The Analysis of Information Technology Best Practice Adoption in Saudi Arabia

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ABSTRACT

Drawing on Critical Success Factors (CSFs) and Organisational Learning (OL) theories, the present study examined the CSFs of Information Technology Infrastructure Library (ITIL) implementations. Organisations evaluated their manners of managing Information Technology (IT) and decided to move from technology management toward service management that is called Information Technology Service Management (ITSM). ITIL represents one of the most famous ITSM best practices. However, with the absence of a practical ITIL implementation approach based on a theoretical solid ground, many organisations faced unpredictable obstacles and waste valuable resources.

The present research aimed to identify a theoretical basis that allows understanding the success of ITIL implementations. Therefore, I first reviewed and analysed the literature of ITIL implementation CSFs to identify appropriate theoretical basis. The analysis led to proposing 4i framework as an OL model to interpret the successful and failed ITIL implementations. I then investigated empirically three case studies: successful, failed and partially successful ITIL implementations. Interviews were used to collect retrospective data from essential people involved in ITIL implementations. The present research applied method triangulation as it also used documents as another data source to understand the longitudinal aspects of the case studies. Collected data was thoroughly analysed qualitatively using two analytical methods. First, to analyse the case studies, I used a thematic analysis approach, namely Framework analysis method. While the Framework analysis findings implied the existence of interrelations among ITIL implementation CSFs, it also exposed the influential roles of the time element and the order of events on learning. Therefore, I then reanalysed the case studies using the event narrative method that concentrated on the events of ITIL implementations and their sequences. The findings of the event narrative analysis proposed a network of CSFs of ITIL implementations. Accordingly, the present research introduce four conceptual terms related to CSFs: contextual CSF, dynamic CSF, supreme CSF and network of CSFs. Finally, through the discussion of research findings in light of related literature of ITSM, CSFs and OL, I extended the network of CSFs to propose the Model of Implementing ITIL Successfully (MIIS) as an extension of 4i framework to understand success and failure of ITIL implementations.

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GLOSSARY

4i	Intuiting, Interpreting, Integrating and Institutionalising
6Ps	Purpose, Paradigm, Process, Participants, Products and Presentation
BPC	Business Process Change
BPCM	Business Process Change Management
BTF	Behavioural Theory of the Firm
CAB	Change Advisory Board
CCTA	Central Communications and Telecommunications Agency
CEO	Chief Executive Officer
CIO	Chief Information Officer
CMDB	Configuration Management Database
CSF	Critical Success Factor
CSFs	Critical Success Factors
CSI	Continual Service Improvement
CTO	Chief Technology Officer
DMAIC	Define, Measure, Analyse, Improve and Control
DMU	De Montfort University
ERP	Enterprise Resource Planning
HROs	High Reliability Organisations
IT	Information Technology
ITIL	Information Technology Infrastructure Library

ITSM	Information Technology Service Management
IVR	Interactive Voice Response
MIIS	Model of Implementing ITIL Successfully
MIT	Massachusetts Institute of Technology
NSD	New Service Development
OGC	Office of Government Commerce
OL	Organisational Learning
OLA	Operational Level Agreement
RFP	Request for Proposal
RBV	Resource Based View
RBVF	Resource Based View of the Firm
SLA	Service Level Agreement
SLM	Service Level Management
SMEs	Small and Medium-sized Enterprises
SPR	Structures, Processes and Relational mechanisms
TAM	Technology Acceptance Model
TQM	Total Quality Management
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER 1: INTRODUCTION

1.1 Research Background

Today, we live in information era in which Information Technology (IT) provides business both tangible and intangible significant benefits. Accordingly, most organisations nowadays depend significantly on IT to run their businesses through storing, analysing and retrieving information. Therefore, in our contemporary time, organisations have become more aware of vital IT roles. In this context, the management of IT in many organisations have been changed from technology management toward service management that is called Information Technology Service Management (ITSM) (Bardhan, Demirkan, Kannan, Kauffman and Sougstad, 2010; Keel, Orr, Hernandez, Patrocinio and Bouchard, 2007; Marrone and Kolbe, 2011; McBride, 2009; Winniford, Conger and Erickson-Harris, 2009) where ITSM is defined as "the implementation and management of quality IT services that meet the needs of the business" (Taylor, Lloyd and Rudd, 2007, p. 301).

Information Technology Infrastructure Library (ITIL) is a one of the most famous frameworks of ITSM best practices. Thus, in IT discipline, ITIL is an obvious representative of services science (Graves, 2010). In 1989, ITIL was introduced by a UK government agency named the Central Communications and Telecommunications Agency (CCTA). Later, CCTA incorporated with Office of Government Commerce (OGC) that became responsible for ITIL (Cartlidge et al., 2007).

ITIL adoption in organisations across the world gradually has become a recognised phenomenon as ITIL represents one of the most famous best practice frameworks for managing IT services (Cater-Steel, 2009; Cater-Steel and Tan, 2005a; Cater-Steel, Tan and Toleman, 2009; Hochstein, Tamm and Brenner, 2005; Kießling, Marrone and Kolbe, 2010). However, many organisations reported failed ITIL implementation projects or at least faced unpredictable obstacles while they pursued ITIL adoption. Thus, the results were wasted efforts and financial resources. In this respect, while many

researchers investigated the Critical Success Factors (CSFs) of ITIL implementations, their results widely varied. Moreover, most of these investigations used the concept of CSFs (Iden and Eikebrokk, 2013). Thus, there was a need for a deep exploration of these factors based on a strong theoretical foundation and empirical research. In this context, the present research enriched the ITIL implementation research. It investigated three case studies of ITIL implementations in Saudi Arabia. Moreover, it recognised the role of Organisational Learning (OL) in the success and failure of ITIL implementations and suggested 4i framework, which consists of four processes: Intuiting, Interpreting, Integrating and Institutionalising, to interpret ITIL success and failure. Therefore, the present research took this opportunity to analyse the findings of the case studies and to use 4i framework to propose a model of successful ITIL implementations.

1.2 Research Objectives and Questions

The major objective of the current research is to conduct empirical research to explain the reasons behind the success and failure of ITIL initiatives in the context of Saudi Arabia. Moreover, it aims to seek for a theoretical framework or to build a conceptual framework to interpret ITIL success and failure. Then it also aims to investigate reasons behind the success and failure ITIL implementations based on proposing that an ITIL implementation succeeds if it passes all of the four processes of 4i framework while it fails if it did not pass any of these processes.

More precisely, the current research pursues to address the following research question:

> Question 1: How can the success and failure of ITIL implementations be theoretically interpreted?

In light of answering Question 1, the research also pursues to address the following research question:

> Question 2: Why do some organisations succeed in implementing ITIL while others fail?

1.3 Rationale for the Study

During my professional work, I became aware that many organisations tended to implement ITIL claiming that ITIL would enhance their IT operation management and would prevent the headache of IT people. However, many organisations, once engaged in ITIL implementations, ran into dilemmas and faced key problems despite the fact they invested heavily in these implementations. Ultimately, they had not reach their hopeful targets. Therefore, as ITIL is well-known international best practice for IT operation management, the question that imposes itself is what makes and counts as success or failure when those organisations implement ITIL. I asked experts and read about the subject to get some answers, but I was not fully satisfied with the explanations. Accordingly, I decided to conduct the present research.

1.4 Importance of the Current Research

Implementing ITIL is not an easy task as it might be thought. Many organisations face miscellaneous difficulties or report failed ITIL implementations (Galup and Dattero, 2010; McBride, 2009; Pedersen, Kræmmergaard, Lynge and Schou, 2010; Pereira and da Silva, 2010; Shang and Lin, 2010; Winniford et al., 2009). In many cases, these organisations exhaust human and financial resources without achieving expected outcomes. The importance of research in ITIL implementation stems from the fact that organisations are required to understand the prerequisites, suitable implementation conditions and approaches of ITIL implementation before they adopt it. As this research aims to investigate and explain ITIL implementation success and failure, it is expected to provide theoretical model for implementing ITIL successfully. This model would accordingly support the increased organisations tendency to shift from IT technology management to ITSM. The key premise of the study remains in its attempt to provide theoretically oriented ITIL implementation roadmap to enhance the chances of successful implementations. This will in turn enhance the performance of IT departments, reinforce their alignment with business and strengthen business to achieve their objectives. Therefore, the principal importance of this study is to interpret ITIL

success and failure factors as well as to provide theoretical and practical implications for successful ITIL implementations.

Moreover, the current research came in the context of the wide interest of ITIL research across the world. However, one of the distinguished characteristics of the present research was that it conducted empirical investigation of successful and unsuccessful ITIL implementation cases in Saudi Arabia and that seems unprecedented. Therefore, the current research widened the context of the previous research and allowed the emerging of novel outcomes.

Additionally, as ITIL is a framework of ITSM, the investigation of ITIL adoption has strong relation with service research and is a kind of information systems research in the area of ITSM. The present research considered the multidisciplinary nature of service field (Ojasalo, 2009) and supported several trends of service research. For example, McBride (2009) called for applying service concepts on information systems research. Moreover, after Ostrom et al. (2010) had comprehensively evaluated current service research and service area practical needs, they suggested the priorities of service research. One of these priorities was to identify drivers of sustained new service success, which is related to the main objective of the present research. In addition, they emphasised "the importance of taking a global perspective and exploring whether findings in one context hold true in another" (Ostrom et al., 2010, p. 6). The current research supports this theme, as it seems unprecedented research studying ITIL successful and unsuccessful adoptions in Saudi Arabia. Additionally, the present research tried to respond to Bardhan et al. (2010) who emphasised the necessity to conduct interdisciplinary and cross-disciplinary research of IT services. I considered proposing OL theory to interpret ITIL success and failure fulfil this call because of the multidisciplinary nature of OL (Easterby-Smith, 1997; Karataş-Özkan and Murphy, 2010).

1.5 Thesis Structure

The thesis consists of nine chapters including the current introduction chapter. The rest of the chapters represent four major parts. The first part, which consists of Chapters 2 to 4, is the theoretical investigations of the research that conceptualises the concepts of the research, identifies knowledge gaps and seeks for appropriate theory lens. The second part involves Chapter 5 that presents research plan in aiming to address the research questions. The third part, which includes Chapters 6 to 8, presents and discusses the findings of the research empirical investigations. The fourth part is Chapter 9 that concludes the thesis. The following paragraphs briefly describe these chapters.

Chapters 2 to 4 represent the theoretical investigations of the research. In particular, Chapter 2 reviews the literature of ITIL implementation CSFs and clarifies the related concepts. It also seeks to address the knowledge gaps. Specifically, it identifies inconsistent large number of ITIL implementation CSFs in previous studies and a lack of strong theory applications in identifying ITIL implementation CSFs.

Accordingly, Chapter 3 analyses the identified ITIL implementation CSFs in the previous studies. The analysis results in sixteen ITIL implementation CSFs that allow comparing the previous studies. More importantly, the analysis also proposes OL as a theoretical lens to understand the success and failure of ITIL implementations.

Therefore, Chapter 4 reviews the literature of OL theory in the context of ITIL adoption from different perspectives to evaluate utilising it in the area of ITIL implementations. As the review results encourage adopting OL, Chapter 4 also discusses numerous OL models and elects 4i framework as a theoretical basis of the current research. Consequently, it then extensively examines how researchers extended and utilised 4i framework in different contexts. This examination supports later Chapter 8 to discuss the empirical investigations.

Next, Chapter 5 presents and justifies the present research design and methodology. It discusses the rationale underlying the research stand on interpretivism stance. Moreover, it justifies the adoption of qualitative research and case study methodology as well as the selection criteria of the case studies and participants to address the

research questions. It also explains the reasons behind applying a triangulation of data analysis using Framework analysis method and event narrative analysis method.

While Chapters 6 to 8 represent the empirical investigations of the research, Chapter 6 reports the findings of analysing the case studies using Framework analysis method as a thematic analysis approach. These findings include proposing of three conceptual terms of ITIL implementation CSFs: contextual CSF, dynamic CSF and supreme CSF. Moreover, the chapter highlights that time influences many ITIL implementation CSFs and that many ITIL implementation CSFs facilitate OL. Finally, it indicates the existence of interrelations among several ITIL implementation CSFs and accordingly presents an initial model of these interrelations.

Then, Chapter 7 utilises and extends the findings of Chapter 6 through reanalysing the conducted case studies using event narrative analysis method to investigate the role of time, the progress of learning and the interrelations among ITIL implementation CSFs. The rationale underlying the adoption of event narrative analysis is that it reflects time factor, considers event sequences and provides holistic longitudinal perspective. This chapter segregates ITIL implementation CSFs into four phases: decision, preparation, practice and result phases based on time. In addition, it expands the model of the interrelations among ITIL implementation CSFs in Chapter 6 by including ITIL implementation phases and accordingly proposes the model of network of CSFs.

Next, Chapter 8 discusses the research theoretical and conceptual findings in light of related literature of ITSM, CSFs and OL. More specifically, it synthesises the findings with 4i framework and its extensions to propose a model for implementing ITIL successfully namely Model of Implementing ITIL Successfully (MIIS). This model expands the model of network of CSFs in Chapter 7 through associating the CSFs of ITIL implementations with the processes of 4i framework.

Finally, Chapter 9 concludes the thesis by summarising the research, highlighting its original contributions, suggesting practical implications and recommending further research topics.

CHAPTER 2: LITERATURE REVIEW OF ITIL IMPLEMENTATION CSFs

2.1 Introduction

ITSM is a way of managing IT that focuses on IT services. ITIL is one of the most famous best practices of ITSM (Iden and Eikebrokk, 2013; Taylor, Lloyd and Rudd, 2007). Globally, the organisations that make use of ITIL are increasing because of its certain benefits. However, several organisations have faced obstacles that hinder their ITIL initiatives. Although some of these organisations took time to override such obstacles and to realise some ITIL benefits, others failed to adopt ITIL effectively. The failed cases led to waste of resources and could distort ITIL reputation. In this context, the current research aims at understanding why ITIL would succeed or fail as that can help organisations to utilise their resources and to increase the likelihood of successful ITIL implementations. To achieve this aim, I reviewed the literature of the success of ITIL implementations.

