technology (Cartlidge A. et al., 2007).

The 7-Steps improvement process aims to implement and prioritize improvements through collection and analysis of meaningful data. This process and its respective steps are driven by objectives, which are defined in the Service Strategy and Service Design phase:

- Step 1 – Define what you should measure: Build up a list of items that should measure.
- Step 2 – Define what you can measure: Identify the items that can be measured with existing tools and configurations.
- Step 3 – Gather the data: Monitor and collect data automatically or manually.
- Step 4 – Process the data: Process the gathered data and put them in right format.
- Step 5 – Analyze the data: Put the information into context and produce knowledge.
- Step 6 – Present and use the information: The output of the process should present in a way that is understandable for the audience.
- Step 7 – Implement corrective action: The knowledge that gained from the process should be put in action to improve the quality of services.

To improve IT services for the use of business function, it is important that IT organizations have good insights about the goals and objectives of business. There should be a permanent line of communication between different business units and IT organization. Implementing CSI is not an easy task; it requires a change in management, staff attitudes and values that continual improvement is a must that should be done proactively and not reactively. Knowing critical success factors before undertaking CSI implementation will help manage the risks and challenges (Cartlidge A. et al., 2007).

Applying the ITIL service lifecycle to IT organizations or IT service providers is a challenging action. It is necessary to use CSI as a tool to keep IT services aligned with changing the business needs. Having CSI phase integrated into service lifecycle does not mean that organizations should wait for the last phase of the lifecycle for enhancements. Service improvements can be achieved during Service Design, Service Transition or Service Operations phase.
2.2 IT Outsourcing

Organizations have always searched for alternatives to improve their internal processes and to cut costs at the same time. This way, they can attract more customers and increase their market share. Outsourcing is the moving of a value-creating activity that is performed inside the organization to outside where it is performed by another company (Iqbal M. & Nieves M., 2007). IT outsourcing is also used as a way to reshaping IT organizations to create more flexible and effective structure. Thus, IT outsourcing is helping companies to concentrate on their core capabilities. Considering the large number of IT Outsourcing projects and capital that companies put into outsourcing projects, continual improvement is a vital issue in this context.

2.2.1 Critical success factors in IT Outsourcing

In order to succeed in IT Outsourcing projects, number of practices should be fulfilled and met. Ward and Peppard (2002) defined Critical Success Factors (CSF) as the few key areas where ‘things must go right’ for the business to flourish. Austin (2002) also defines CSF’s as critical areas where satisfactory performance is required for the organization in order to achieve its goals. In the context of IT Outsourcing, a CSF is defined, as any practice or activity that service providers should undertake to satisfy customers’ needs.

Many researchers have studied and identified success factors of outsourcing projects. As it stated by Healy & Linder (2002) revealed successful outsourcing project share the following critical success factors:

• Actively lead the relationship throughout the contract.
• Understand and communicate requirements and expectations clearly.
• Maintain a partnering attitude on both sides.
• Communicate actively with all stakeholders.
• Execute transitions smoothly, including ensuring data integrity.
• Measure and monitor contract performance.
• Hire good legal and specialist support.

Other researchers from the Norwegian School of Management, Gottschalk and Solli-Sæther (2005), put the emphasis from their studies on contract completeness and vendor behavior control. Contract completeness is the state that there is a complete IT outsourcing contract between client and vendor, which encourages collaborative environment and balance of power. While vendor behavioral control refers to inexpensive and easy methods to monitor the vendor activities. Long C. (2008) a columnist in Charter Magazine Australia states that to maximize the chance of outsourcing success, companies need to ensure that any arrangement made, is aligned with the business objectives, is vigilant in selecting a provider, having a well-defined service level agreement, and having a clear exit strategy if the provider fails to meet service level targets.
2.2.2 IT Outsourcing failures

Outsourcing is often seen as a solution to reduce costs and add more flexibility to organizational operations. Despite positive effects that IT outsourcing (ITO) could have on companies’ strategic objectives, there are also some pitfalls, which ITO projects still suffer from them. A study by Deloitte Consulting (2008) revealed that only 34% of the executives reported that they had gained important benefits from innovative ideas or transformation of their operations. The study also mentioned that 35% of executives, including 55% of executives who were not very satisfied with outsourcing, wished their companies had spent more time on vendor evaluation and selection.

High volume of outsourcing projects made researchers look for frequent pitfalls of ITO practices. Among different reasons that could mislead ITO initiatives, Gloosby (2004) list the most common reasons as:

- Buyer's unclear expectations and objectives.
- Poor governance structure for managing the ongoing relationship.
- Poor communication; the parties do not proactively share necessary information with each other.
- The provider's poor performance against service level agreements.
- The parties' interests are aligned up front but become misaligned as the buyer's business environment or needs change.

Alongside different mentioned ITO failure reasons, McDougall (2006) highlighted poor customer service and vendor responsiveness as most frequent causes of failed outsourcing engagement. As part of InformationWeek’s survey, he also stated poor service and lack of flexibility are cited most often for failures, by 45%, and 39% point to hidden costs. As a result hidden costs make ITO initiatives fail to meet its primary driver, which according to InformationWeek’s outsourcing study is cost saving.

2.3 IT Outsourcing Spiral

IT Outsourcing Spiral model is adopted from Boehm’s spiral model and tailored to use in outsourcing projects. The original model was a software development process, which was developed to answer the problems in waterfall development approach. Robert Fabian (2007) introduced IT Outsourcing Spiral model to guide service providers and customers to develop a successful outsourcing arrangements.
Fabian (2007) defined different cycles of spiral as follow:

1. **Concept** – Develop and test the outsourcing concept. What must the vendor provide in order to justify outsourcing? What is unobtainable for the vendor? End state: Answer to the question of whether outsourcing is potentially attractive.

2. **Contract** – Vendors respond to an RFP that focuses on the concept that has been identified in the first cycle. The resulting contract focuses attention on the concept, and provides appropriate mechanisms to drive towards success while managing risks. End state: A signed contract that covers all important aspects of the relationship.

3. **Fine Tune** – The transition is an obvious hurdle, which must be followed by establishing the right ongoing measurements. And there needs to be a thorough contract review within 6 to 12 months. End state: Measurements in place and operating. Contract adjusted to reflect actual experience.

4. **Governance** – Successful outsourcing relationships require active and continuous management by the customer. Measurements must be actively reviewed. Connections between vendor and customer must span the entire chain of command. End state: Stable, managed, productive relationship.

Furthermore, Fabian (2007) stated that the Spiral model designed as a process to identify real outsourcing opportunities and then translate those opportunities into successful, properly governed outsourcing arrangements. He also mentioned, the process does not guarantee that an outsourcing contract will be signed – outsourcing is not right for all conditions.
and all organizations. Fabian added, clients should follow a spiral approach, driving each cycle by an assessment of risk and an understanding of the targeted end-state.
3 Method

Saunders et al. (2007) defined methodology as the theory of how research should be undertaken, including the theoretical and assumption upon which research is upon. This chapter presents methodological framework, which this thesis is based upon. It includes the choice of research approach and type of investigation chosen to gather data. Finally, the validity and credibility issues of collected data will be discussed.

3.1 Research process

The process of undertaking a thesis work consists of choosing the appropriated method to gather and analyze data. The data gathered and analyzed leads to new generated knowledge and answers to the research question. Saunders et al. (2007) mentioned several different layers of the research ‘onion’ such as research approach, research strategy, time horizons and data collection methods are existed in research technique and procedures. The authors intend to apply the different layers of the research onion (Figure 3.1) in this thesis to be sure that all the important stages of the research process is followed.