The major objective of the current chapter is to present the results of reviewing the literature of successful ITIL implementations. There are several benefits of reviewing the literature such as identifying knowledge gaps. Additionally, the literature review would also locate potential theories to fill the knowledge gaps as Creswell (2013) stated, “One component of reviewing the literature is to determine what theories might be used to explore the questions in a scholarly study” (p. 51).

The literature review of successful ITIL implementations revealed that the literature concentrated on ITIL implementation CSFs. The subsequent sections of the current chapter are as follows. Section 2.2 describes the approach of reviewing the literature of successful ITIL implementations. It shows that the review resulted five related concepts: the meaning of ITIL implementation, ITIL implementation diffusion, the success of ITIL implementation, the definition of CSFs and ITIL implementation CSFs. Next, Section 2.3 represents an entrance as it defines and provides an overview of ITIL. Section 2.4 discusses the first three resulted concepts related to ITIL implementation

phenomenon. Next, Section 2.5 investigates the fourth concept, which is the definition of CSFs. It reviews the origination of the concept of CSFs and the definitions of this term in general and in the context of ITIL implementations. Then, Section 2.6 shows the result of reviewing the literature related to the last concept, which is ITIL CSFs. Next, Section 2.7 discusses ITIL implementation CSFs in ITIL industry. Section 2.8 presents the research limitations of ITIL implementation CSFs based on reviewing the literature and accordingly Section 2.9 identifies the research gaps while Section 2.10 concludes the chapter.

2.2 Literature Review Approach

I conducted a comprehensive literature review of ITIL successful implementations utilising Levy and Ellis (2006)'s framework as well as Oates (2007)'s recommendations. By adopting the framework of Levy and Ellis (2006) as a systematic approach to review the literature, the review consisted of three stages: inputs, processing, and outputs.

The stage of inputs dealt with literature gathering aspects such as looking for quality literature. It also concerned with finding quality literature by applying keywords search, backward search and forward search. In addition, this stage determined when the literature search was completed. Therefore, I first used initial keywords based on the objectives of the current research. Then using these keywords, I searched reputable academic databases including ProQuest, ACM, Ebsco, Emerald, IEEE Xplore, ProQuest, Science Direct, Scopus and Web of Knowledge; scholarly journals; and reputed conferences. I added and tuned the keywords based on the search findings until I set the final keywords. The keywords comprised two expressions and their alternatives. The two expressions were 'ITIL implementation' and 'success'. The alternatives of 'ITIL implementation' were the combinations of ITIL or ITSM with different forms of implement or adopt. The alternatives of 'success' contained all forms of success, failure and CSFs.

Then, I applied the second stage, namely processing. This stage follows Bloom's Taxonomy that describes the learning process and consists of six sequential steps: know, comprehend, apply, analyse, synthesise and evaluate the literature. First, knowing the literature step implies identifying, describing and extracting meaningful information from literature. Second, comprehending the literature step involves summarising, differentiating, interpreting and contrasting literature knowledge. Third, applying the literature step consists of the identification of the major study concepts and citing these concepts. Fourth, analysing the literature step involves the identification of the importance of information. Fifth, synthesising the literature step indicates the assembly of the reviewed literature. Sixth, evaluating the literature step helps to judge, explain, recommend, and distinguish among the literature opinions, theories and facts. Therefore, using these steps in the current research, I identified five major concepts of ITIL implementation success in the literature. These concepts are the meaning of ITIL implementation, ITIL implementation diffusion, the success of ITIL implementation, the definition of CSFs and ITIL implementation CSFs. Then, I sought for additional explanations about these concepts that are described in the present chapter.

Finally, I applied the last stage of reviewing the literature namely outputs that embodied the literature review writing. Thus, in this stage I utilised the previous two stages to generate the outcome of literature review. The current chapter represents the output of the comprehensive literature review of successful ITIL implementations.

2.3 ITIL Overview

The objective of this section is to provide an overview of Information Technology Infrastructure Library (ITIL), which is a best practice of ITSM, and its components. ITSM is a way of managing IT operation that concentrates on enhancing the quality of IT services and aligning these services with the objectives of business (Galup, Dattero, Quan and Conger, 2009; Marrone and Kolbe, 2011). One of the most famous ITSM best practice frameworks is ITIL which represents specified practices that IT departments can use to manage IT services (Iden and Eikebrokk, 2013). Implementing ITIL represents a strategic decision as it embodies organisational change. It embraces culture

change, employee training, tool installation and new process establishment (De Waal, Maritz, Scheepers, McLoughlin and Hempel, 2014; Huang, Wu and Chen, 2013). Additionally, it aims to transform IT management from technology oriented to service oriented (Hochstein, Tamm and Brenner, 2005). Therefore, it provides a generic model that organisations can adapt to their situations based on the philosophy of considering people and processes in IT management instead of just concentrating on technology side.

According to OGC (2003), ITIL offers comprehensive, reliable and coherent best practices of ITSM processes to achieve greater business efficacy using information systems. ITIL was developed in the 1980s by CCTA which was a British governmental organisation. It was responsible for collecting the best practices of managing IT services to improve the efficiency, quality and productivity of IT operations while IT align to business. Thus, it gathered and examined related practical techniques of many organisations; and identified and documented the soundest practices in ITIL. Therefore, ITIL compromises of IT operation management routines from the real world and it represents a best practice framework for ITSM (Cartlidge et al., 2007). Then in 2001, ITIL version 2 was released with extensive changes as new IT practices appeared. It consisted mainly of the processes of service delivery and service support. In 2007, ITIL version 3 was published that included ITIL service lifecycle concept. The core books of ITIL 3 included service strategy, service design, service transition, service operation, and continual service improvement (Cartlidge et al., 2007). ITIL 3 was revised in 2011, which is the current version of ITIL. Then in 2013, the UK Cabinet Office and a public limited company set up a joint venture namely AXELOS to manage and develop global best practices including ITIL (AXELOS, 2016). Currently, AXELOS owns ITIL and manages its development.

Therefore, the latest version of ITIL is version 3 edition 2011. It offers guidelines containing ITIL principles, processes, roles, and associated challenges. Moreover, it explains the ITIL service lifecycle. ITIL lifecycle comprises five stages as shown in Figure 2-1. The ITIL official core publications describe in detail each of these stages: service strategy (Cannon, 2011), service design (Hunnebeck, 2011), service transition (Rance, 2011), service operation (Steinberg, 2011) and Continual Service Improvement

(CSI) (Lloyd, 2011). Moreover, this lifecycle adopts a hub-and-spoke design where service strategy represents the ‘hub’; and service design, service transition and service operation represent the rotating lifecycle stages or 'spokes' (Cannon, 2011; Lloyd, 2011). CSI encircles and supports the other stages. Briefly, each stage affects other stages, as its outputs are inputs to other stages and vice versa.

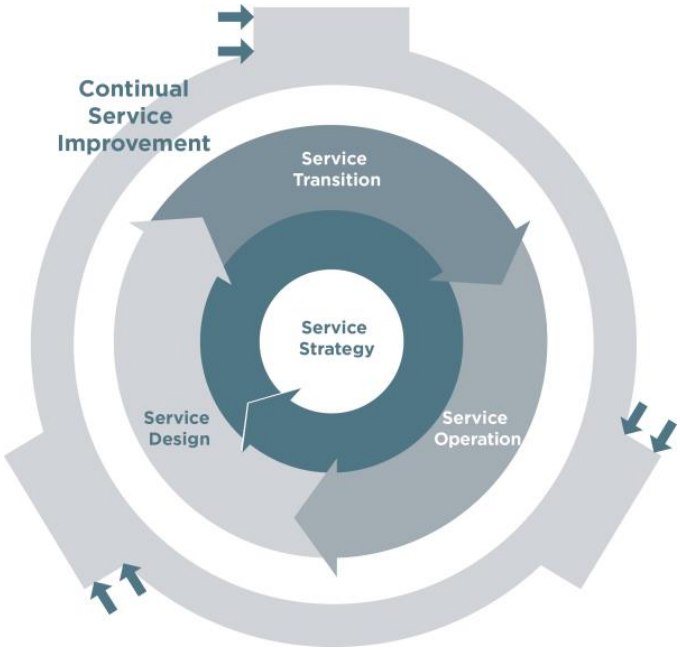


Figure 2-1 The ITIL Service Lifecycle - Adopted from Lloyd (2011)

The first stage is service strategy that sets the plans, which a service provider should execute to achieve the business outcomes of an organisation. It includes five processes: strategy management for IT services, service portfolio management, financial management for IT services, demand management, and business relationship management (Cannon, 2011).

The second stage of the ITIL service lifecycle is service design. This stage contains designing the services and governing processes. It includes eight processes: design coordination, service catalogue management, service level management, availability

management, capacity management, IT service continuity management, information security management, and supplier management (Hunnebeck, 2011).

The role of service transition as the third stage is to validate the meeting of the services to the expectations of the business according to the service strategy and service design stages. It comprises seven processes: transition planning and support; change management; service asset and configuration management; release and deployment management; service validation and testing; change evaluation; and knowledge management (Rance, 2011).

The fourth stage is service operation which concentrates on managing services at agreed levels with business and managing technology that supports services. This stage contains five processes: event management, incident management, request fulfilment, problem management, and access management. Moreover, it also contains four functions: service desk, technical management, IT operations management and application management (Steinberg, 2011).

The last stage is continual service improvement, which functions to measure the processes and IT services as well as to implement identified improvements to IT services for the sake of the alignment of IT services with changing business needs. This stage contains only one process namely seven-step improvement process (Lloyd, 2011).

As shown above, the stages include several processes. Additionally, most of these processes contain activities, which take place across multiple stages. Table 2-1 describes briefly the roles of the processes of all stages adopted from Cannon (2011), Hunnebeck (2011), Lloyd (2011), Rance (2011) and Steinberg (2011).

Stage	Process	Process Roles
Service strategy	Strategy management for IT services	• defining and maintaining an organisation's perspective, position, plans and patterns with regard to its services and their management • ensuring that the strategy achieves its intended business outcomes
	Service portfolio management	• ensuring that the service provider has the right mix of services to meet required business outcomes at an appropriate level of investment • considering services in terms of the business value that they provide
	Financial management for IT services	• managing an IT service provider's budgeting, accounting and charging requirements • securing an appropriate level of funding to design, develop and deliver services that meet the strategy of the in a cost-effective manner
	Demand management	• understanding, anticipating and influencing demand for services • working with capacity management to ensure that the service provider has sufficient capacity to meet the required demand • involving analysis of patterns of business activity and user profiles at a strategic level; and involving the use of differential charging to encourage customers to use IT services at less busy times, or require short-term activities to respond to unexpected demand or the failure of a configuration item at a tactical level
	Business relationship management	• maintaining a positive relationship with customers • identifying customer needs and ensures that the service provider is able to meet these needs with an appropriate catalogue of services
Service Design	Design coordination	• coordinating all service design activities, processes and resources • ensuring the consistent and effective design of new or changed IT services, service management information systems, architectures, technology, processes, information and metrics
	Service catalogue management	• providing and maintaining the service catalogue and for ensuring that it is available to those who are authorised to access it
	Service level management	• negotiating achievable SLAs and ensuring that these are met • ensuring that all ITSM processes, operational level agreements and underpinning contracts are appropriate for the agreed service level targets • monitoring and reporting on service levels, holds regular service reviews with customers, and identifies required improvements
	Availability management	• ensuring that IT services meet the current and future availability needs of the business in a cost effective and timely manner • defining, analysing, planning, measuring and improving all aspects of the availability of IT services, and ensuring that all IT infrastructures, processes, tools, roles etc. are appropriate for the agreed service level targets for availability
	Capacity management	• ensuring that the capacity of IT services and the IT infrastructure is able to meet agreed capacity- and performance related requirements in a cost-effective and timely manner • considering all resources required to deliver an IT service, and is concerned with meeting both the current and future capacity and performance needs of the business • managing the capacity of business, service and component
	IT service continuity management	• managing risks that could seriously affect IT services • ensuring that the IT service provider can always provide minimum agreed service levels, by reducing the risk to an acceptable level and planning for the recovery of IT services • supporting business continuity management

Table 2-1 The Roles of ITIL Processes (continued overleaf)

Stage	Process	Process Roles
Service Design	Information security management	• ensuring that the confidentiality, integrity and availability of an organisation's assets, information, data and IT services match the agreed needs of the business • supporting business security and has a wider scope than that of the IT service provider, and includes handling of paper, building access, phone calls etc. for the entire organisation.
	Supplier management	• obtaining value for money from suppliers, ensuring that all contracts and agreements with suppliers support the needs of the business, and that all suppliers meet their contractual commitments
Service Transition	Transition planning and support	• planning all service transition processes and coordinating the resources that they require
	Change management	• controlling the lifecycle of all changes, enabling beneficial changes to be made with minimum disruption to IT services
	Service asset and configuration management	• ensuring that the assets required to deliver services are properly controlled, and that accurate and reliable information about those assets is available when and where it is needed as this information includes details of how the assets have been configured and the relationships between assets
	Release and deployment management	• planning, scheduling and controlling the build, test and deployment of releases, and for delivering new functionality required by the business while protecting the integrity of existing services
	Service validation and testing	• validating and testing of a new or changed IT service • ensuring that the IT service matches its design specification and will meet the needs of the business
	Change evaluation	• conducting formal assessment of a new or changed IT service to ensure that risks have been managed and to authorise the change
	Knowledge management	• sharing perspectives, ideas, experience and information, and for ensuring that these are available in the right place and at the right time • enabling informed decisions, and improves efficiency by reducing the need to rediscover knowledge
Service Operation	Event management	• managing events throughout their lifecycle
	Incident management	• managing the lifecycle of all incidents • ensuring that normal service operation is restored as quickly as possible and the business impact is minimised
	Request fulfilment	• managing the lifecycle of all service requests
	Problem management	• managing the lifecycle of all problems • preventing proactively incidents from happening and minimises the impact of incidents that cannot be prevented
	Access management	• allowing users to make use of IT services, data or other assets • helping to protect the confidentiality, integrity and availability of assets by ensuring that only authorised users are able to access or modify them • implementing the policies of information security management and is sometimes referred to as rights management or identity management
Continual Service Improvement	seven-step improvement process	• defining and managing the steps needed to identify, define, gather, process, analyse, present and implement improvements • measuring the performance of the IT service provider and improving the processes, IT services and IT infrastructure in order to increase efficiency, effectiveness and cost effectiveness • recording and managing opportunities for improvement in CSI register

Table 2-1 continuation: The Roles of ITIL Processes

Organisations tend to implement ITIL because of its known benefits that would override major obstacles to IT management in these organisations. Many researchers investigated the benefits of implementing ITIL. Researchers reported wide benefits of ITIL in several dimensions related to customers, employees, systems, services, processes and finance. These benefits included customer satisfaction, operational performance, the quality of IT services, efficiency, seamless end-to-end service, transparency, rigorous control of changes, predictable infrastructure, reduction in service outages, reduced costs, adoption of innovations, ability to recognise potential for improvement, clarity of roles and responsibilities, and enhanced coordination among staff (Cater-Steel, Toleman and Tan, 2006; Hochstein, Tamm and Brenner, 2005; Kießling et al., 2010; Pollard and Cater-Steel, 2009; Potgieter, Botha and Lew, 2004). In addition, medium and small organisations, which implemented ITSM models such as ITIL, gained performance enhancement and communication improvement (Melendez, Dávila and Pessoa, 2016). Iden and Eikebrokk (2013) summarised the most frequent identified benefits of ITIL to include improving operational efficiency; improving service delivery; improving alignment with customers and between IT functions; and improving customer satisfaction. The realised benefits of ITIL implementations increase, as ITIL implementations become more mature (Marrone and Kolbe, 2011). In addition, researchers tried to estimate the crystallised value and benefits of ITIL. For example, Tiong, Cater-Steel and Tan (2009) proposed a model to evaluate ITIL implementation return on investment. In addition, McNaughton, Ray and Lewis (2010) proposed a design of an evaluation framework to assess ITIL implementation benefits. Also, Oliveira, N. da Silva and M. da Silva (2011) attempted to quantify the value of ITIL implementations. However, not all firms got the benefits of ITIL implementation (Kanapathy and Khan, 2012).

Due to their importance and wide adoptions, academic research of ITSM and ITIL is increasing (Iden and Eikebrokk, 2013). However, utilising theories in this area is slowly increasing. I identified several theoretical publications that studied some aspects of ITIL implementation. For instance, Cater-Steel and McBride (2007) scrutinised a successful ITIL adoption case study via actor network theory. In addition, Dowse and Lewis (2009) applied numerous organisational theories to investigate the adaptation of IT governance and service management arrangements. Moreover, Galup and Dattero

(2010) utilised dynamic network analysis model to match an employee with needed knowledge to tune ITIL processes. Also, Gacenga, Cater-Steel, Tan and Toleman (2011) applied contingency theory to measure the performance of ITSM. Huang et al. (2013) explored the implementation of ITSM CSFs using Business Process Change Management (BPCM) theory. Pedersen et al. (2010) compared successful and unsuccessful ITIL implementations to investigate ITIL implementation CSFs using Business Process Change (BPC) theory. Moreover, Mehravani, Hajiheydari and Haghighinasab (2011) extended Technology Acceptance Model (TAM) to suggest an ITIL adoption model that connect ITIL implementation CSFs with TAM constructs. In addition, Ahmad, Amer, Qutaifan and Alhilali (2013) proposed Unified Theory of Acceptance and Use of Technology (UTAUT) to provide a model of ITIL implementation. They linked ITIL implementation CSFs to UTAUT with an aim to improve ITIL implementation. Finally, Eikebrokk and Iden (2016) investigated the relationship between ITIL implementations and theories of process management and service climate. Accordingly, they concluded that ITIL supports the IT service climate.

In sum, ITSM is gradually becoming more popular. The number of organisations adopting ITIL and the number of practitioners earing ITIL certificates are increasing. Moreover, ITSM research is still at early stages (Marrone and Kolbe, 2011) so many researchers (e.g. Ahmad et al., 2013; Conger, Winniford and Erickson-Harris, 2008; Wu, Huang and Chen, 2011) noted that ITIL implementation and adoption research is scarce. “ITSM is an area which is relatively new to both industry and academia” (McBride, 2009, p. 237). However, Iden and Eikebrokk (2013) reviewed the literature of ITIL and found that the number of related publications is gradually increasing. In all cases, there is still a need of conducting more research in this emerging field (Conger et al., 2008).

2.4 ITIL Implementation Phenomenon

This section discusses three concepts that appeared during the review of the literature, related to the success of the ITIL implementations. These concepts tackle the meaning of ITIL implementation, ITIL implementation diffusion and the success of ITIL implementation.

2.4.1 The Meaning of ITIL Implementation

Semantically, implementation denotes embodying a concept or an idea. Therefore, it represents the process of applying an idea, model or specification. In this context and according to Iden and Eikebrokk (2013), ITSM/ITIL implementation is "the process of adapting to ITSM principles and/or introducing the best practice recommendations prescribed by ITIL" (p. 512). Therefore, an ITIL implementation is the introducing of ITIL to an organisation to adopt ITIL processes. This implies an evolution of the organisation IT operation management from an ad hoc situation to a best practice manner or from technology-based management to service-based management. This evolution is a kind of change in the perception of people and IT operation processes that demands extraordinary care to be successful.

2.4.2 The Diffusion of ITIL Implementation

The number of organisations implemented ITIL is increasing across the world. Moreover, they spent huge investments to be successful in their ITIL implementation initiatives. However, they faced some obstacles and found that implementing ITIL is difficult in practice.

ITIL implementations increased worldwide (Cater-Steel, Toleman and Tan, 2006; Kanapathy and Khan, 2012). Cater-Steel et al. (2009) stated that more than 400 organisations distributed among 40 countries earned ISO/IEC 20000 certification as an international standard for ITSM. They referred this wide diffusion of ITIL to three types of pressures. The first pressure was coercive pressure from different parties, such as customers, head offices, government agencies and IT service providers. The second was normative pressure. This pressure was a result of training accreditation schemes and industry network. The third pressure was a mimetic pressure that led some organisations to imitate the processes adopted by leader organisations. ISO/IEC 20000 certification registry listed 822 organisations earned ISO/IEC 20000 certifications across 70 countries (APM Group, 2016). Figure 2-2 illustrates the diffusion of ISO/IEC 20000 certification over time.

Furthermore, ITIL research attracted researchers globally as the implementation of ITIL was increasing. Iden and Eikebrokk (2013) studied 37 publications of ITIL between 2005 and 2012 and found that the number of journal papers was increasing yearly. The

researchers of these 37 publications spread among 18 countries. However, some of these publications were conceptual while others did not mention the research location. With an extensive review of literature, I identified empirical ITIL research in twenty nine countries as shown in Table 2-2. Therefore, there was an interest of ITIL research worldwide and that implied ITIL implementation diffusion worldwide.

However, implementing ITIL is not a straightforward journey as it is a complicated long-term transformation (Mahy, Ouzzif and Bouragba, 2016; Wan and Chan, 2007). Therefore, it requires high investment. Moreover, it involves restructuring, adopting new processes, and installing new systems. This encompasses an organisational change that would raise some problems. Many organisations faced troubles during adopting ITIL (Cater-Steel, Tan and Toleman, 2006; Iden and Langeland, 2010). Moreover, many organisations failed to achieve the expected outcomes of their ITIL implementation initiatives (Pollard and Cater-Steel, 2009).

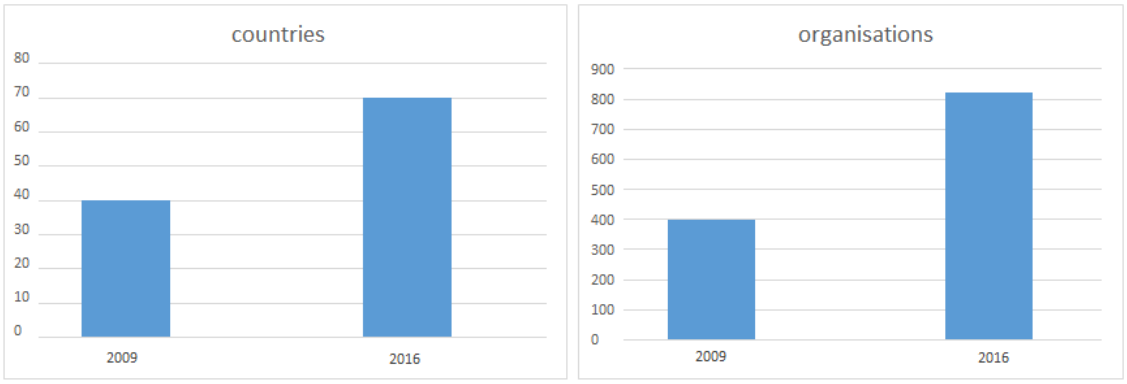


Figure 2-2 The Diffusion of ISO/IEC 20000 Certification over Time

S	Country	Research Example(s)
1	Australia	Cater-Steel, Tan and Toleman (2009) Cater-Steel, Toleman and Tan (2006) Pollard and Cater-Steel (2009) Tan, Cater-Steel and Toleman (2009)
2	Bahrain	Mohamed, Ribière, O'Sullivan and Mohamed (2008)
3	Bosnia and Herzegovina	Donko and Traljic (2009a) Donko and Traljic (2009b) Kovacevic and Orucevic (2010)
4	Brazil	Ralha and Gostinski (2008)
5	China	Yao and Wang (2010) Zhao, Gan and Gao (2009) Zhao and Gao (2008)
6	Croatia	Požgaj and Strahonja (2008) Spremić, Žmirak and Kraljević (2008)
7	Denmark	Pedersen, Kræmmergaard, Lynge and Schou (2010)
8	Finland	Lahtela, Jäntti and Kaukola (2010) Jäntti (2016)
9	Germany	Hochstein, Tamm and Brenner (2005)
10	Hong Kong	Wan and Chan (2007)
11	Iran	Ghayekhloo, Sedighi, Nassiri, Shabgahi and Tirkolaei (2009) Mohammadi, Ravasan and Hamidi (2015)
12	Korea	Lee, Lee, Park and Jeong (2008)
13	Lebanon	Hejase, Hejase, Mikdashi, Al-Halabi, Alloud and Aridi (2016)
14	Malaysia	Ayat, Sharifi, Sahibudin and Ibrahim (2009) Sahibudin, Sharifi and Ayat (2008) Kanapathy and Khan (2012)
15	Morocco	Mahy, Ouzzif and Bouragba (2016)
16	Netherlands	Niessink and van Vliet (1998)
17	Norway	Iden and Langeland (2010)
18	Peru	Yamakawa, Noriega, Linares and Ramírez (2012)
19	Portugal	Pereira and da Silva (2010)
20	Saudi Arabia	AlShathry (2016)
21	South Africa	Potgieter, Botha and Lew (2004)
22	Sri Lanka	Herath, Prabhashini and Katepearachchi (2016)
23	Spain	Rubio-Sánchez, Arcilla-Cobián and San Feliu (2016)
24	Sweden	Eikebrokk and Iden (2016) Iden and Eikebrokkb (2016)
25	Taiwan	Shang and Lin (2010) Wu, Huang and Chen (2011) Huang, Wu and Chen (2013)
26	Tanzania	Vaitha and Francis (2016)
27	UAE	Nicho and Al Mourad (2012) Ahmad, Amer, Qutaifan and Alhilali (2013)
28	UK	Cater-Steel and McBride (2007) McBride (2009)
29	USA	Pollard and Cater-Steel (2009) Winniford, Conger and Erickson-Harris (2009)

Table 2-2 ITIL Research in Different Countries

2.4.3 The Success of ITIL Implementation

Understanding ITIL does not ensure implementing ITIL successfully (Hochstein, Tamm and Brenner, 2005). Whether an ITIL implementation initiative is successful or not is a debatable matter. Furthermore, measuring the success of ITIL is difficult because there is no standard measurement and because ITIL aspects are complicated to capture and measure (Iden and Eikebrokk, 2013). In this context, researchers took several ways to judge whether an ITIL implementation initiative would be successful or not. Pollard and Cater-Steel (2009) investigated several organisations that implemented ITIL and considered those organisations as having succeeded in ITIL implementations since they reported clear benefits. The benefits included improving the clarity of responsibilities, reducing of system outages, improving coordination of teams, enhancing consistency of processes, logging of incidents consistently, enhancing productivity, reducing costs, and improving customer satisfaction. In addition to the benefits of ITIL implementations, Iden and Eikebrokk (2013) suggested another factor to measure the success of ITIL implementation. This factor was actual implementation status. A status of actual implementation of each ITIL processes could be one of the following statuses: not started, early, halfway, advanced or completed. Additionally, De Waal et al. (2014) recommended that organisations discuss the measures of success and the targeted goals before implementing ITIL. Once they achieve the targeted goals, they succeed of implementing ITIL.

To implement ITIL successfully, many Researchers (e.g. Ahmad et al., 2013; Cater-Steel, 2009; Nicho and Al Mourad, 2012) advised organisations aiming to implement ITIL to concentrate on ITIL implementation CSFs. Those CSFs generate valuable guidance for organisations tend to implement ITIL in a manner that utilises resources, leads to successful implementation and reduces the implementation risks (Neničková, 2011; Wu et al., 2011). In addition, CSFs assist in solving problems more effectively (Hochstein, Tamm and Brenner, 2005). In summary, organisations with an aim of implementing ITIL should concentrate on ITIL implementation CSFs as these CSFs affect the consequences of ITIL success. In this context, the next section (i.e. Section 2.5) deliberates the meaning of CSFs and then Section 2.6 investigates ITIL CSFs.