![Figure 3.1 The research onion](source: Mark Saunders, Philip Lewis and Adrian Thornhill 2006.)
3.2 Research approach

The choice of research approach is one of most important aspect that influences the whole research procedure. Induction and deduction are two approaches that help researchers draw a conclusion and form a theory. Inductive approach is used when empirical data is gathered and analyzed to give a theory about the research questions. Deductive approach is the opposite, which means that the thesis test a hypothesis against the empirical data gathered (Saunders et al, 2007).

Deductive approach, known as theory testing approach, tries to test an existing theory through collecting empirical data and generate a theory. The deductive approach also involves the researcher to explain relationship between variables. On the other hand, inductive approach follows an opposite approach to produce a valid and reliable theory. In inductive approach, researcher first collects and analyzes empirical data, outcome of analysis will be generalize and forms a new theory.

To carry out this thesis, the authors first started a comprehensive literature review to get familiar with concept of ITIL and IT outsourcing. From this information and data, a research question was developed. After this, empirical data was collected through interviews with practitioners in the IT sector and by reviewing more secondary literature. From an analysis and categorization of the empirical findings led to conclusions, that answer the research question, and lead to the development of a theory. Thus the outline of this thesis work is using an inductive approach.
3.3 Research Strategy

3.3.1 Qualitative and Quantitative data
Qualitative and quantitative data collection is all about how empirical data is gathered. Both methods are considered to be primary collection of data. Ghauri and Grønhaug (2005) argue that the difference between quantitative and qualitative methods and approach is not just a question of quantification, but also a reflection of different perspectives on knowledge and research objectives. While qualitative data often give the researcher a wider, and more complex perspective of how respondents think about a matter, quantitative data give the researcher a frequency of statistical trends. Saunders et al. (2007) defines qualitative data as non-numeric data or data that has not been quantified. The definition of quantitative data by Saunders et al. (2007) is: “data whose values can be measured numerically”. Both techniques can be used to fulfill the research objectives. No technique is better than the other; it all depends on what the researcher want to achieve with the data.

Qualitative data collection is useful when the researcher wish to study a business situation where opinions are needed to formulate a well-grounded decision. Quantitative data collection is useful if a researcher wish to gather statistics about shopping behavior. Ghauri and Grønhaug (2005) also argue that qualitative data could be quantified. By this they discuss the fact that qualitative methods like: observations and interviews, can be coded into quantitative data. Qualitative and quantitative methods are therefore not mutually exclusive (Ghauri and Grønhaug, 2005).

3.3.2 Interviews
To gather experience about a subject or matter, one way of doing this is to conduct interviews. An interview gives the researcher a person, group’s or organization’s view in a matter. An interview can be conducted in several different ways. One could separate interview forms into two different categories - Standardized or Non-standardized (Saunders et al. 2007).

3.3.2.1 Standardized interviews
Standardized interviews are structured as questionnaires and are either conducted as Self-administered or Interview-administered (Saunders et al. 2007). Self-administered interviews are interviews that are managed by the respondent, or with little help by the interviewee. Self-administered interviews are also interviews that usually not require immediate answer from the respondent, but rather letting them submit the answers later on. If the interviewee chooses to conduct an interviewer-administered interview, it could be done in two ways according to Saunders et al. (2007); Telephone questionnaire or Structured interviews. The difference between self-administered and interviewer-administered interviews is that the researcher, or the researcher’s assistant(s), confronts the respondent in interviewer-administered interviews. The respondents then have to answer to pre-determined questions with fixed answer alternatives.
3.3.2.2 Non-standardized interviews

Non-standardized interviews are often referred to as qualitative research interviews (King, 2004). Saunders et al. (2007) has divided the Non-standardized interviews into some subcategories:

- Semi-structured
- Unstructured or In-depth

Semi-structured interviews are interviews where the researcher has a set of questions that he or she wants to have the respondent to answer. In addition to this, the researcher will have the possibility to ask further questions to get a better understanding of the subject. These additional questions might differ from interview to interview depending on the respondent’s answer and discussion.

Unstructured or In-depth interviews are interviews that the conversation between the interviewee and the respondent lead the outcome. Saunders et al. (2007) argue that there is no predetermined list of questions to work through in this situation, although you need to have a clear idea about the aspect or aspects that you want to explore.

Non-standardized interviews could be conducted in several ways. The two main categories of non-standardized interviews are one-to-one or one-to-many. One-to-one interviews are either face-to-face, by telephone or Internet or intranet-mediated. One-to-many interviews are done by group interviews, and preferably with focus groups, or Internet and intranet-mediated group interviews, and also here with focus groups.

Saunders et al. (2007) defines the focus group as a group composed by a small number of participants, facilitated by a ‘moderator’, in which the topic is defined clearly and precisely and there is a focus on enabling and recording interactive discussion between participants.

3.4 Data collection

Since this thesis are aiming for personal opinions from interviewees, a qualitative approach has been chosen. The qualitative research method used in this thesis is standardized and non-standardized interviews. The interviews have been conducted in a semi-structured way with the possibility for open-ended answers. The non-standardized interviews have been more of discussions than ”question and answer”-interviews, which have provided this thesis empirical findings with better knowledge and a wider perspective for the respondents arguments. The standardized interviews, conducted via e-mail, have been asked with questions that required argumentative answers.

This thesis does not seek to find statistical data to whether the respondent companies use ITIL or not, but more about how they use ITIL in practice. To get a representative view of the research questions, this thesis also seek to find companies or organization that do not use ITIL today, and how they manage their own standards.
All interviews have been conducted at the companies’ location, in a calm environment. Appointments with the companies were made in advance to make sure that they could dedicate time for the interview. The interviews were recorded just to make sure that no information was missed. All interviews were later written down into text, and all unnecessary information removed. The respondents have also been given a chance to read their statements before this thesis was published to avoid publication of false or confidential information.

3.4.1 Company Profiles
This section will list and describe the companies that was interviewed.

3.4.1.1 Enterprise one
Pdb is a company that was founded in 1983. They have today, approximately 100 employees in Jönköping and Stockholm. Their main work area is within IT, and Pdb’s aim to simplify and refine customer’s business systems. The contact person used for this thesis is Jan Olsson. The interview with Mr. Olsson was conducted October, 06, 2009 at Pdb’s office building in Jönköping, Sweden. It lasted for 01 hour(s), 09 minutes.

3.4.1.2 Enterprise two
SYSteam Outsourcing Services Huskvarna was founded in 1984. Today, Norwegian ErgoGroup owns SYSteam Outsourcing Services Huskvarna, and they are approximately 1250 employees divided on 40 offices in the Scandinavian countries. SYSteam Outsourcing Services Huskvarna works within IT and their business concept is that, SYSteam Outsourcing Services Huskvarna, as a leading Scandinavian IT company, support customers business with IT knowledge, business knowledge and experience in change work. The contact person used for this thesis is Anders Staaf. The interview with Mr. Staaf was conducted November, 18, 2009 at SYSteam’s office building in Huskvarna, Sweden. It lasted for 01 hour(s), 12 minutes.

3.4.1.3 Enterprise three
Conect AB was founded in 1998. They work with Small- to Medium-sized (SME) companies within 150 km radius from Jönköping. Their business concept is to, in a cost effective manner, support and develop customers IT-systems. The contact person used for this thesis is Kalle Ideskog. The interview with Mr. Ideskog was conducted November, 02, 2009 at Conect AB’s office building in Jönköping, Sweden. The interview lasted for 01 hour(s), 05 minutes.

3.4.1.4 Enterprise four
Fagerhult was founded in 1945. They have over 2000 employees in 15 countries, and their turnover in 2008 was 2,8 billion SEK. Fagerhult is listed on OMX Nordic Exchange in Stockholm, Mid-Cap list. The work area that they are working within is lightning systems. The contact person at Fagerhult for this thesis is Johan Jangren. The interview with Mr.
Jangren was conducted November, 06, 2009 via telephone. It lasted for 0 hour(s), 19 minutes.

3.4.1.5 Expert: Robert Fabian

Robert Fabian is a management and systems consultant, who help clients obtain maximum value through the disciplined use of IT. He has more than forty years of experience as a consultant, manager, and academics. Also, he has a track record of helping clients to uncover, and discover, the best way to realize business value using IT. Robert Fabian interviewed as an expert within IT consultancy. The interview with Mr. Fabian was conducted via e-mail correspondence between September, 25, 2009 and October, 09,2009.

3.5 Analysis Process

Fischer (2007) mentioned that researchers usually face two contradictory problems when analyzing research findings. First problem could happen when researchers trying to write the result right after collection of empirical data. This challenge is called “law of missing middle” and could lead to missing out the intermediate stage of sorting of argument. The second problem happens when researchers never really understand their empirical finding until they write them down. This issue, which referred to “dilemma of drafting” by Fischer (2007), implies the iterative process of sorting and filtering follows by writing. The ultimate solution to overcome these problems is lying in classification and filtering the data during the process of writing.

Since vast amount of data was faced during the interviews, only data, which was directly related to the research question was analyzed and interpreted. To overcome possible interpretation pitfalls, all interviews was recorded with both notes and audio. Data collected from the interviews was afterwards discussed and listened to ensure that nothing had been overlooked. From this, the authors could gain more knowledge and a deeper understanding of the empirical findings. Following the discussion, the recordings was listened to a second time and notes were taken. Finally, answers were sorted according to the research question and the answers were interpreted. This process assured the concise and intact analysis of the empirical findings.

3.6 Research credibility

Research credibility is the ability of the research paper to fulfill its purpose by minimizing the chance of getting wrong answers. The emphasis of presenting a credible research paper should be mainly stressed on two factors: research reliability and validity (Saunders et al., 2007). In addition to reliability and validity factors, the researcher should be able to come up with is a generalisable finding. In coming parts of this section credibility of this thesis will be discussed from these three different factors.
3.6.1 Reliability

Reliability is defined, as the degree to which data collection and analysis is maintained throughout the research will come up with consistent findings (Saunders et al., 2007). A reliable research paper according to Saunders et al. (2007) can be evaluated by posing the three following questions:

1. Will the measures yield the same results on other occasion?
2. Will other observers reach similar observations?
3. Is there transparency in how sense was made from raw data?

Cohen et al. (2000) mentioned the canon of reliability in quantitative research may be unworkable as the quantitative research assumes replication of results sample and methods. In this thesis interviews with different kinds of people who follow a framework in IT outsourcing and peoples who does not apply any framework, has been made.

Robson (2002) mentioned in his book four threats to reliability:

1. Subject or participant error.
2. Subject or participant bias.
3. Observer error.
4. Observer bias.

Subject or participant error is when the choice of the right people for an interview but not in the right time or circumstances for example. Interviews were done in the middle of the day or in the morning and not on Friday where all the participant scans be exhausted after a long week. Subject or participant bias for example is when the participants or the interviewees say what their bosses want them to say (Saunders et al., 2007). In this thesis, the interviews were made with professional people in the information technology field. And to avoid Observer error all three of the authors undertook the interviews with the participants. The Observer bias occurs mainly when observers interpret data collected in a wrong way to be sure to avoid this, a copy of the thesis was sent to the correspondent interviewees so they could assess the interpretation of the data given during the interview.

3.6.2 Validity

Validity as defined by Sanders et al. (2007) is whether the findings are really about what they appear to be about. And if the relationship between two variables a casual relationship? (Sanders et al. 2007) To achieve a valid research paper the framework that was chosen for this research and the interview undertaken, prove to be relevant to answer the research question.

3.6.3 Generalisability

Sanders et al. (2007) define generalisability as external validity. Generalisability is to what extent the research paper have generalisable results, and if the research findings can be equally applicable to other research settings (Sanders et al., 2007). This thesis can come up with generalizable result if its applied within the field of IT outsourcing implementation.
and ITIL, as the investigation that are going to be undertaken will come up with a consensus result about the effect of ITIL on IT Outsourcing and whether ITIL can help the implementation stage of IT Outsourcing.

3.6.4 Time horizons
The work of this thesis runs between September and the beginning of December 2009, a limited time frame to achieve a big number of interviews. The last month of this thesis work mainly focus on the analysis of the data gathered, and the conclusion of this thesis.

4 Empirical Findings

This section presents the empirical findings derived from interviews. As mentioned before, three interviews with IT practitioners was conducted. The interviews will be presented using the summarization and manuscript strategies. Due to time limitation, interviews with Pdb, Conect, Fagerhult and SYSteam Outsourcing Services Huskvarna summarized and the interview that carried out through e-mail with Robert Fabian presented using manuscript technique.
4.1 Pdb

The result obtained from the interview with Jan Olsson from Pdb outlined the application of ITIL within IT outsourcing projects. Jan Olsson is working as internal quality manager, delivery manager and senior consultant within Pdb since 1990. He mainly deals with multinational customers like DHL, Husqvarna and Electrolux who primarily work with logistics. He is involved in company-specific software adoption and process development with Husqvarna and Electrolux. Pdb does not outsource any part of its internal operations to other companies; they only use service from external private consultants in certain situations.

4.1.1 Application of ITIL in IT outsourcing

In respond to the question about usage of any framework in outsourcing, Olsson replied that Pdb is adapting ITIL mainly in the support area. ITIL’s Incident and Change Management processes are being used to define support, change and problem process. Task management systems are also employing to characterize and control different roles and priorities each task. In general, Pdb is not restricting them to follow all the processes of ITIL framework. As Olsson mentioned, they are more influenced by the framework and they only adapt the relevant processes to each projects.

Pdb is currently using the latest version of ITIL, version three (ITILv3), but Olsson stated that version two (ITILv2) was less complicated and easier to follow. Even though ITILv2 was lacking some parts in its structure, companies were more willing to adapt it because of simplicity of the framework. On the other hand, ITILv3 introduced with a comprehensive structure but its complexity led the companies not to implement it to the full extent. Companies usually start to implement Incident and Change management at the beginning of implementation procedures. Sometimes the structure of the company is a barrier to the implementation, basically because of different role and task requirements.

Olsson also declared that, it is usually easier to adapt ITIL framework to the new customer from the beginning of a project. Old customers tend to show more resistant in adapting new work procedures and they are more willing to continue their old way doing tasks and processes. The resistance to change basically comes from the fact that old customers do not want to complicate the operational processes and they are not eager to follow strict guidelines. As a result, Pdb generally tries to adapt the ITIL framework from the very beginning of new projects.

4.1.2 Advantages and disadvantages of ITIL

Olsson perceived the relevance of using ITIL framework in conjunction with IT outsourcing implementation as a common reference that both supplier and customer can relate to. As a communication tool, parties that engaged in IT outsourcing projects can understand each other’s needs and expectations. Olsson also added that using ITIL drives the quality and efficiency through standardization and common measurements in ITIL processes.
In response to the question about possible downside of ITIL implementation, Olsson mentioned that ITILv3 might be too complex and heavy to adapt its complete processes and functions. For small companies, implementation and adaption of such framework is usually difficult. He also added that it is easy to be trapped in bureaucratic patterns and theoretical procedures.