2.5 Critical Success Factors (CSFs)

In any research, it is important to clarify its terms to ensure the research consistency and to understand the varieties of previous studies. This section scrutinises the origin and meaning of the term of CSFs.

As a seminal contribution of Daniel (1961), he introduced the concept of success factors. He claimed that each particular industry or business has typically three to six factors, which establish its success. Therefore, these factors must be unambiguously stated and broadly communicated in that business. For a business firm to be successful, it should attain mastery of these factors.

Later, Rockart (1979) refined this concept. He defined CSFs as "the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are the few key areas where 'things must go right' for the business to flourish. If results in these areas are not adequate, the organization's efforts for the period will be less than desired" (p. 85). Moreover, Bullen and Rockart (1981) provided a shorter definition for CSFs as "key areas where things must go right in order to successfully achieve objectives and goals" (p. 9). In other words, CSFs of any business are the underpinnings of its success. Moreover, for any business, there are CSFs that necessitate special attention while other areas may require less consideration (Rockart, 1979). Therefore, CSFs originally concentrated on the success of an organisation and business.

However, CSFs was gradually redefined in broader terms in the context of an initiative or project. For example, Albertin (2004, as cited in Luna, Costa, Moura, Novaes and Nascimento, 2010) defined CSFs as the "factors that, if not considered and managed, inevitably undermine the success of the initiative" (p. 322). Furthermore, Iden and Eikebrokk (2013) utilised the definition of Rockart and defined CSFs as "the key areas where 'things must go right' in order for the implementation project to achieve a high level of success" (p. 519). However, Huang et al. (2013) combined the two contexts and defined CSFs as the "essential elements for an organisation or project to successfully achieve its mission" (p. 1222). Additionally, the official ITIL publications further broadened the definition of CSFs to care about processes. ITIL version 3 defined CSFs

as “something that must happen if a process, project, plan, or IT service is to succeed” (Taylor, Case and Spalding, 2007, p. 167). ITIL version 3 edition 2011 slightly altered the definition of CSFs to be “Something that must happen if an IT service, process, plan, project or other activity is to succeed” (Cannon, 2011, p. 433).

Based on this deliberation, CSFs of an ITIL implementation are the essential aspects that the implementation owners and managers must monitor and attain to increase the likelihood of the ITIL implementation success. Additionally, if they do not achieve these factors, the project is unlikely to be successful or to achieve its objectives (Hochstein, Tamm and Brenner, 2005; Pollard and Cater-Steel, 2009). Therefore, ITIL implementation CSFs (ITIL CSFs, henceforth) in the context of the current research is defined as the least factors that must present to warrant ITIL implementation success. Moreover, if they do not function appropriately well, the success of the ITIL intervention or implementation will be jeopardised. In other words, if any Critical Success Factor (CSF) fall behind, ITIL implementation failure appears.

2.6 ITIL CSFs in Research

The goal of the current section is to provide an overview of the studies of ITIL CSFs. Related to this area, Kanapathy and Khan (2012) claimed that there was a research lack of ITIL implementation success factors. This is in accordance with the perspective of Huang et al. (2013) who affirmed the rarity of published academic research that systematically investigates ITIL CSFs. In contrast, the present literature review revealed that the literature provided in abundance investigations of ITIL CSFs (e.g. Cater-Steel and Tan, 2005a; 2005b; 2006; Hochstein, Tamm and Brenner, 2005; Iden, 2009; Iden and Langeland, 2010; Pedersen et al., 2010; Pollard and Cater-Steel, 2009; Tan, Cater-Steel and Toleman, 2009; Tan, Cater-Steel, Toleman and Seaniger, 2007). Over the last decade, researchers have investigated ITIL CSFs from different perspectives. This agrees with Iden and Eikebrokk (2013) who found that the most frequent research question related to ITSM was about the factors of implementing ITIL successfully.

Drawing on the literature review approach described above in Section 2.2, I identified twenty four articles related to ITIL CSFs that represented twenty one different studies. Table 2-3 provides an overview of these studies in chronological order. The table shows that the researchers conducted studies of ITIL CSFs using various research approaches in several countries while these studies distributed over the last decade since 2005.

It is difficult to compare the findings of the identified studies as they provide wide varied findings of ITIL CSFs (Iden and Eikebrokk, 2015; Iden and Langeland, 2010). Therefore, I decided to analyse these CSFs as detailed in the next chapter.

To provide a complete picture about the identified ITIL CSFs, the rest of the current section describes briefly all studies in chronological order. In addition, Appendix A lists the CSFs of all studies also ordered chronologically. Hochstein, Tamm and Brenner (2005) investigated qualitatively several issues of six case studies in Europe. These issues included success factors of the implementations. They identified six success factors. Cater-Steel and Tan (2005a, 2005b) conducted a survey with the participants of Australian itSMF 2005 conference to explore their views of the progress and success factors of implementing ITIL. Cater-Steel, Toleman and Tan (2006) replicated the study of Hochstein, Tamm and Brenner (2005) to identify the key success factors of ITIL implementation in five Australian organisations that implemented ITIL successfully. Cater-Steel and Tan (2006) confirmed the findings of Hochstein, Tamm and Brenner (2005). Tan et al. (2007) reported the ITIL implementation CSFs in a large public sector organisation in Australia. Cater-Steel (2009) utilised several surveys and interviews of ITIL implementations that conducted in Australia, Thailand, Norway, United Kingdom, New Zealand and United States of America. She identified six critical factors of ITIL implementations that needed special consideration. Iden (2009) conducted a longitudinal case study of an ITIL project in a university IT department and discussed its identified CSFs. Pollard and Cater-Steel (2009) conducted qualitative research of four ITIL case studies in Australia and USA. They identified eight CSFs. Tan et al. (2009) conducted in-depth case study of ITIL implementation in a large Australian government agency. They identified six CSFs. Iden and Langeland (2010) identified 65 ITIL CSFs based on empirical research rather than on a predetermined theoretical model. However, they classified these factors into nine categories. Then, they conducted

S.	Study	Devoted to CSFs	No. CSFs	Country	Used Theory	Approach
1	Hochstein, Tamm and Brenner (2005)	No	6	in Europe	CSFs (implicitly)	case study
2	Cater-Steel and Tan (2005a, 2005b)	No	5	Australia	CSFs	survey
3	Cater-Steel, Toleman, Tan (2006)	No	6	Australia	CSFs	case study survey
4	Tan, Cater-Steel, Toleman and Seaniger (2007)	Yes	7	Australia	CSFs	case study
5	Cater-Steel (2009)	Yes	6	Australia, Thailand, Norway, UK, New Zealand and USA	CSFs	case study survey
6	Iden (2009)	No	7	in Europe	CSFs (implicitly)	case study
7	Pollard and Cater-Steel (2009)	No	8	Australia and USA	CSFs	case study
8	Tan, Cater-Steel and Toleman (2009)	Yes	6	Australia	CSFs	case study
9	Iden and Langeland (2010)	Yes	12	Norway	CSFs (implicitly)	survey
10	Pedersen, Kræmmergaard, Lynge and Schou (2010)	Yes	7	Denmark	BPC	case study
11	Mehravani, Hajiheydari and Haghighinasab (2011)	No	7	-	-	literature review
12	Neničková (2011)	Yes	13	-	-	conceptual
13	Salling Pedersen and Bjørn-Andersen (2011)	No	103	-	-	literature review
14	Wu, Huang and Chen (2011) & Huang, Wu and Chen (2013)	Yes	16	Taiwan	BPCM	survey
15	Ahmad, AlHilali, Qutaifan and Amer (2012), Ahmad, Amer, Qutaifan and Alhilali (2013) & Ahmad and Shamsudin (2013)	No	18	-	-	literature review
16	Nicho and Al Mourad (2012)	Yes	40	UAE	SPR	case study
17	Iden and Eikebrokk (2013)	No	10	-	-	literature review
18	Diirr and Santos (2014)	Yes	8	-	-	literature review
19	Iden and Eikebrokk (2015)	No	3	-	-	literature review
20	Mohammadi, Ravasan and Hamidi (2015)	Yes	20	Iran	CSFs	interviews, literature review and questionnaire
21	Jäntti (2016)	No	13	Finland	CSFs (implicitly)	case study

Table 2-3 Overview of Previous Studies of ITIL CSFs

a Delphi study and ranked the factors according to their importance. As a result, they identified twelve success factors as the most important factors. Pedersen et al. (2010) utilised BPC framework to identify CSFs of ITIL implementation. They grouped the CSFs into seven categories. Mehravani et al. (2011) identified seven success factors of ITIL implementations based on qualitative meta-synthesis relying on previous studies. Neničková (2011) took another approach to identify the CSFs of ITIL implementation as she ignored the previous studies of ITIL CSFs. She adopted conceptual research to define ITIL CSFs using induction method from several fields related to IT governance management. Then, she grouped the CSFs into two groups: external CSFs that are visible for business units and internal CSFs that focus mainly on IT. Wu et al. (2011) and Huang et al. (2013) explored ITSM implementation CSFs from BPCM perspectives. They conducted a Delphi study to derive ITIL CSFs and categorised them by the five BPCM facets. Salling Pedersen and Bjørn-Andersen (2011) reviewed the literature, but they considered any factor that would influence the success of ITIL implementations. Therefore, they ended up with long list of ITIL CSFs. However, they categorised them into five levels: operational, managerial, strategic, organisational and infrastructural levels. Ahmad, AlHilali, Qutaifan and Amer (2012) and Ahmad et al. (2013) reviewed previous studies and identified eighteen CSFs for implementing ITIL. Moreover, they grouped these CSFs into seven key classes that were formerly suggested by Mehravani et al. (2011) as the main CSFs of ITIL implementations. Nicho and Al Mourad (2012) analysed six ITIL implementation case studies and extracted eighty-four success factors of ITIL implementation. Then, they classified these success factors into three themes adopted from the model of Structures, Processes and Relational mechanisms (SPR). In addition, they categorised these three themes into nine subthemes that represented the categories of ITIL CSFs identified by Iden and Langeland (2010). Their study showed that they identified new forty ITIL CSFs. Iden and Eikebrokk (2013) conducted systematic literature review of ITSM and identified ten ITIL success factors. Diirr and Santos (2014) studied the CSFs of IT service processes. They analysed the CSFs of previous studies and aggregated them into eight abstract categories. Additionally, they classified these CSFs according to their influence and importance. Drawing on the literature, Iden and Eikebrokk (2015) grouped several previously identified ITIL CSFs into three important successful factors. Mohammadi,

Ravasan and Hamidi (2015) conducted a mix research to identify ITIL CSFs. First, they conducted a qualitative research by interviewing project managers and incorporated resulted factors with the other factors identified by reviewing the literature. Second, they performed a quantitative research by conducting a questionnaire about ITIL CSFs. As a result, they identified twenty CSFs grouped in five main categories. Finally, Jäntti (2016) recently studied the CSFs related to implementing ITSM in IT service provider organisations. Among the result of his study, he identified thirteen CSFs that were consonant with other research.

Table 2-3 shows also that these studies utilised numerous research approaches in an effort to identify the CSFs of ITIL implementations. The research approaches included empirical, literature review and conceptual approaches.

Most of the previous studies of ITIL CSFs embarked empirical research approaches, in which researchers went to the field to collect and analyse data. The empirical research approaches used in previous research were case study and survey approaches. It was not surprising that most of those studies used case study approach as it allows investigating ITIL success and failure deeply. For example, Hochstein, Tamm and Brenner (2005) conducted the first known study of ITIL success factors based on the case study approach. Examples of other researchers who adopted this approach were Cater-Steel, Iden, Pedersen and Nicho along their colleagues.

In contrast, several studies adopted either literature review or conceptual approach. For example, Mehravani et al. (2011) as well as Iden and Eikebrokk (2015) applied literature review approach. Moreover, Neničková (2011) adopted a conceptual approach to identify ITIL CSFs using induction approach from several IT governance areas.

However, as shown in Table 2-3, many of these studies were not been devoted entirely to ITIL CSFs. Moreover, only three of them embarked theoretical basis other than CSFs. First, Pedersen et al. (2010) applied theory of BPC to investigate case studies of ITIL implementations and identify their CSFs. Second, Wu et al. (2011) and Huang et al. (2013) utilised BPCM theory. Third, Nicho and Al Mourad (2012) adopted SPR model. However, the last two studies just used the proposed theories to classify the CSFs and to understand them. Therefore, there was a lack of utilising theory to analyse

ITIL implementation success as only one study among the identified studies applied theory which was authored by Pedersen et al. (2010).

Moreover, the literature review of the previous studies revealed of a data collection instrument used widely. Several researchers utilised the semi-structured interview questions of ITIL implementation that was initiated by Hochstein and his colleagues in German and translated into English by Cater-Steel and her colleagues (Cater-Steel and McBride, 2007; Cater-Steel, Toleman and Tan, 2006; Hochstein, Tamm and Brenner, 2005; Hochstein, Zarnekow and Brenner, 2005; Pollard and Cater-Steel, 2009; Tan et al., 2009). Therefore, I decided to utilise this instrument as explained later in research design in Chapter 5.

Although most of the findings of previous studies were worthwhile, they widely varied in their results. The total number of all identified CSFs were three hundred and twenty one CSFs, with repeated factors. Therefore, the findings of previous studies widely diverged. There were several reasons that led to this diversity. Firstly, most researchers did not explicitly specify the meaning of CSFs in the context of their research. Therefore, they would use the same term but from different perspectives. Secondly, some researchers concentrated on high-level and general factors such as 'organisational commitment' while others dived into more detailed factors related to daily activities such as 'categorising incidents' or such as 'senior management must formally decide the introduction of ITIL'. Thirdly, many studies had objectives alongside of identifying ITIL CSFs, as researchers did not devote them to identifying ITIL CSFs. Finally, studies used different research approaches. In sum, the findings of previous research varied broadly. Therefore, it would be difficult to establish comparisons between them. Thus, I decided to analyse them in detail as shown in Chapter 3.