4.1.3 Measurements and controls
Pdb commonly involves ITIL framework form the very beginning of projects, which gives them a small chance of measuring the effect of ITIL after it has been introduced to a project. The only case, that Olsson stated, where ITIL introduced in the middle of a project and performance improvement noticed, was a project that Pdb has been involved since 2006. At beginning, the project did not have a defined organizational structure and support process, which led to long support queue and long respond time. In respond to the support problem, Pdb brought in ITIL Incident Management process and Service Desk function. As a result of introducing this process and function, the number of requests in the support queue dropped dramatically. Even though neither Pdb nor the customer did measure the actual change in the support queue size or respond time, but the support performance improvement was significant.

Besides overall ITIL positive and negative points, Pdb is implementing ITIL according to the customer’s needs and requirements. Therefore, they do not adapt the complete ITILv3 processes and functions. Due to the increase awareness in IT market about ITIL framework, Pdb is working on adapting more processes of ITIL.

4.2 SYSteam Outsourcing Services Huskvarna
The interview held with Anders Staaf at SYSteam Outsourcing Services Huskvarna reviled the impact of ITIL on IT outsourcing services. As mentioned before, SYSteam is one of the largest actors in the southern part of Sweden within outsourcing services. Anders Staaf is the Team Leader for Production team at SYSteam Outsourcing Services Huskvarna. He is in charge of the deliveries in outsourcing services. Staaf has been working in this position since 2005 and has been in the SYSteam-group since 1995.

4.2.1 Application of ITIL in IT outsourcing
Among different IT standards and framework, SYSteam Outsourcing Services Huskvarna uses ITIL. In late 2005, SYSteam started to adapt ITIL version 2 (ITILv2) in outsourcing services. Since then, Incident- and Problem Management processes have been utilized to address the relationship with outsourcing customers, as these are the most important processes in relation to IT outsourcing. Change and Release Management also used for the purpose of delivery management. When SYSteam Outsourcing Services Huskvarna acquires new customers, one of the contract requirements is that the customer must follow Change and Release Management processes.
In response to the question why SYSteam Outsourcing Services Huskvarna initiated the implementation of ITIL, Staaf replied with two main reasons. First, the market and potential customers became more aware of ITIL and therefore started to look for providers that uses ITIL framework. Second reason was the need to expand and grow in the market. By using ITIL, work process can be structured and managed in a controlled manner. By having a structure and routines, companies can better expand and grow in the market.

4.2.2 Measurements and controls

In respond to the question about whether they measure the performance of their outsourcing services, Staaf replies that the measurement is mainly based on Service Level Agreements (SLA). The service manager at SYSteam Outsourcing Services Huskvarna has a monthly meeting with outsourcing customers and reports the status of agreed service levels. SLAs basically contain the agreed respond and correction times in case of incidents. Standard and critical outsourced systems have different times for response and correction. Staaf added projects that adapted ITIL Change and Release Management processes have experienced fewer incidents.

In the end Staaf mentioned, it is so critical to know how to incorporate ITIL processes within company’s everyday work activities. Outsourcing service provider should help the customer integrate standard processes into daily activities.

4.3 Fagerhult AB

The purpose of the interview with Fagerhult AB, was to get the customers perspective of using ITIL framework. An interview was conducted with Johan Jangren, who works as an operation and maintenance coordinator. Operating systems, communication, networks and infrastructure, and computer halls are outsourced to another company.

4.3.1 Application of ITIL in IT outsourcing

Today Fagerhult’s operation and maintenance department uses ITIL in a simplified way to make it more flexible and easier to work with. Together with their outsourcing partner, Fagerhult have set up a number of different processes that will structure the change work in the environment. The reason for this is to prevent disruption and so the changes can be implemented in a smooth workflow.

On the question on whether he thinks that it is important to implement a framework such as ITIL in a business or not, Jangren argues that he thinks that large corporations do not have another way to go if they want to be able to handle IT systems. ITIL might be somewhat difficult to handle and manage in small- and medium-sized companies due to its complexity. First very important factor to take in to consideration for Fagerhult AB was that they could remove personnel dependence by using ITIL framework. Second important factor was that all their global partners use ITIL, which means that they use the same routines and due to this, the collaboration between them work better.
4.3.2 Advantages and disadvantages of ITIL

In response to the question about advantages and disadvantages of adapting ITIL, Jangren answers that ITIL made the work procedures very difficult in the beginning. For Jangren, after adapting a new framework like ITIL, you should change the way you work. Everything takes longer time and gets more complex. ITIL forces organizations to create routines and descriptions. All tasks get documented, and this leads to creation of logs. This means that the organization gets a historical view of all errands that they have had. It creates a lot of extra work in the beginning with loads of paperwork. Though the extra work that they have to go through, hopefully leads to less anxiety due to that they can control everything in a better way. Jangren also argues, that by implementing ITIL within a business removes the personnel dependence by the new routines. He continues, it is important to remove the responsibility and dependence of personnel within such a large business as Fagerhult AB. The knowledge has to be put in the system instead of the employees.

Even though they had heavy preparation work, Jangren argues that they simplified many processes and removed some steps, to make it even simpler. The positive effects that they gained from implementing ITIL within Fagerhult AB were that they could decrease the interruptions in the system and in the future get a more reliable environment.

Jangren was also asked what negative aspects he could find by using ITIL. He responded that everything gets somewhat slower, even though they have simplified the processes and removed some steps to speed up the handling time. Jangren also argues that if one should implement all steps in ITIL it would be too complex and the handling time would be too long. To use ITIL in a good way you have to choose only the parts that are relevant and will suit your business needs. Jangren also says, that one must think of ITIL as a guideline and not as a framework where you need to follow all steps. A successful implementation of ITIL is a benefit for an organization and its partners. He also thinks that if an organization wants to grow and expand, ITIL is a crucial tool to adapt to its partners and also to grow in its own organization.

4.3.3 Measures and controls

In response to a question about how they measure their performance after adapting ITIL, Jangren answers that they do not measure the performance on how well ITIL works within their organization. They only measure the delivery processes.

4.4 Conect AB

The results obtained from interview with Kalle Ideskog from Conect AB, revealed application of ITIL in outsourcing services of Small-to-Medium size companies. Ideskog is working as marketing and sales director at Conect AB since 2000.

4.4.1 Application of ITIL in IT outsourcing

Conect AB is providing IT services, mainly from Microsoft, to medium-sized industrial companies in Jönköping County. Their services are categorized in three main sections;
communication, business systems and IT consultancy. Customers who are using these services basically outsource some part of their internal IT operations to Conect AB. Alongside offering IT services to customers, they use the consultancy services from external consultants. In 2007, Conect AB started to use ITILv2 as a tool to improve its customer support services. As a medium size company, Connect AB adapts a part of ITIL framework, mainly the Incident Management, Change Management, and Service Management.

When asking Ideskog the reason behind the choice of ITIL framework instead of other frameworks, his response was that ITIL best suited their needs. He also mentioned some examples in the market that after using ITIL as a framework, customer satisfaction increased. Furthermore, those mentioned successful examples used ITIL as a communication tool between IT and business functions. This in turn, convinced them to start evaluating ITIL according to their own environment. The framework that Conect AB follows is a mixture of ITILv2 and their own experience in dealing with the outsourcing services. ITIL is a wide framework to apply in medium sized companies according to Ideskog, hence the use of this formulated framework.

### 4.4.2 ITIL effects on IT outsourcing

The effect that Conect AB noticed after using ITIL framework on the outsourcing service was that they became more organized and has more control in the support area. They implemented the support tickets as a communication tool, and procedures between their customer and the support desk. The customer now can place their request and track it through this system, which has resulted in more controlled and structured communication between both parties. The Support Desk gave Connect AB the opportunity to create a support directory, which could be easily accessed to support the upcoming problems. Another positive outcome by using this Support Desk was that, Conect AB now could trace all previous problem history to more easily solve similar future problems.