2.7 ITIL CSFs in ITIL Industry

In ITIL official publications, the ITIL CSFs appeared since 2007, which was the year of introducing ITIL version 3 (Taylor, Case and Spalding, 2007; Taylor, Lloyd and Rudd, 2007). However, ITIL official publications mentioned explicitly typical examples of ITIL CSFs. In other words, they did not provide inclusive list of CSFs, but they advised that each organisation should consider its objectives to identify its appropriate CSFs (Cannon, 2011; Hunnebeck, 2011; Lloyd, 2011; Rance, 2011; Steinberg, 2011). Henceforth, they indicated that CSFs would be context based, as each organisation would have varied CSFs.

However, as discussed above in Section 2.5, the official ITIL publications broadened the definition of CSFs to care of processes. Accordingly, these publications offered examples of CSFs for two types of CSFs: CSFs for ITIL processes and CSFs for ITIL service lifecycle stages. An example of the former type is the CSFs of incident management process that according to Steinberg (2011) contained:

- resolving incidents as quickly as possible to minimise business impacts,
- maintaining quality of IT services by enhancing the communication of incidents to both business and IT support team,
- aligning incident management actions with the requirements of the business, and
- ensuring that standardised procedures are utilised for effective response, investigation, management and reporting of incidents.

Apparently, such CSFs were detailed CSFs that almost cared for the daily work of processes. However, the latter type of CSFs that cared of CSFs for ITIL service lifecycle stages was closer to the present research interest and to the definition of ITIL CSFs provided in Section 2.5 as the least factors that must present to warrant ITIL implementation success. Accordingly, I considered the CSFs of the ITIL service lifecycle five stages where Table 2-4 shows the number of the CSFs of each stage and Appendix A lists all of those CSFs.

S.	Stage	No. CSFs	Reference
1	Service Strategy	3	Cannon (2011)
2	Service Design	not mentioned	Hunnebeck (2011)
3	Service Transition	20	Rance (2011)
4	Service Operation	8	Steinberg (2011)
5	Continual Service Improvement	9	Lloyd (2011)

Table 2-4 Overview of ITIL CSFs in ITIL Industry

2.8 Limitations in Research of ITIL CSFs

Drawing on the literature review of ITIL CSFs, I identified several limitations in this area of research despite the fact that previous research provided valuable findings (Iden and Eikebrokk, 2015). "The previously presented results are based on different methods, and in general, questions regarding success factors were only one among several research themes in these studies. It may therefore be difficult to compare these findings" (Iden and Langeland, 2010, p. 105). The emerged limitations could be divided into two groups. The first group comprised the conceptual and theoretical limitations while the second group was the limitations of the findings. The following subsections summarise the emerged limitations of both groups.

2.8.1 The Conceptual and Theoretical Limitations of ITIL CSFs

Most of previous studies of ITIL CSFs suffered from the limitations of research methodology. These limitations include the lack of strong theory application, the investigation of ITIL CSFs as one of several other issues, the vague usage of the CSF concept and the usage of Enterprise Resource Planning (ERP) CSFs.

The first theoretical limitation is the lack of strong theory application in identifying ITIL CSFs as most of ITIL CSFs studies did not utilise a theory other than CSF concept. In their literature review, Iden and Eikebrokk (2013) noted that the investigations ITIL CSFs did not apply theory apart from CSFs. In contrast, as explained previously in Section 2.6, I was able to identify few investigations that utilised theories such as BPC

framework (Pedersen et al., 2010) and BPCM approach (Wu et al., 2011; Huang et al., 2013). Moreover, Nicho and Al Mourad (2012) utilised SPR model but just for the classification of ITIL CSFs.

The second limitation is the investigation of ITIL CSFs as one of several other issues. In other words, many studies were not devoted to investigating ITIL CSFs as shown in Table 2-3. Some studies (e.g. Cater-Steel and Tan, 2005a; 2005b; Hochstein, Tamm and Brenner, 2005; Iden, 2009; Pollard and Cater-Steel, 2009) investigated, in addition to ITIL CSFs, several other issues like ITIL benefits, ITIL cost, implementation lessons and implementation strategies. Moreover, other studies (e.g. Ahmad et al., 2012; Iden et al., 2015; Mehravani et al., 2011) identified ITIL CSFs based on reviewing the literature for the sake of the objectives of their research.

The third limitation is a conceptual limitation. Most of the studies of ITIL CSFs did not clarify what they meant by the CSF concept. Furthermore, some researchers did not explicitly state that they used the concept of CSFs. However, some researchers defined the concept of CSF, but their definitions showed the variance of their usage of the CSF concept. For example, Tan et al. (2009) focused on factors associated with success. However, Mehravani et al. (2011) aimed to define the factors required for ensuring the success. Moreover, several other studies concentrated on least or key factors necessary for success (Iden and Eikebrokk, 2013; Neničková, 2011; Wu et al., 2011).

The fourth or last limitation in the area of the conceptual and theoretical limitations is the drawing on ERP CSFs to investigate ITIL CSFs (Pollard and Cater-Steel, 2009; Tan et al., 2009). Some ERP researchers such as Tomblin (2010) criticised ERP CSFs research. In addition, ITIL and ERP hold some differences especially on the detailed level while they also require different competencies (Pedersen et al., 2010).

2.8.2 The Finding Limitations of ITIL CSFs

In addition to the above conceptual and theoretical limitations of ITIL CSFs, there were several other limitations related to the findings. These limitations included large number of CSFs, different classifications, variance level of CSFs, different conceptual usage, strange factors and non-distinction between general and context CSFs.

The first limitation of the previous research findings of ITIL CSFs was that several studies provided too many CSFs as shown in Table 2-3. This contradicted the essence of CSFs that concentrated on few numbers of factors, which must get the sufficient attention (Rockart, 1979). In addition, people usually can retain only limited information in short-term memory (Cooper, 2009). This led to the second limitation that was the gradual increase in the number of CSFs of ITIL. The accumulative list of CSFs had growing because of rare identical CSFs across all of the previous studies. As show in the table, the total number of CSFs exceeded three hundred factors because "only few of the critical success factors identified in previous studies overlap" (Pedersen et al., 2010, p. 13). The third limitation of the findings was the usage of different classifications and lists. Most of the previous studies considered different categories of ITIL CSFs. Therefore, most lists of CSFs were divergent, even though they would intersect other lists. "There are several perspectives which serve to divide CSFs into several group" (Neničková, 2011, p. 839). The fourth limitation was the variance level of CSFs between researchers. "The CSFs are critical to implementers to achieve low-level objectives but others are important when viewed from a high-level strategic perspective" (Wu et al., 2011, p. 1231). While some researchers overemphasised some daily activities such as meetings by considering them as CSFs, others concentrated on very high-level CSFs such as collaboration, communication and conciliation of involved people. The fifth limitation was the different usage of the conceptual terms of CSFs. Some researchers used general terms such as change management practices, which actually incorporated several CSFs mentioned by other researchers using different terms such as management support, communication, stakeholder involvement, quick wins, and champions. The sixth limitation was that some CSFs were strange factors such as team name or unexplained factors such as optimising information and communication technology costs alignment. Finally, the seventh limitation was that some CSFs were context based, but most researchers did not consider this aspect. For example, some reported CSFs were not applicable for all situations such as using external consultants. CSFs would be case specific (Huang et al., 2013). This raised a question of which factors would be general CSFs that would be applicable for all cases.

2.9 Research Gaps

While the matter of determining factors that have the extreme influence of successful ITIL implementations has challenged researchers (Huang et al., 2013; Iden and Eikebrokk, 2015), the review of the literature revealed some research gaps in the research of ITIL CSFs. These gaps were deserved the attention of the present research.

The first gap was the lack of the application of theories in this area that could expose concealed issues of ITIL implementations. While several researchers utilised concept of CSFs, most of the others did not mention explicitly any applied theories. Therefore, it can be concluded that "the area of ITIL is in an early stage of theory development" (Eikebrokk and Iden; 2016).

Secondly, there was inconsistency in the findings of ITIL CSFs of previous studies, which was a knowledge gap. The literature provided large number of ITIL CSFs with different classifications, variance levels of abstraction, and different usage of the conceptual terms.

Therefore, there was a need for dedicated in-depth research in this important area to investigate CSFs of ITIL implementations based on a holistic and systematic view with considering a theoretical foundation. “ITSM and ITIL are issues that would benefit from exposure to potential theoretical foundations” (Iden and Eikebrokk, 2013, p. 513). Such investigation should fill these research gaps, define clearly research concepts and provide insights on factors that influence ITIL implementations.

2.10 Conclusion

The current chapter encompasses the comprehensive literature review findings of various aspects of implementing ITIL successfully. It shows that there were considerable studies during the last decade that provided significant findings. Moreover, the literature review indicated the spread of ITIL implementations worldwide because of its claimed benefits. Furthermore, the review informed the present research by five concepts related to ITIL implementation success: the meaning of ITIL implementation,

ITIL implementation diffusion, the meaning of ITIL implementation success, the definition of CSFs and ITIL CSFs. It also revealed a data collection instrument of ITIL implementations that I utilised at the beginning of the empirical investigations.

More importantly, the literature review exposed the knowledge gaps of the previous research related to implementing ITIL successfully. Most of these studies just concentrated on the concept of CSFs. Therefore, the literature review showed that there was a limited application of theory to study ITIL implementation approaches. Moreover, while they suggested useful ITIL CSFs, they suffered from several limitations such as they provided varied lists of ITIL CSFs and they resulted in large number of ITIL CSFs without consensus on why ITIL would succeed. Consequently, there were several knowledge gaps of the actual factors influencing ITIL success. Therefore, the present research aimed to address these gaps. The first step to achieve this aim was the analysis of the literature ITIL CSFs that would illuminate the research road. The following chapter presents the findings of this analysis.

CHAPTER 3: THE ANALYSIS OF ITIL CSFs

3.1 Introduction

The previous chapter reviews ITIL CSFs in the literature and in the industry. Drawing on this review, the identified ITIL CSFs vary broadly and it would be difficult to establish comparisons between them as they are not easily comparable (Iden and Eikebrokk, 2015). Because of the large number of the identified CSFs and the other limitations of the literature finding, I tended to analyse these CSFs. The objectives of the analysis were to approach the CSFs, to have a way to compare the findings of literature studies, and to look for a conceptual or theoretical framework that can facilitate the interpretation of successful ITIL implementations.

The reset of the chapter sections are divided as follows. The next section presents the carried method to analyse ITIL CSFs. Then, section three discusses the findings of the analysis and defines the unified CSFs among all studies. It also elaborates the proposal of using OL to understand the success of ITIL implementations. Next, section four highlights the relation between OL and ITIL CSFs. The final section concludes the chapter.

3.2 Analysis Method

The matter of determining factors that have the extreme influence of successful ITIL implementations has challenged researchers (Huang et al., 2013; Iden and Eikebrokk, 2015). Therefore, there is a need for more studies in this important area from a holistic and systematic view.

To compare and understand the identified ITIL CSFs in the literature and in ITIL industry, I analysed these CSFs. The present section explains the applied analysis method that comprises five major steps: creating a grid of CSFs, filling identified CSFs

in the grid, pinpointing unique CSFs, splitting compound unique factors into detailed CSFs, and combining detailed CSFs into a list of uniform CSFs. The result of the analysis was sixteen uniform CSFs.

First, I created a grid in an Excel spreadsheet to include all identified CSFs of ITIL implementations in the literature. The headers of the grid columns are main serial, study, sub serial, CSF, unique CSF and six columns for detailed CSFs. Appendix B presents a screenshot of the Excel spreadsheet as a sample of the grid to clarify its structure.

Second, I filled the columns related to all studies in chronological order and their CSFs. These columns are main serial, study, sub serial and CSF. The main serial is the overall serial for all CSFs in the studies. Therefore, it starts from one and increases for each row until the end of all CSFs. The study column includes the author names and the publication year. The sub serial is a serial for CSFs within a study. Therefore, for each study, the sub serial starts from one and ends by the number of the CSFs in the study. The CSF column includes the identified CSFs. The total number of all factors in the literature and the industry is three hundred and twenty one CSFs.

Third, after filling all CSFs I removed the repetitions by identifying identical factors among different studies and provided them one label. Then for each of the identical CSFs I wrote this label in the column namely unique CSF. For example, the following four CSFs are identical CSFs among different studies: (1) acquiring senior management support, (2) senior management commitment, (3) getting the commitment of senior management, and (4) top management support. Therefore, they were assigned a unique CSF namely management support and the four CSFs became one unique CSF that does not repeat among all studies. At the end of this step, the total number of unique CSFs is two hundred and thirty nine CSFs.

Fourth, as there were several compound or multipart CSFs (e.g. support, commitment and involvement), it was important to split compound unique CSFs into detailed CSFs. The total number of compound unique CSFs factors is 37 factors. Most of them were split into two detailed factors. However, the maximum detailed factors for one CSF was six factors. Only one compound CSF was split into six factors. This compound CSF is

change management practices while its detailed CSFs are management support, communication, realisation of benefits, broad involvement, champion and creating an ITIL-friendly culture.

The fifth step was to create border content for analogous CSFs by combining detailed factors with other similar or related detailed CSFs to produce uniform CSFs. For example, building Configuration Management Database (CMDB) CSF was combined with ITSM software CSF and marketing campaigns' CSF was combined with awareness CSF. The process of combining detailed CSFs together started by mapping apparent detailed CSFs by suggested uniform CSFs. Then, the process took several cycles of mapping mapped detailed CSFs and of updating the suggested uniform CSFs. It ends once all detailed CSFs were mapped by uniform CSFs except very few unimportant factors that had been removed because they were unclear in the original publications. The result was sixteen uniform CSFs. These factors ordered alphabetically are (1) awareness, (2) broad involvement, (3) champion, (4) communication, (5) creating an ITIL-friendly culture, (6) external consultants and suppliers, (7) firm size, (8) implementation strategy and adaption, (9) ITSM software, (10) management support, (11) performance management, (12) project management, (13) qualified people, (14) real need realisation of ITIL, (15) realisation of benefits, and (16) training. From now on in the thesis, I consider these CSFs, which are shown in Table 3-1, as ITIL CSFs to compare and discuss literature findings. The next section explains these CSFs and discusses them based on the literature.

S.	Study	awareness	broad involvement	champion	communication	creating an ITIL-friendly culture	external consultants and suppliers	firm size	implementation strategy and adaption	ITSM software	management support	performance management	project management	qualified people	real need realisation of ITIL	realisation of benefits	training
1	Hochstein, Tamm and Brenner (2005)	✓			✓	✓					✓	✓	✓			✓	✓
2	Cater-Steel and Tan (2005a, 2005b)			✓		✓					✓			✓			✓
3	Cater-Steel, Toleman, Tan (2006)				✓	✓					✓	✓	✓			✓	✓
4	Tan, Cater-Steel, Toleman and Seaniger (2007)		✓	✓	✓	✓	✓				✓					✓	
5	Cater-Steel (2009)		✓			✓	✓		✓		✓						
6	Iden (2009)	✓			✓		✓						✓		✓	✓	✓
7	Pollard and Cater-Steel (2009)	✓			✓	✓	✓		✓	✓	✓	✓					✓
8	Tan, Cater-Steel and Toleman (2009)			✓	✓	✓	✓				✓		✓			✓	
9	Iden and Langeland (2010)		✓		✓	✓			✓	✓	✓	✓		✓		✓	
10	Pedersen, Kræmmergaard, Lynge and Schou (2010)		✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓
11	Mehravani, Hajiheydari and Haghighinasab (2011)				✓	✓	✓		✓	✓	✓	✓	✓				✓
12	Neničková (2011)	✓	✓			✓				✓		✓				✓	
13	Wu, Huang and Chen (2011) & Huang, Wu and Chen (2013)				✓	✓			✓	✓	✓	✓	✓			✓	
14	Salling Pedersen and Bjørn-Andersen (2011)	✓	✓		✓	✓			✓			✓	✓				✓
15	Ahmad, AlHilali, Qutaifan and Amer (2012), Ahmad, Amer, Qutaifan and Alhilali (2013) & Ahmad and Shamsudin (2013)	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓
16	Nicho and Al Mourad (2012)				✓	✓			✓	✓		✓	✓				✓
17	Iden and Eikebrokk (2013)		✓	✓	✓	✓	✓	✓		✓	✓			✓			
18	Diirr and Santos (2014)	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	
19	Iden and Eikebrokk (2015)	✓	✓								✓			✓	✓		✓
20	Mohammadi, Ravasan and Hamidi (2015)	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			✓
21	Jäntti (2016)	✓				✓			✓			✓	✓				✓

Table 3-1 ITIL CSFs in Previous Studies

3.3 ITIL CSFs

Last section discusses the analysis method resulting sixteen uniform CSFs of ITIL implementation. The present section defines and discusses these CSFs in alphabetically ordered.

3.3.1 Awareness

People's awareness affects ITIL adoption positively that is an alternate to marketing campaigns recognised by Hochstein, Tamm and Brenner (2005). It is an important factor in facilitating understanding, eliminating resistances and enhancing familiarity (Neničková, 2011). It also allows the communication of ITIL processes effectively and fosters the adoption of new processes (Ahmad et al., 2012). Moreover, awareness sessions promote ITIL to various employees (Pollard and Cater-Steel, 2009).

Several researchers considered awareness and training as vital factors to support change of organisational culture toward ITIL (Ahmad et al., 2012; Pollard and Cater-Steel, 2009). In addition, Pollard and Cater-Steel (2009) and Mehravani et al. (2011) claimed that training and raising awareness foster collaboration between departments.

3.3.2 Broad Involvement

Broad employee participation and involvement in ITIL implementations is important (Diirr and Santos, 2014; Iden and Langeland, 2010; Iden and Eikebrokk, 2013; Neničková, 2011). Cater-Steel, Toleman and Tan (2006) advised to effectively engage the personnel affected by ITIL implementation. Moreover, Iden (2009) states that the active broad participation of a large number of the employees in designing and implementing ITIL processes creates a sense of ownership among the employees. Such participation of people is an activity of learning and knowledge management according to Pedersen et al. (2010). In their recent research, Iden and Eikebrokk (2015) proposed organisational commitment as a CSF for ITIL implementations that implies organisation-wide involvement, the presence of sufficient resources and the involvement of key people in the process design. They claimed that organisational commitment is more significant than management support. Furthermore, some researchers recommended the participation and involvement of representatives from the

business. For example, Tan et al. (2007) urged that the involvement of business people in high-level committees ensures the alignment of ITIL implementation project with corporate strategy. Moreover, Cater-Steel (2009) recommended the participation of business stakeholders in process redesign.

3.3.3 Champion

ITIL champions enthusiastically promote ITIL, build support and overcome resistance to ensure that ITIL is implemented. According to Cater-Steel and Tan (2005a), ITIL champions advocate and promote ITIL. Moreover, several other researchers considered ITIL champions as a standalone ITIL CSF using different expressions such as change champions (Tan et al., 2007) and project champion (Ahmad et al., 2013; Iden and Eikebrokk, 2013; Tan et al., 2009). In contrast, others considered it as an ingredient of project management and governance CSF (Mehravani et al., 2011).

ITIL champions would work in different roles such as process owners, senior managers or project managers. They support, according to their roles, the change from technology management to service management as a result to adopt ITIL. Process owners support compliance of people to the processes (Tan et al., 2007). Senior managers can negotiate for the required resources because they understand the organisational situation (Mehravani et al., 2011; Tan et al., 2009).

3.3.4 Communication

Communication in a wide meaning would contain several other factors such as awareness or performance management. However, in the context of addressed ITIL CSFs, it implies interdepartmental cooperation and effective communication including distribution of needed information and conversations between people. Communication and information support ITIL implementations (Cater-Steel, Toleman and Tan, 2006; Iden and Eikebrokk, 2013; Iden and Langeland, 2010; Nicho and Al Mourad, 2012).

Promoting communication in organisations requires attention. According to Huang et al. (2013), change management fosters creating an effective communication culture. Moreover, both Pollard and Cater-Steel (2009) and Mehravani et al. (2011) considered training and awareness for different departments as a means to facilitate communication and collaboration between departments since they allow people to meet with each other,

discuss faced difficulties and exchange practical experiences. Mehravani et al. (2011) suggested announcing an open information policy that can satisfy the information need of users.

Mehravani et al. (2011), Ahmad et al. (2013), and Diirr and Santos (2014) identified communication as an ITIL CSF. Communication enhances cooperation and collaboration as it manages expectations and decreases faced problems. Moreover, it is a mean to share knowledge. Therefore, it increases work performance and simplifies adoption of cross-functional ITIL processes.

3.3.5 Creating an ITIL-Friendly Culture

ITIL culture involves continuous improvement and movement from technology management toward service management. Creating any culture requires adopting change management practices. Change management is crucial in transforming the culture of organisations from technology-focused to service-focused (Ahmad et al., 2013; Cater-Steel, 2009; Diirr and Santos, 2014; Mehravani et al., 2011; Pedersen et al., 2010; Tan et al., 2007). Researchers proposed several means and practices to establish ITIL culture. For example, awareness (e.g. quick wins and marketing campaigns), education, and training assist to build ITIL culture (Ahmad et al., 2012; Pollard and Cater-Steel, 2009). Moreover, external consultants also support the creation of this culture (Pollard and Cater-Steel, 2009). Additionally, management support and champion for change are important to facilitate ITIL-friendly culture (Pedersen et al., 2010). Finally, Diirr and Santos (2014) considered the creation of ITIL-friendly culture as a sub-factor of ‘implementation strategy of the improvement project’.

3.3.6 External Consultants and Suppliers

ITIL consultants assist organisations to implement ITIL. Pollard and Cater-Steel (2009) and Iden and Eikebrokk (2013) stated that ‘use of consultants’ is a CSF of ITIL implementation as external consultants can play various roles including trainers, IT managers, project managers, process owners, and tool implementers. Ahmad et al. (2012; 2013) considered also this factor but they named it ‘use of Consultants & Consultant selection’. In addition, they stated that the implementation strategy affects the involvement degree of the consultants. While the external consultants in some organisations act as trainers, other organisations utilise them as project managers or

process owners. Additionally, Tan et al. (2007) considered vendor expertise as an ITIL CSF. Moreover, Pedersen et al. (2010) classified 'the use of consultants' under 'learning and knowledge management' success factor. In contrast, Diirr and Santos (2014) argued that utilising external consultants is a less effective factor. Moreover, they considered 'use of external consultants' as a sub factor of 'internal and external resources'. The power of external consultants is their knowledge of ITIL implementation. As they worked in different environments, they have practical experiences of diverse implementation issues (Mehravani et al., 2011).

This CSF is directly linked to learning as external consultants can be considered a source of learning. Ahmad et al. (2012) recognised that some organisations tend to hire expert external consultants to bring competent knowledge of ITIL into their organisations.

3.3.7 Firm Size

The ITIL official publications provide guidelines to organisations to manage their IT services in spite of their sizes. However, Cruz-Hinojosa and Gutiérrez-de-Mesa (2016) carried out a systematic literature review of ITIL implementations in Small and Medium-sized Enterprises (SMEs) and found that the literature lacks of studies about ITIL in these organisations. According to them, SMEs face difficulties to implement ITIL because of its complexity, cost and risk as well as the lack of these organisations to human and technological resources.

Hochstein, Tamm and Brenner (2005) alluded to the role of IT department size. They asserted that the benefits of ITIL decreases with decreasing size of an IT department. Additionally, they stated that it is difficult to implement ITIL change management process in small IT departments since this process requires resources to manage change request and to form Change Advisory Board (CAB). Similarly, Iden (2009) affirmed that small IT departments face difficulty to implement ITIL processes as ITIL entails various roles.

Kanapathy and Khan (2012) investigated the relation between ITIL implementation progress and organisation size in terms of turnover, total number of employees and total number of IT personnel. They concluded that organisation size positively affects ITIL

implementations. Accordingly, Iden and Eikebrokk (2013) considered firm size as an ITIL CSF where large organisations are more likely to implement ITIL successfully than small organisations.

3.3.8 Implementation Strategy and Adaption

The implementation strategy affects the implementation decisions and activities. Diirr and Santos (2014) considered the factor 'Implementation strategy of the improvement project' as the greatest influence factor of ITIL Implementation that comprises several sub-factors such as benefits management, adequate management of the project and change management. Pedersen et al. (2010) contrasted a successful ITIL implementation case study with unsuccessful ITIL implementation case study and found that the former adopted incremental implementation strategy that concentrated on one process at a time while the later adopted revolutionary implementation strategy that implemented several processes together. Incremental implementation reduces risk and allows each stage to exploit lessons learnt from previous stages. In contrast, Iden (2009) recommended keeping a short timeline for ITIL projects because in short timeline projects, it is feasible for people to stay focused and for managers to engage employees. As a compromising of these two different views, Pollard and Cater-Steel (2009) claimed that the implementation strategy of ITIL implementation is situational as it depends on the organisation priorities and budget.

On the other hand, researchers advocated adapting ITIL processes to different organisation contexts. Since each organisation has its own needs, ITIL guidelines and principles must be adapted to suit its situation and requirements (Hochstein, Tamm and Brenner, 2005; Neničková, 2011; Nicho and Al Mourad, 2012). Finally, Pedersen et al. (2010) considered the customisation of ITIL processes activity as an aspect of a CSF named a high quality ITIL implementation package. According to them, an organisation implementing ITIL should adapt ITIL goals, processes and resources to its circumstances.

3.3.9 ITSM Software

Although many researchers recognised the role of ITSM software for implementing ITIL (e.g. Diirr and Santos, 2014; Iden and Eikebrokk, 2013; Pollard and Cater-Steel, 2009), they did not agree about the degree of its importance.

Iden and Langeland (2010) claimed that a modular ITSM system is necessary in ITIL implementation for all processes. Moreover, Wu et al. (2011) listed three ITIL CSFs related to technology management: functionalities of the ITSM tool satisfy the requirements, building CMDB which can provide timely and accurate information to support each process, and rapid implementation of IT requirements. Additionally, Pollard and Cater-Steel (2009), Neničková (2011), and Ahmad et al. (2013) recommended the right careful selection of ITSM tools and considered that as a standalone CSF. According to them, these tools would facilitate the implementation of integrated ITIL processes such as incident management, problem management, change management, and CMDB. In contrast, Diirr and Santos (2014) combined allocation of internal resources, existence of external consultants and adequacy of tools into one CSF namely Internal and external resources. Additionally, Nicho and Al Mourad (2012) recommended using automation tools for communication between people accountable of ITIL processes across the organisation.

3.3.10 Management Support

Researchers recognised early that the management support is a CSF of ITIL implementations (e.g. Cater-Steel and Tan, 2005a; Hochstein, Tamm and Brenner, 2005). Moreover, Pollard and Cater-Steel (2009) considered the management support as the most important CSF of ITIL implementation. Additionally, management support is the most important recognised factor for ITIL implementations by many researchers (e.g. Ahmad et al., 2012; Cater-Steel, 2009; Cater-Steel, Toleman and Tan, 2006; Diirr and Santos, 2014; Huang et al., 2013; Iden and Eikebrokk, 2013; Iden and Langeland, 2010; Mehravani et al., 2011; Neničková, 2011; Nicho and Al Mourad, 2012; Wu et al., 2011). The role of management is crucial in ensuring the allocation of sufficient resources and to authorise the new processes and policies (Cater-Steel and Tan, 2005a). Moreover, the participation and commitment of the heads of medium and small organisations are important for their ITIL implementation projects (Melendez et al., 2016). However, Iden and Eikebrokk (2015) claimed that group efficacy and organisational commitment could be important than management support.