### 4.4.3 Advantages and disadvantages of ITIL

In general, ITIL improved customer satisfaction for Conect AB and also made it easy for them to manage its outsourcing service. Even though ITIL gives a structure to the work process and improves customer satisfaction in a long term but at the same time it can produce extra burden. One downside that Ideskog noticed from the usage of ITIL was, sometimes it took the customer longer time to get assisted when problems occurred, due to extensive processing of their message to reach the support system. The load generated from using this formwork sometimes makes the workflow slow and inefficient.

### 4.5 Expert: Robert Fabian

As mentioned before, the interview with Robert Fabian was conducted through series of emails. Due to the nature of answers, which he provided, the authors decided to use manuscript method to present his responds. The following section will outline the complete interview.
4.5.1 Relevance of using ITIL in IT outsourcing

In response to question about the relevance of using ITIL in conjunction with IT outsourcing he mentioned that IT Outsourcing is about both using someone else's technology and using someone else's IT policies & procedures. In the absence of something like ITIL for IT policies & procedures, the client is effectively locked into their IT Outsourcing supplier. ITIL doesn't completely remove this problem, but it can significantly reduce the procedural lock-in that occurs in outsourcing.

Robert Fabian answered question about how ITIL can improve IT outsourcing with: ITIL can be used to guide the policies and procedures that need to be put in place before IT outsourcing becomes operational. It “solves” a number of managing and operating problems. Used sensitively, ITIL can reduce the cost of establishing the requisite new policies and procedures. ITIL can also reduce the lock-in that users experience with outsourcing that develops its own policies and procedures, paying no attention to established best practices.

4.5.2 Advantages and disadvantages of ITIL

Fabian also outlines the pros and cons of using ITIL, as ITIL is only a framework. It can be used to guide the management and operation of IT, but it does not replace the need for development and selection of appropriate local versions of the ITIL processes and procedures. ITIL, as best practice frameworks, can become an expensive overhead, delivering little real value. The challenge is to identify those areas for improvement that will have a positive bottom line impact.

4.5.3 Application of Spiral model in IT outsourcing

Fabian also underpinned application of IT outsourcing spiral model for measuring the improvements in IT implementation as I would rather view the IT Outsourcing Spiral Model as a way to manage and mitigate the risks associated with outsourcing. The first cycle should start with a clear identification of the benefits expected from outsourcing, and identify the “unobtanium” that the outsourcing must provide in order to deliver those benefits. That early benefit identification should then be used to guide and direct all subsequent cycles.

In respond to possibility of using ITIL and IT outsourcing spiral model in implantation stage of IT outsourcing, Fabian stated that the Spiral Model really addresses questions about how an IT Outsourcing relationship can be successfully established. The nature of that on-going relationship, and specifically the policies and procedures used to guide that on-going relationship can be addressed by ITIL. Start with a Spiral Model to guide the first few steps. Anticipate that ITIL policies and procedures will be required to guide operations. Then expect the outsourcer to reasonably apply ITIL to its on-going operations.
5 Analysis

This chapter analyses collected empirical data based on the frame of reference. First, a presentation how companies can use ITIL as guidance for their IT outsourcing practices will be made. Then, the advantages and disadvantages of ITIL will be listed and discussed. Afterwards a discussion of the possible measurement techniques that can be used for measuring the improvements will be conducted. Finally, a comparison of the ITIL framework with the IT outsourcing spiral model to find out if there are any similar patterns will be made. The results are structured according to relevance of findings, which contributes to answer the research question.

5.1 IT outsourcing with ITIL guidance

As observed through interviews with IT practitioners, companies use frameworks to structure and control their internal and external IT operations. Among different IT frameworks, Information Technology Infrastructure Library (ITIL) is most commonly used due to its comprehensive coverage of IT practices. As Klosterboer (2008) mentioned, ITIL is developed as collection of best practices by engagement of IT experts and practitioners. The wide usage of ITIL makes it a common reference point among different parties in IT market. As Jan Olsson of Pdb mentioned, ITIL is the common reference that both supplier and customer can relate to in IT outsourcing projects. This is obvious that having the same terminology and procedure definitions between outsourcing suppliers and customers creates smooth communication process.

The communication enhancement is not just limited to outsourcing supplier-client interactions, but can also affect effectiveness of different customers. This was an important factor to consider for Fagerhult AB as Johan Jangren stated that Fagerhult’s global partner using ITIL, which means that they use same routines and collaborate and work better. Also SYSteam Outsourcing Services Huskavarna mentioned, that one of the major reasons for adopting ITIL framework for them was the market demand. Anders Staaf also mentioned, that potential customers started to look for providers that use ITIL as a tool to define their outsourcing activities and processes.

Besides being used as a communication tool, the authors have discovered that companies use ITIL as a tool to structure and organize their workflow. Ander Staaf, from SYSteam Outsourcing Services Huskavarna, emphasized on the importance of ITIL when businesses want to expand and grow in the market. He mentioned that by using such a framework as ITIL, work processes can be structured and managed in a controlled manner, and this can help company’s expansion. Kalle Ideskog from Conect AB also stated that interaction with customers became more organized and structured after the introduction of ITIL. As for Fagerhult AB, Johan Jangren mentioned that their aim was to remove the person dependence and thus structure and organize their work processes.

From what the empirical data reveals, most of the companies referred to ITIL as a communication tool between IT outsourcing partners. Through this channel of communication, ITIL framework, parties can understand each other’s needs and expectations. As it is
mentioned by Gloosby (2004), one of the frequent IT outsourcing failure reasons is, poor and unclear communication of expectations and objectives. By adapting ITIL, organizations can overcome this communication barrier and express their needs effectively. Healy & Linder (2002) stated that understanding of expectations and communicating the requirements, are some of the critical success factors in IT outsourcing. From what the empirical findings show, these critical success factors can be covered by using of ITIL framework. Besides using a common ground in communication, organizations increase the quality and the efficiency of their service delivery. Van Bon et al. (2007) stated, the strategy formulation of Service Strategy phase of ITIL lifecycle also emphasize on importance of communication. As the first stage of ITIL lifecycle, organizations should formulate and document their needs and objectives. By defining these objectives it will not only enhance the communication in the future but also help to structure work and define the employee task responsibilities in an effective manner.

The interviews also revealed that most organizations use ITIL in their support area and they mainly adept Service Desk function, Change- and Incident Management processes. Pdb started with adapting Incident Management, and Service Desk function in response to improve the customer support. Same pattern was observed in the interview with Kalle Ideskog at Conect AB, as they also started by implementing Incident-, Problem-, Change Management, and Service Desk function. Also SYSteam Outsourcing Services Huskvarna started by adapting the Incident- and Problem Management when they first started to work with ITIL within their organization, as they realized these processes were the most relevant to their IT outsourcing operations.

Through these interviews a pattern of using the same set of processes from ITIL framework has been discovered. The mentioned processes, Incident-, Problem-, and Change Management, are all part of the Service Operation phase of the ITIL framework. As it was defined in Official introduction to ITIL service lifecycle (2007), the purpose of Service Operation is to deliver and support IT services and management of operational services. And where IT outsourcing is being seen as an ongoing operational IT activity, which needs the same set of processes to be implemented smoothly. Service Desk was also a common used function among the interviewed companies. Defined by Cartlidge A. et al. (2007), Service Desk is a main point of communication between the outsourcing customer and IT service provider. Robert Fabian also mentioned in section 4.5.3 that the nature of ongoing IT outsourcing relationships, policies and procedures could be addressed by ITIL guidance. Both Jangren at Fagerhult AB and Staaf at SYSteam Outsourcing Services Huskavarna pointed out the importance of adapting ITIL onto an organization. They argued that ITIL is the best way to go if an organization should be competitive and adaptable to the market.
5.2 ITIL advantages and disadvantages

During the interviews advantages and disadvantages of adapting ITIL framework were tried to be identified. Most of advantages which guide IT outsourcing to improve effectiveness and efficiency have already been mentioned in the previous section 5.1. The following sections will discuss and list the advantages and disadvantages, which were observed during the interviews. Further on, mentioned advantages and disadvantages will be presented and compared in the table 5.1.

5.2.1 Advantages

Since ITIL was developed as a collection of best practices of IT techniques with the knowledge of IT experts, it has improved IT outsourcing practices. Most of the advantages and improvements come from the fact that ITIL gives organization standard and structured way of working. One example that was observed during the data collection was usage of ITIL as a communication tool. As Olsson and Staaf mentioned, ITIL can be used as a reference point that both outsourcing provider and customer can refer to. This was the most common and critical contribution of ITIL to IT outsourcing.

Besides using as a communication tool, the formal processes and activities give organization more structured routines. This in turn will lead to improvement in quality of service by giving step-by-step procedures to IT practitioners. This way, each person involved in the process will better know his/her tasks and responsibilities, hence more controlled work process. By having well defined and standard activities, work processes will become personnel independent. It is obvious that effective communication between different parties and improved efficiency of internal procedures will lead to customer satisfaction. As Ideskog also stated, ITIL made customer interaction more organized and it reduced the time spent for problem solving. All this together can serve as a growth enabler, by having a structure and routines, companies can better expand and grow in the market to attract more customers.

5.2.2 Disadvantages

Even though ITIL can improve IT outsourcing in many aspects, it also showed some down-sides on IT outsourcing practices. Organizations usually experienced difficulties to follow the complete processes and activities in ITIL lifecycle. Olsson stated that ITIL might be too complex and heavy, including its complete processes and functions. He also mentioned, for small companies, implementation and adaption of such framework is usually difficult. High number of processes and activities that companies should follow makes ITIL complex and resource demanding. Due to this complexity, organizations usually decide to adapt a selected set of processes and even customize some of these processes to better fit their needs. Jangren also argued that they had simplified many processes and removed some steps, to make ITIL framework suit them. Robert Fabian emphasized on this point as he mentioned that, ITIL could become an expensive overhead, delivering little real
value. He continued that the challenge is to identify those areas for improvement that will have a positive bottom line impact.

The interviews also revealed that organization could easily trap into bureaucratic work routines. As Olsson mentioned if organization perceive ITIL as definite solution by adapting the complete framework they could trap in a bureaucracy. Jangren also stated that one must think of ITIL as a guideline and not as a framework where you need to follow all steps. Bureaucratic aspect of ITIL which it standardizes the procedures and guides the task execution could also lead to intensive time consumption. Ideskog stated, even though ITIL gives a structure to the work process but at the same time it can produce extra burden. He continued with, load generated from using this framework sometimes makes the workflow slow and inefficient.

The following table will list advantages and disadvantages that observed according to each company.

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<th>Pdb</th>
<th>Advantages</th>
<th>Disadvantages</th>
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|     | • Communication tool  
|     | • Improving quality  | • Time demanding  
|     |             | • Complexity  
|     |             | • Bureaucratic trap |

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<tr>
<th>SYTeam Outsourcing Service Huskvarna</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
|                                     | • Growth enabler  
|                                     | • Communication tool | • Complexity |

<table>
<thead>
<tr>
<th>Fagerhult</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
|           | • Communication tool  
|           | • Growth enabler  
|           | • More structured routines  
|           | • Remove personnel dependence | • Time demanding  
|           |             | • Complexity |

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<thead>
<tr>
<th>Conect AB</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
|           | • Customer satisfaction  
|           | • More structured routines | • Time demanding  
|           |             | • Complexity |

*Table 5.1 ITIL advantage and disadvantages comparison*

The following section list and explain mentioned advantages:

- **Communication tool:** A common reference point both supplier and customer can relate to.
- **Improve quality:** Standardization derives the quality and efficiency of service.
- **Improve customer satisfaction:** In the long term, errors will be more prevented due to incident history logs, which will help preventing future problems.
- **More structured routines:** Forces the organization to create work routines and routine descriptions.
• **Growth enabler**: By having a structure and routines, companies can better expand and grow in the market.

• **Removing personnel dependence**: By implementing ITIL, it will remove the personnel dependence, due to new ways of handling routines.

The following section lists and explains the mentioned disadvantages:

• **Complexity**: All processes of ITIL are too complex and time demanding for small-to-medium sized companies.

• **Bureaucratic trap**: It is easy to be trapped in bureaucratic patterns and theoretical patterns.

• **Time demanding**: After adapting ITIL, work activities take longer time to accomplish.

The aim by presenting Table 5.1 was to show collected data from interviews in Jönköping county to enable analysis and generalization of the outcome to similar regional IT companies. Evaluation of the findings from this table shows same patterns in advantages and disadvantages of utilizing ITIL framework into IT outsourcing practices. A generic conclusion can be drawn from the interviewees, that the companies were mostly satisfied with the implementation of ITIL framework into their IT outsourcing operations. Most of them highlighted the effectiveness and ease of communication after adapting the ITIL framework. They also pointed out that ITIL framework brought structure to their work routine, and therefore advantage in companies competence. On the other hand, the most common negative effect of using the ITIL framework was the complexity of implementing all processes and activities of the ITIL framework. They also mentioned that one should use the ITIL framework as a guideline instead of a framework. The ITIL framework will be too complex to handle if all stages within all processes should be considered. The key point of using ITIL is to choose only the parts that could best fit the organization’s needs.

### 5.3 Measures and Controls

To control and improve IT outsourcing projects, measurements tools and techniques should be in place. It is also essential to use measurement techniques to keep track of impact made by ITIL on outsourcing projects. To maintain the IT outsourcing relationships, service providers are also obligated to report the outputs of measurements to customer on a regular basis. As it was mentioned by Healy & Linder (2002), one of the critical success factors in IT outsourcing was to continuously measure and monitor the contract performance.

As an important part of ITIL Service Level Management, Service Level Agreements (SLA) is commonly used to measure the performance and control the relationship between the service provider and customer. Mirsa (2004) mentioned SLAs, as part of ITIL, are aiming at meeting the service needs of the outsourcing customer and the needs of the end users. Anders Staaf mentioned the measurement is mainly based on Service Level Agreement
(SLA). And when asked about how they evaluate the SLA with the outsourcing customer, he added that the service manager has a monthly meeting with outsourcing customers and reports the status of agreed service levels.

During interviews companies was also asked about how performance changed after introducing ITIL into the outsourcing projects. Olsson said that, they usually adapt ITIL to the new projects, so they did not have any track of performance difference after adapting ITIL. But in 2006, Pdb introduced ITIL in the middle of a project. The effect that they experienced was the number of requests in the support queue dropped dramatically. For System Outsourcing Services Huskvarna and Conect AB, they experienced the same pattern after adapting ITIL into outsourcing projects, but they did not have any track of support request before and after the introduction of ITIL. Due to the lack of measurement, no quantified data can be presented. Most of the companies interviewed, observed significant improvement in the customer support services when implementing ITIL into a project.