3.3.11 Performance Management

Neničková (2011) considered performance tracking and measurement as an ITIL CSF. The performance measurement of ITIL encompasses several sides. Iden and Langeland

(2010) concentrated on the side of services in the context of ITIL implementation. They recommended measuring and reporting performance of services by implementing a system. However, other researchers concentrated on measuring the performance of ITIL processes. For example, Huang et al. (2013) endorsed measuring the effectiveness of ITIL processes as an activity of continuous process management. Alternatively, Nicho and Al Mourad (2012) proposed several ITIL CSFs related to measurement monitoring such as statistical analysis, definition of goals at all levels, real time reporting and trend analysis reports. Similarly, Mehravani et al. (2011) and Pollard and Cater-Steel (2009) proposed monitoring and evaluation as an ITIL CSFs that implies recording and reporting metrics and getting feedback from the IT staffs. Moreover, Mehravani et al. (2011) and Ahmad et al. (2013) considered the review of implementing ITIL performance as a part of monitoring and evaluating ITIL achievement of business goals.

3.3.12 Project Management

Project management includes project initiation, planning, execution and project monitoring as well as different project management practices such as project steering committee (Mehravani et al., 2011; Tan et al., 2009). Many researchers recognised the importance of project management as a CSF for ITIL implementations (Ahmad et al., 2013; Diirr and Santos, 2014; Mehravani et al., 2011; Nicho and Al Mourad, 2012; Tan et al., 2009). Project management facilitates implementation of ITIL and impacts applied technology (Mehravani et al., 2011). It also assists to achieve project objectives and deliver deliverables, and milestones in effective manner (Pedersen et al., 2010).

3.3.13 Qualified People

Qualified People CSF comprises two part: the allocation of sufficient human resources and their qualities. Diirr and Santos (2014) emphasised the necessity of ‘internal and external resources’ as a CSF that involves the allocation of resources. Cater-Steel and Tan (2005a, 2005b) stated that management support as CSF is necessary to warrant adequate allocation of IT personnel to ITIL implementation. Moreover, they treated the quality of IT personnel allocated to ITIL as a CSF for ITIL implementations. In the same vein, Ahmad et al. (2013) adopted the same CSF, but they classified it under 'training and competence of involved stakeholder in ITIL project'. Therefore, they concentrated on training to enhance the quality of people. However, other researchers

concentrated on people merits and skills. For example, during reviewing the literature, Iden and Eikebrokk (2013) claimed that staff expertise is an ITIL CSF. Additionally, Diirr and Santos (2014) lists 'skills of the people involved in the project' as a CSF. However, according to them, this factor encompasses a sub-factor 'people with the necessary knowledge are involved in the project'. Finally, Iden and Eikebrokk (2015) combined several factors into group efficacy CSF which involves that people are: knowledgeable of ITSM, ITIL and process thinking; skilful of developing and modelling processes, and sufficiently trained.

3.3.14 Real Need Realisation of ITIL

The recognition of the need for ITIL and for improvements supports the decision to launch an ITIL project. Both Iden (2009) and Pedersen et al. (2010) stated that the external pressures of customers prompts the recognition of the needs for improving current practices. In its turn, the recognition of the improvement needs leads to justify the decisions on ITIL implementations.

Furthermore, Iden and Eikebrokk (2015) proposed organisational commitment as an ITIL CSF while they considered organisational commitment implies the employee recognition of the organisational improvement need. Additionally, Iden (2009) mentioned the importance of recognising the improvement need by management and partly by employees.

3.3.15 Realisation of Benefits

Realisation of benefits is an ITIL CSF (Tan et al., 2009; Neničková, 2011). Tan et al. (2007) recommended creating a benefits realisation plan to manage and announce tangible and intangible ITIL implementation benefits. It is important to show the benefits of ITIL to justify its investments and to gain management continual support. The benefits realisation plan enhances the communication between top management and the ITIL implementation team (Tan et al., 2009). Diirr and Santos (2014) considered benefits management as a sub-factor of 'implementation strategy of the improvement project' CSF.

Moreover, several researchers emphasised that the delivering and showing of quick wins, which is a practice of benefits management, is a CSF. For example, Hochstein,

Tamm and Brenner (2005) and Wu et al. (2011) mentioned that quick wins would demonstrate the usefulness of service-oriented IT management. Cater-Steel, Toleman and Tan (2006) advised to start implementing processes that likely to deliver quick wins. Additionally, Diirr and Santos (2014) counted dissemination of results as a sub factor of 'strategies for the advertisement of the project and the publication of its results' CSF.

3.3.16 Training

Training would positively influence the success of ITIL implementations. Researchers claimed that ITIL implementations need broad based training (Ahmad et al., 2012; Cater-Steel, Toleman and Tan, 2006; Hochstein, Tamm and Brenner, 2005). IT people require attending ITIL extensive training (Cater-Steel and Tan, 2005a; 2005b). Additionally, Iden (2009) advised that some customer representatives attend an ITIL course and Pollard and Cater-Steel (2009) recommend the training for managers and users. All employees need general training in primary topics to have sufficient knowledge of what ITIL means (Iden and Langeland, 2010; Mehravani et al., 2011). Moreover, ITIL Training is an essential task for medium and small organisations before and during their ITIL implementations (Melendez et al., 2016). The training allows employees to communicate effectively about ITIL processes and reduces resistance as well as increases cooperation (Ahmad et al., 2012). Finally, Training is an obvious source of learning. It enhances the quality of IT people (Ahmad et al., 2013).

3.4 ITIL CSFs and OL

In the above analysis and discussion, learning emerges as an effective element in ITIL Implementations. Some ITIL CSFs obviously facilitate individual learning such as awareness communication and training. However, several other CSFs also enable the progression of learning. For example, the broad involvement of people in ITIL Implementations and the existence of champions encourage people to learn practically. In addition, one of the roles of external consultants and suppliers is to bring new knowledge into organisations that would be a chance for internal people to learn from the experts. Using ITSM software guides people. It would enforce them to work in

specific manner and would allow them to learn how to perform work. Moreover, its reports also would provide new knowledge to people. Performance management generates new knowledge. Moreover, while qualified people would be a result of learning, they facilitate learning for others. Finally, both real need realisation of ITIL and realisation of benefits indicate an experience that leads to learning. In sum, most of ITIL CSFs correlate with OL. Table 3-2 describes ITIL CSFs and their relation with learning.

3.5 Conclusion

As the previous chapter reviews comprehensively the ITIL CSFs in the literature and the industry, it identify the inconsistency in the findings of previous studies and the limited application of theory to study the success of ITIL implementations. Therefore, I analysed these CSFs with an aim to have a unified list of ITIL CSFs and to identify a conceptual or theoretical framework that can provide a holistic view of the success and failure of ITIL implementations. The current chapter presents the analysis results of literature and industry CSFs that include identifying a unified list of ITIL CSFs, recognising the crucial role of learning in organisations to implement ITIL successfully, and proposing OL as a lens to explore and interpret the success and failure of ITIL. In this respect, the next chapter reviews the literature of OL in the context of ITIL implementations.

S.	ITIL CSF	Description	Possible Relation with Learning
1	awareness	promoting ITIL to employees using different means such as marketing campaigns and posters	increases employees' knowledge (Pedersen et al., 2010)
2	broad Involvement	the participation and engagement of employees in different activities of ITIL implementations such as the process design	an activity of learning and knowledge management (Pedersen et al., 2010)
3	champion	the existence of employees promoting enthusiastically ITIL	encourages other people to learn
4	communication	interdepartmental cooperation and effective communication including distribution of needed information and conversations between people	a means to distribute needed information
5	creating an ITIL-friendly culture	creating service management culture by adopting different change management practices	change management practices facilitate learning
6	external consultants and suppliers	using external experts to implement ITIL	brings competent knowledge of ITIL into organisations (Ahmad et al., 2013)
7	firm size	the organisation size in terms of turnover, total number of employees and total number of IT staff	would affect learning
8	implementation strategy and adaption	the strategies to implement and to adapt ITIL processes to different organisation contexts	-ITIL strategies impact learning -gradual strategy allows using learnt lessons
9	ITSM software	the software to manage ITIL processes	enforces people to work in specific manner and would allow them to learn how to perform work
10	management support	support ITIL implementations by management	facilitates individual learning
11	performance management	measuring and managing performance of ITIL processes and services	generates new knowledge
12	project management	managing ITIL implementation project	allows to share learnt lessons
13	qualified people	the allocation of sufficient human resources and their qualities	would be a result of learning and facilitate learning for others
14	real need realisation of ITIL	the recognition of the need for ITIL	an experience that leads to learning
15	realisation of benefits	realisation of implementing ITIL benefits	an experience that leads to learning
16	training	attending ITIL courses	a source of learning that enhances the quality of IT people (Ahmad et al., 2013)

Table 3-2 ITIL CSFs and Learning

CHAPTER 4: LITERATURE REVIEW OF ORGANISATIONAL LEARNING (OL)

4.1 Introduction

In research, theoretical frameworks offer a basis for in-depth investigations and provides practical implications. In Chapter 2, I reviewed the literature of ITIL successful implementations with an aim to determine theories that would interpret ITIL success and to enumerate ITIL CSFs. However, while it shows the great research interest of ITIL successful implementations across the world that provides insightful findings, it identifies two significant drawbacks in that research. First, there is a dearth of theory application. Second, the identified ITIL CSFs in literature widely vary and it is hard to compare them. Next in Chapter 3, to get some insights on how to fill these significant research gaps, I analysed ITIL CSFs in the literature. The major finding of the conducted analysis is that the organisational learning is a fundamental influential element of ITIL implementations. Therefore, I proposed utilising Organisational Learning (OL) theory to interpret ITIL implementation success and failure. Accordingly, the present chapter reviews the literature of OL that would inform the present study.

After this brief introduction section, the next section provides an insight of OL including its background and definition. Next, the third section reviews OL research related to ITIL from different perspectives. These perspectives include service management research; information systems and technology research; ITSM research; and organisational change research in light of examining ITIL implementations. Then, the fourth section discusses several models of OL and among them proposes 4i framework to investigate ITIL implementations. The fifth and sixth sections support the proposal of utilising 4i framework by providing respectively more details of 4i framework extensions and its various applications in different contexts. Section seven

explains how the present research utilised 4i framework. Finally, last section concludes the chapter.

4.2 Overview of OL

4.2.1 OL Background

At the outset of this chapter, this section touches on the background of OL concepts. Moreover, it points out several effective studies in the area of OL.

The OL concepts originated back to the mid of the last century (Easterby-Smith, Snell and Gherardi, 1998; Lewin, Weigelt and Emery, 2004). Moreover, according to Lewin et al. (2004), OL theory built mainly on the ideas of Behavioural Theory of the Firm (BTF) that viewed organisations as ‘adaptive learning systems’ where organisations adapt based on their environments. Subsequent OL research handled several aspects and consequently moved in different directions. For example, some researchers focused on knowledge acquisition while others investigated the change in actions. Thus, there were different views of OL as the research of OL spanned over several decades and there were extensive dedicated efforts behind the evolution of OL. Moreover, many researchers (e.g. Bui and Baruch, 2010; Hearty, 2004; Keating, Robinson and Clemson, 1996; Nutley and Davies, 2001; O'Connor and Kotze, 2008; Yeo, 2005) considered Argyris's research in the 1970s and/or Senge's research in the 1990s as the seminal works of OL area.

Argyris wrote several publications about OL. In 1978, Argyris co-authored a book, titled Organizational Learning: A Theory of Action Perspective, which was widely acknowledged by researchers (e.g. Easterby-Smith, Antonacopoulou, Simm and Lyles, 2004; Salaway, 1987). Argyris introduced theories of action (namely theory in use and espoused theory) and the ideas of single-loop and double-loop learning.

In addition, Senge was one of the effective people in the area of OL. In 1990, he published a book, titled The Fifth Discipline, which prompted learning organisation concepts (Senge, 1990). Later, Senge participated in the authoring of several related books such as The Fifth Discipline Fieldbook which was published in 1994. This book

provided practical approaches to support his first book. Moreover, in 1999, he co-authored The Dance of Change book which discussed the obstacles that face learning organisations (Bui and Baruch, 2010; Schermerhorn, Hunt and Osborn, 2002; Seo, Putnam and Bartunek, 2004). In 1991, Senge and others established Massachusetts Institute of Technology (MIT) Center for Organizational Learning to examine a synthesis of OL research and practice. The synthesis developed based on system dynamics, action science, group process, personal creative process, dialogue and collective thought. In 1995, MIT Center for Organizational Learning was reorganised because of its growth and the result was a new independent organisation named The Society for Organizational Learning (Roth and Senge, 1996; Seo et al., 2004).

However, while OL research has increased significantly since the 1990s, many researchers across different areas reported that its concept has been elusive (Crossan, Lane and White, 1999; Lähteenmäki, Toivonen and Mattila, 2001; Polito and Watson, 2002; Yeo, 2005; West and Burnes, 2000). Moreover, there is no unified definition of OL as researchers defined OL based on different perspectives. Nevertheless, there were considerable attentions and extensive subsequent efforts from many researchers to investigate OL based on several schools of thought that gradually yielded mature concepts. For example, Bell, Whitwell and Lukas (2002) listed many of these schools including the economic school (learning by doing), the managerial school (learning by management-led change), the developmental school (learning by evolution), and the process school (learning by information processing). Moreover, Yeo (2002) expressed that many areas underline OL theoretical maturity such as communication, creativity, system thinking, process management and strategy management. Additionally, Karataş-Özkan and Murphy (2010) considered OL literature as "a well-researched sub-domain of organization studies" (p. 458) because it is rooted in different fields and thoughts such as sociology and organisational theory; psychology and organisational development; social anthropology; management; strategy; production management; information theory and systems dynamics; cultural anthropology; and industrial economy. Accordingly, as different disciplines provided distinct contributions in OL area, it was suggested of considering OL as a multidisciplinary field (Easterby-Smith, 1997; Karataş-Özkan and Murphy, 2010).