### 5.4 ITIL and IT outsourcing spiral model

The interview with the expert in the field of IT outsourcing, Robert Fabian, directed our attention to his proposed model - IT outsourcing Spiral model. The IT outsourcing Spiral model can be used to guide different stage of IT outsourcing lifespan, from conceptualizing to ongoing maintenance and governance. As it mentioned in section 2.3 in frame of reference, Fabian (2007) argued that IT outsourcing Spiral model can guide service providers and customers to develop a successful outsourcing arrangement. He also stated that, the Spiral model is designed to identify and process outsourcing opportunities, and translate them to successful arrangement.

As stated, this model will lead to successful IT outsourcing implementation. To observe any similarities, a comparison between four different cycles of IT outsourcing Spiral model and five phases of ITIL framework was undertaken. The comparison revealed that ITIL Service Transition phase follows the same objectives as Fine Tune cycle of the Spiral model. Both are aiming to effectively transfer the required service from customer to service provider. ITIL’s Service Operation phase is following the same objective as Governance cycle of the Spiral model. They aim to maintain the outsourcing arrangement by actively measure and manage ongoing activities. IT outsourcing implementation also focuses on transiting the service to service provider and managing on-going activities of IT operations.

The following table will highlight similarities mentioned between ITIL framework and the IT outsourcing Spiral Model:
Table 5.2 ITIL Framework and Spiral model comparison

<table>
<thead>
<tr>
<th>ITIL Framework</th>
<th>Service Transition</th>
<th>Service Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiral Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Tune</td>
<td>effectively transfer the required service from customer to service provider</td>
<td></td>
</tr>
<tr>
<td>Governance</td>
<td></td>
<td>maintain the outsourcing arrangement by actively measure and manage ongoing activities</td>
</tr>
</tbody>
</table>

As a result, finding these similarities has shown that the Spiral model's objectives can be associated with ITIL Framework, to address successful IT outsourcing implementation. Since ITIL's Service Transition and Service Operation have presented the same pattern as Fine Tune and Governance cycle of the Spiral model, one could argue that ITIL also can improve IT outsourcing implementation.

When Robert Fabian was asked about his model objectives, he added that ITIL can be used in implementation stage of IT outsourcing in conjunction with the spiral model to guide IT outsourcing operations. While Spiral model addresses IT outsourcing relationship establishment, ITIL can guide the on-going relationship between customer and outsourcing provider, as communication tool. Fabian (2007) also mentioned application of the Spiral model as measuring technique for improvement in IT implementation. Through this research and investigation of the ITIL effects on organizations, most of the companies observe the effect but they do not measure the effect of ITIL. It will be interesting for future study to present and evaluate the different measurement techniques to use in conjunction with best practice frameworks.
6 Conclusion

Based on analysis of the findings, the authors of this thesis have drawn the following conclusion which also answers the research question:

ITIL framework as an IT best practices collection can be used during IT outsourcing implementations to employ effective and efficient IT practices. According to the findings, ITIL framework has both possible positive and negative effects on IT outsourcing implementation. The foremost positive effect, which mentioned by IT outsourcing practitioners, was the effect of ITIL as a communication tool. After adapting this framework, service providers and outsourcing customers could communicate effectively with each other. Interviews also revealed the fact that by adapting ITIL, work activities became more structured. And this in turn, worked as a growth enablers for the companies. By having more structured routines and activities, companies can expand much easier. ITIL also reframed the task and procedures, alongside it added structure to the organization, which eliminated personnel dependence. All these together can improve the quality of IT outsourcing services and customer satisfaction.

Besides the positive effects, ITIL can also introduce some drawbacks to IT outsourcing implementation. The most important drawback that have been identified during the interviews and analysis was that ITIL showed complexity in adapting it whole processes and activities. To reduce the complexity of using ITIL, companies adopted selected processes, which they recognized more relevant to their operations. Some of the interviewees also mentioned that, when introducing ITIL to an organization, everything became somewhat more bureaucratic. Due to this bureaucracy, some tasks followed more procedures and took more time to complete.

To measure and control IT outsourcing implementations, companies mainly use service level agreement (SLA) from ITIL framework. Since SLAs are written down, there are clear reference points of how the services should be performed. The outsourcing service providers and the customers can refer to the SLAs, and as a result, they both can monitor and measure how well the IT outsourcing services operate. At the same time, lack of measurement and control before implementation of ITIL somehow makes it impossible to measure the changes made by ITIL framework.

Through the analysis and comparison of ITIL framework with IT outsourcing Spiral model introduced by Robert Fabian, some similarities was identified. As it mentioned by Fabian (2007), IT outsourcing Spiral model can guide service providers and customers to develop a successful outsourcing arrangement. The comparison revealed that ITIL Service Transition phase follows the same objectives as Fine Tune cycle of the Spiral model. Both are aiming at effectively transfer the required service from customer to service provider. ITIL's Service Operation phase is following the same objective as Governance cycle of the Spiral model. They aim at maintaining the outsourcing arrangement by actively measuring and managing ongoing activities. As a result, finding these similarities has shown that the Spiral model's objectives can be associated with ITIL Framework, to address successful IT outsourcing implementation.
6.1 Further Research
Since the focus of this thesis work was on implementation phase of IT outsourcing, further studies can research the effect of ITIL on other phase of IT outsourcing. Strategy formulation and service provider selection process could be example of other stages of IT outsourcing. This research investigation noticed that companies adapt ITIL, but without measuring the effects of implementation in quantitative way. One interesting further research could investigates possible quantitative measuring techniques. Furthermore, the authors found that small- to medium-sized companies found ITIL as a complex and time demanding framework. A study could be conducted to discover how ITIL framework can be customized for small- to medium-sized companies usage.

6.2 Acknowledgments
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Appendix 1 – Interview questions

1. Personal questions

1.1 What is your position?

1.2 What are your tasks and responsibilities?

1.3 How long have you had your current position and how long have you worked in this organization?

1.4 What have been your previous tasks and responsibilities?

2. Organizational questions

2.1 Could you briefly describe your organization?

2.2 Do you provide an outsourcing service?
   2.2.1 Who are your customers?

2.3 Have you worked with an outsourcing company to acquire a special service?
   2.3.1 If yes, what service did you get?

2.4 Do you use any standard or framework for IT outsourcing management?
   2.4.1 If yes, what framework standard do you use and why?
   2.4.2 If no, why?

2.5 How do you control, measure and manage IT Outsourcing project?

2.6 Do you use ITIL to manage the IT services inside the company?
   2.6.1 What version?
   2.6.2 Have you adapted all the processes?
      2.6.2.1 If no, which processes do you use?

2.7 Do you see any relevance of using ITIL with IT outsourcing?

2.8 Do you use ITIL in all the projects or is it something that you use in some special cases?

2.9 Do you use ITIL in a customized way?
   2.9.1 Why?

2.10 How do you measure the changes before and after adapting ITIL?

2.11 Do you think ITIL can improve the way people do IT outsourcing??
   2.11.1 How, why?
   2.11.2 Why not?
2.12 What do you think about using ITIL in IT outsourcing implementation?

2.13 What's the key benefit of using ITIL?

2.14 What could be the pitfalls of using ITIL?

2.15 What changes can be made to ITIL version 3 from your point of view?
Appendix 2 - ITIL Processes

This section lists and explains ITIL’s processes according to different phases of lifecycle.

Service Strategy Phase

Financial management: With help of budgeting and accounting, IT organization can estimate actual cost of having IT services up and running. On the other hand, this process can measure the added value which IT potentially will deliver to the organization.

Demand management: This process is the fundamental aspect of service management. Due to particular character of service, it is impossible to supply without the existing of demand. Through analysis of patterns of business activities, IT organization should predict the demand and plan the delivery of IT service.

Service portfolio management (SPM): Is the management of IT investments made by IT organization in terms of value contribution to the business. Service portfolio contains Service pipeline (planned services), Service catalog (existing services) and Retired services. Service portfolio also clarifies status and characteristics of services.

Service Design phase

Service Catalogue Management: is the process of collecting and providing a single source of information about all agreed services. This process produces and maintains Service Catalogue. The Service Catalogue provides a central source of information on the IT services delivered by the service provider organization. This ensures that all areas of the business can view an accurate, consistent picture of the services, their details and their status. It contains a customer-facing view of the IT services in use, how they are intended to be used, the business processes they enable, and the levels and quality of service the customer can expect for each service (Rudd C. & Lloyd V., 2007).

Capacity Management: is the process that ensures cost-justified IT resources meet the current and future demand of business. The right level of capacity should be in place in the right time for smooth operation of business. According to Rudd and Lloyd (2007) capacity Management provides a Capacity plan that outlines the IT resources and funding needed to support the business plan, together with a cost justification of that expenditure. Capacity Management Information System (CMIS) plays a key role in this process. CMIS collect, store and analyze all capacity and demand related information to produce technical and management reports.

Availability Management: is the process that manages the availability of the service in the context of service up time and maintenance schedule. The purpose of Availability Management is to provide a point of focus and management for all availability-related issues, re-
lating to both services and resources, ensuring that availability targets in all areas are measured and achieved (Rudd C. & Lloyd V., 2007).

**Service Level Management:** the process that negotiate and document the acceptable level of service. The Service Level Management monitor and measure the level of service to make sure the service quality meets the customer expectations. The purpose of the SLM process is to ensure that all operational services and their performance are measured in a consistent, professional manner throughout the IT organization, and that the services and the reports produced meet the needs of the business and customer (Rudd C. & Lloyd V., 2007). IT service provider and customer should agree on target service levels and document it in Service level Agreement (SLA). SLM is not only concerned with ensuring that current services and SLAs are managed, but it is also involved in ensuring that new requirements are captured and that new or changed services and SLAs are developed to match the business needs and expectations (Rudd C. & Lloyd V., 2007). In cases of IT outsourcing target services should mentioned and agreed in a signed contract between the service provider and the customer. Rudd and Lloyd (2007) also point out whatever contract is used it should be clear, specific, and unambiguous, as they will provide the basis of the relationship and the quality of service delivered.

**Information Security Management:** is a set of activities and practices which ensure the effective management of information security. The objective of information security is to protect the interests of those relying on information, and the systems and communications that deliver the information, from harm resulting from failures of availability, confidentiality, and integrity (Rudd C. & Lloyd V., 2007).

**Supplier Management:** is the process of managing the relationship with supplier, and ensuring that value is obtained from them. The purpose of the supplier Management is to obtain value for money from suppliers and to ensure that suppliers perform to the targets contained within their contracts and agreements, while conforming to all of the terms and conditions (Rudd C. & Lloyd V., 2007).

**Service Continuity Management:** is a part of Business Continuity Management (BCM) and protects the business operations down-time because of IT service failure. The availability of critical IT services ensured through use of risk assessment and implementing preventive measures. As technology is a core component of most business processes, continued or high availability of IT is critical to the survival of the business as a whole. This is achieved by introducing risk reduction measures and recovery options (Rudd C. & Lloyd V., 2007).

**Service Transition phase**

**Change management:** is a process that controls the execution of changes in a controlled manner to reduce risk and interruption. Change Management ensures that changes are re-
corded, evaluated, authorized, prioritized, planned, tested, implemented, documented, and reviewed in a controlled manner (Cartlidge A. et al., 2007).

**Service Assets & Configuration management (SACM):** SACM provides accurate information about IT organization’s infrastructure and assets. No organization can be fully efficient or effective unless it manages its assets well, particularly those assets that are vital to the running of the customer’s or organization’s business (Introduction to the ITIL service lifecycle, 2007). SACM uses Configuration Management System (CMS), which is an information system that holds all information about organization’s assets and configuration.

**Knowledge management:** is a process that ensures that the right person has the right knowledge, at the right time to deliver and support the services required by the business (Cartlidge A. et al., 2007). Knowledge transfer is integral part of Knowledge Management which makes sure the transition of critical information across the organization. Service providers can improve service quality and customer satisfaction through effective decision making based in reliable and accurate information.

**Transition Planning & Support:** The purpose of this process is to plan the allocation of resources to activities in Service Transition stage. Effective Transition Planning and Support can significantly improve a service provider’s ability to handle high volumes of change and releases across its customer base (Cartlidge A. et al., 2007).

**Release and Deployment management:** this process aims to gather, build and deliver all aspects and components of the service solution. As mentioned by Lacy S. & Macfarlane I. (2007), the goal of this phase is to deploy releases into production and establishes effective use of the service in order to deliver value to the customer and be able to hand over to Service Operation.

**Service Operation phase**

**Event management:** is the process that monitors and identifies any event throughout the IT service infrastructure. Effective Service Operation is dependent on knowing the status of the infrastructure and detecting any deviation from normal or expected operation. This is provided by good monitoring and control systems (Cannon D. & Wheeldon D., 2007). Event management can also detect incident and assign them to responsible groups before total service breakdown. Effective management of events should include activities for event detection, filtering those events based on their character, assign them severity level and notify IT groups for corrective actions.

**Incident management** is the process of restoring the IT service to its normal operational mode with minimum down-time. This process is critical because of its direct impact on service availability and meeting agreed target in Service Level Agreement (SLA). Incident Management is highly visible to the business, and it is therefore easier to demonstrate its value than most areas in Service Operation. For this reason, Incident Management is often one of the first processes to be implemented in Service Management projects. The added benefit of doing this is that Incident Management can be used to highlight other areas that
need attention – thereby providing a justification for expenditure on implementing other processes (Cannon D. & Wheeldon D., 2007).

The most critical function of Incident management process is the Service Desk. This function provides single point of contact between service users and IT organization to assist notification of incident occurrence. Service Desk is responsible to record and categorize the incidents keep the user update on incident status. As an initial action, Service Desk attempts to investigate and diagnoses the event and informs the IT organization’s line of support.

**Problem Management** involves root-cause analysis to determine and resolve the cause of events and incidents, proactive activities to detect and prevent future problems/incidents and a Known Error sub-process to allow quicker diagnosis and resolution if further incidents do occur (Cannon D., Wheeldon D., 2007). The ultimate goal of Problem Management is to detect and prevent future problems through the analysis of problem trends. Developing a Known Error Database (KEDB) and Problem Model will assist faster troubleshooting of problems. KEDB is an information system which holds the history of problems and their respective solution. Problem Model is a step-by-step chart that outlines sequence of actions need to be taken.

**Request Fulfillment** involves the management of customers’ or users’ requests that are not generated as an incident from an unexpected service delay or disruption. Some organizations may choose to handle such requests as a ‘category’ of incidents and manage the information through an Incident Management system – but others may choose (because of high volumes or business priority of such requests) to facilitate the provision of Request Fulfillment capabilities separately via the Request Fulfillment process (Cannon D. & Wheeldon D., 2007). Request Fulfillment can assist IT organization to realize the users’ functionality requirements to improve productivity and service quality.

**Access Management** is the process of granting users the required and right level of access to IT resources. Access Management is effective execution of both Availability and Information Security Management. This process enables organization to manage the confidentiality, availability and integrity of the organization’s data and intellectual property. Access Management ensures that users are given the right to use a service, but it does not ensure that this access is available at all agreed times – this is provided by Availability Management. (Cannon D. & Wheeldon D., 2007)