4.2.2 OL Definition

There is an absence of a consensus on OL definition. Since different researchers from diverse disciplines considered varied views and assumptions of OL, they defined it in various ways, although the main characteristics of OL are obvious such as knowledge acquisition and utilisation; and organisational improvement and adaption. Reviewing several definitions of OL reveals that researchers tackled different aspects or views while they defined OL (Bontis, Crossan and Hulland, 2002). For example, while some researchers concentrated on the process of creating OL, others focused on OL outcomes. Therefore, they debated about how organisations learn. In spite of this, Bapuji and Crossan (2004) tried to settle the debates of OL as they claimed of an increasing consensus that organisations could learn at several levels and that learning could be behavioural or cognitive; external or internal; and gradual or radical. Therefore, OL focuses on acquiring and utilising knowledge in organisations for the purpose of the improvement and adaption. As the knowledge acquisition and organisational improvement should be continuous, West and Burnes (2000) emphasised that OL is a continuous adaptation, an evolution process, and not a finite state. Moreover, OL implies changes in individual's shared thought and action (Vera and Crossan, 2005). In addition, several approaches facilitate the learning process within organisations including “continuous learning, inquiry and dialog, collaborative team learning, empowerment, leadership, systems that capture and share learning, global thinking and strategic leadership” (Popova-Nowak and Cseh, 2015, p. 300).

Because of the diversity of OL usage, it is important to define OL in the context of any research utilising it so the readers can understand the context (Robey, Boudreau and Rose; 2000). Different schools of thought produced various OL definitions. The current research aims to use OL as a lens to interpret the success and failure of ITIL implementations. With taking in consideration that ITIL implementations embed new organisational practices and transform organisations from technology management to service management, the present research adopts the OL definition of Collinson and Cook (2007). They defined OL as "the deliberate use of individual, group, and system learning to embed new thinking and practices that continuously renew and transform the organization in ways that support shared aims" (Collinson and Cook, 2007, p. 8). They claimed that they built this definition in the top of five core assumptions extracted from

the research of OL theorists. All of these assumptions are essential for OL, but none of them alone represents OL. The assumptions together embody a cohesive theoretical basis for OL. They are as follows. First, OL consists of multilevel learning: individual, group and organisational levels. Second, OL involves inquiry such as testing assumptions and detecting errors. Third, OL depends on shared understandings among members. Fourth, OL includes behavioural and cognitive changes. Fifth, OL incorporates embedding of new learning and practices. This definition emphasises the purposeful use of learning on different levels to embed new practices.. Thus, OL is nominated for the present research that aims to study the phenomena of success and failure ITIL implementations in organisations. ITIL represents new practices for organisations so embedding ITIL is an expected result of OL. Moreover, the definition implies the transformation of organisations, which is a characteristic of ITIL implementations that denote transformating IT operation management from technology perspective to service perspective. In addition, ITIL requires shared aims and understandings among different related stakeholders.

4.3 OL and ITIL Implementations

The present section provides the results of reviewing the OL literature regarding the areas related to ITIL in an aim to explore whether OL suits investigating ITIL or not. Four review studies were conducted for this objective. The first review was about OL and service management as ITIL is a best practice of ITSM. The second review was about OL with the area of information systems and technology. Then, the third review was about OL and ITSM. Finally, the fourth review investigated the relationship between OL and organisational change in light of ITIL adoption as ITIL initiatives lead to change of organisations. These studies strongly support the proposal of studying ITIL success and failure through OL theory lens.

4.3.1 OL and Service Management

Since ITIL is one of the best practices of ITSM, exploring service management literature would advance and support ITIL research. Thus, the principal objective of this section is to review the literature of OL related to service management. Through

different research methodologies, researchers have investigated several themes related to both OL and services. These themes include understanding the process of developing services, evaluating the impacts of OL on services, and considering OL models to be used with services.

According to Stevens and Dimitriadis (2004), OL improves the understanding of the management of new services. Thus, they utilised 4i framework to understand the New Service Development (NSD) process and declared that 4i framework contributed positively to NSD progress success.

The literature shows also that OL enhances services. For example, Hays and Hill (2001) found that OL positively affects service quality. Moreover, Law and Ngai (2008) supported that the enhancement of services is one of the results of OL activities. In addition, Limpibunterng and Johri (2009) stated that OL capability extensively influences organisational performance. Finally, according to Tajeddini (2009), learning commitment is a factor to motivate NSD.

Another trend of research encouraged or proposed OL models which support services. For instance, Birleson (1998) claimed that a model of learning organisation provides a framework to design mental health services that is more comprehensive than any other organisational form. Additionally, Nutley and Davies (2001) discussed the development of OL in National Health Service. Furthermore, Stevens and Dimitriadis (2005) proposed a systemic OL model for NSD. This model enhanced the understanding of NSD process. Moreover, based on OL theory, O'Connor and Kotze (2008) presented a framework for assessing health services as learning organisations.

In sum, researchers investigated several aspects of OL within the service management area. The results of such research encourage expanding the usage of OL to ITSM research including ITIL implementations.

4.3.2 OL and IT

The literature of IT related to OL is abundant. The present review shows that there were different directions of such research since about three decades. Here, it is not intended to provide a comprehensive review but to show that OL was applied extensively in the field of information systems. That supports using OL to study ITIL adoption.

After reviewing the literature of IT related to OL research, Robey et al. (2000) identified two major streams of IT research related to OL. The first was to investigate the process of implementing an IT system and IT usages in organisations through OL lens. The second stream was to investigate utilising IT to reinforce OL. However, by reviewing the literature, I found that some studies were out of the context of these two streams. The following paragraphs provide some examples from the literature about each of the two streams as well as of research out of these streams.

The first major stream (i.e. investigating IT implementations and usages via OL lens) grabbed attention of researchers since a long time ago. Salaway (1987) utilised Argyris's OL theory to scrutinise the effectiveness of communications between users and analysts, which form the foundation of developing information systems. In addition, Wu and Fang (2007) concentrated on OL influences in the context of information systems project management. They suggested that OL supports the execution and management of IT projects. Moreover, a noticeable research, which can be considered a part of the first stream, is the studies of ERP systems via OL lens. Interestingly, the literature contains many ERP investigations which applying OL so it is appropriate to explore the trend of ERP research toward OL. Tsai and Hung (2008) considered the implementation of ERP system as an OL behaviour, so they investigate ERP systems using an OL model. Moreover, Myreteg (2009) reviewed the literature on OL in the context of ERP systems and showed the necessity of such research. Then based on the insufficiency of related research, she suggested further explicit research of the relationship between OL and the ERP systems. Moreover, Tomblin (2010) fulfilled her suggestion as he noticed that much of ERP research concentrated on either CSFs or effects. Thus, he studied the relationship between ERP implementation/post-implementation and OL. He found that learning is suitable as a lens to interpret ERP implementations.

Several researchers also carried out the second primary stream (i.e. utilising IT to support OL). For instance, Venugopal and Baets (1995) articulated that information systems and technology, in particularly intelligent systems, support OL. Moreover, Chou (2003) found that computer systems affect positively OL. In addition, Lopez-Nicolas and Soto-Acosta (2010) investigated the effects of information and communication technology usage in small-sized and medium-sized enterprises on OL.

The literature also holds research out of the context of the previous two streams such as the study conducted by Mehra and Dhawan (2003). They tried to explore the factors that initiate OL environment in the context of software companies. This research proposed five factors responsible for building an OL environment: organisational health, opportunities to learn, flexibility/risk taking, innovativeness and interaction.

In summary, information systems and technology research applied and supported OL for different objectives such as implementing successful IT systems. This supports utilising OL to study successful ITIL implementations.

4.3.3 OL and ITSM

This section reviews implementation of ITSM research that would relate to OL. The extensive review of the literature identified that many literature studies recognised the role of learning in organisations in the context of implementing ITIL from different perspectives. The following paragraphs present five different studies that reveal some aspects related to OL.

In the first study, Wagner (2006) recognised the relation between ITIL implementation and OL as he stated, "ITIL as a best practice framework relies heavily on learning processes to continuously improve during adaptation within a firm... Therefore, different types and stages of learning are inherent to ITIL... Learning in the case of ITIL occurs at different stages before and during implementation" (p. 8). However, the primary objective of his research was to investigate ITIL adoption via Resource Based View (RBV) lens. The result of his research was that ITIL implementation could be linked to the RBV because ITIL implementations develop routines, which via learning loops represent the foundation of the capabilities. To understand how Wagner deduced the relation between ITIL implementation and OL, I inspected his related reference. He depended mainly on the research conducted by Andreu and Ciborra (1996) who explored the role of IT in developing strategic core capabilities based on the Resource Based View of the Firm (RBVF). Andreu and Ciborra (1996) proposed an OL model, which described how organisational resources could be utilised to develop core capabilities using RBVF concepts. This model consists of three learning loops. The first loop is the routinisation learning loop (i.e. learning-by-doing), which utilises organisation resources to build work practices (i.e. usage of resources). The second loop

is the capability learning loop that transfers successful work practices to capabilities. The last learning loop is the strategic learning loop that develops core capabilities (i.e. valuable rare imperfectly imitable with no equivalent substitutes capabilities that strategically differentiate organisations). The role of IT in this model emerges in two aspects. First, IT is a resource, which through learning loops can be transformed to capabilities and finally to core capabilities. Second, IT strategic applications can be developed to support the model process and thus become a fundamental ingredient of the resulting core capabilities. In sum, although Wagner (2006) touched learning aspects of ITIL, his research was mainly based on strategic viewpoint via RBV and not on OL view. However, his research supports investigating ITIL implementations based on OL theory.

The second ITIL study which supports using OL to study ITIL implementations was conducted by Muhren, Van Den Eede and Van de Walle (2007), and Van Den Eede, Muhren and Van de Walle (2008) who investigated a subtle aspect between OL and incident management process as an ITIL process. They judged an IT organisation to the characteristics of High Reliability Organisations (HROs). According to Muhren et al. (2007), HROs "are organizations that have histories of very safe operations although they operate in environments where accidents could have an enormous impact, like aircraft carriers and organizations in the nuclear industry" (p. 577). After analysing the incident management process of an IT organisation, Muhren and his colleagues argued that the IT organisation can learn from the characteristics of HROs and claimed that this learning way is better than trial-and-error learning.

The third study utilised a knowledge management framework to support ITIL implementation (Mohamed, Ribière, O'Sullivan and Mohamed, 2008). By using this framework, that contains four pillars: organisation, leadership, technology and learning, the study recognised that learning contributions to ITIL implementation. In addition, it cited that “ITIL value added is more salient in a learning organizational environment” (Mohamed et al., 2008, p. 320). These results encourage investigating ITIL implementation via OL.

In the fourth research, Pedersen et al. (2010) examined ITIL CSFs based upon a model adopted from BPC theory, which contain learning as a component. Then, they

concluded seven categories of ITIL CSFs. While several of these categories imply some connections with OL, one of them is "learning and knowledge management practices that rely on acquiring knowledge from outside the organization, using existing in house knowledge, and ensuring that involved employees learn by doing" (Pedersen et al., 2010, p. 33). This category supports strongly utilising OL in this area. Moreover, Pedersen et al. (2010) suggested that organisations adopting ITIL have to apply learning and knowledge management practices more systematically and not concentrate only on formal training. This suggestion is an implication of OL.

In the fifth related ITIL study, Marrone and Kolbe (2011) used OL to justify the decrease of ITIL implementation challenges as the maturity of ITIL implementation increases. This finding was a result of the gained experience and the realisation of ITIL benefits that led to OL.

In addition to the above studies, that recognised the role of OL in the context of implementing ITIL, several interesting studies of ITIL CSFs indicated or implied the importance of OL perspective. For example, many researchers considered training and awareness as an important ITIL CSF that supports learning in organisations (e.g. Cater-Steel and Tan, 2005a; 2005b; 2006; Hochstein, Tamm and Brenner, 2005; Iden, 2009; Pedersen et al., 2010; Pollard and Cater-Steel, 2009). Another examples of identified CSFs in previous research that support OL are openness (i.e. keeping employees informed) (Iden, 2009; Iden and Langeland, 2010); interdepartmental communication and collaboration (Pedersen et al., 2010; Pollard and Cater-Steel, 2009); stakeholder involvement (Iden and Langeland, 2010); and vendor expertise (Tan et al., 2007). Furthermore, the use of consultants (Pollard and Cater-Steel, 2009); management's need for expertise (Iden and Langeland, 2010); learning and knowledge management (Pedersen et al., 2010) are also other examples of identified CSFs in previous research that support OL. Finally, some CSFs indicate an organisational adaption and learning such as change management (Iden and Langeland, 2010; Pedersen et al., 2010; Tan et al., 2007; 2009); ITIL-friendly culture (Pollard and Cater-Steel, 2009); continuous improvement (Berrahal and Marghoub, 2016; Hochstein, Tamm and Brenner, 2005; Pedersen et al., 2010); and the IT staff ability to adopt to change (Cater-Steel and Tan, 2005a; 2005b; 2006). However, none of these previous studies considered OL theory to

investigate ITIL implementations. This finding encourages and supports research of ITIL implementation success and failure through OL lens.

The conclusion of this section is that OL represents a rich means to investigate ITSM implementations. To the best knowledge of the researcher, investigating the success of ITIL implementations using OL is a fresh area of inquiry that no previous study tackled. Therefore, while there is no research studied how OL theory can interpret ITIL implementations, the literature strongly supports this direction.

4.3.4 OL and Organisational Change

The literature shows that there is a strong relationship between organisational change and OL. In the context of understanding ITIL adoption in organisations through OL lens, it is worthwhile to investigate the relationship between OL and organisational change since ITIL adoption implies cretin organisational change.

While ITIL implementation implies organisational change, it is necessary to manage that organisational change to ensure the success of ITIL implementation. Several researchers considered organisational change management as a CSF for ITIL adoption (e.g. Iden and Langeland, 2010; Pedersen et al., 2010; Tan et al., 2007; Tan et al., 2009). Moreover, Pedersen et al. (2010) suggested that organisations "fail or succeed when implementing ITIL depends less on specific ITIL details, and more on how well [organisations] manage the organizational change process" (p. 33). Therefore, the present section explores the relationship between organisational change and OL to evaluate how OL can participate in managing the change resulted from ITIL implementations.

The literature confirms the relationship between OL and organisational change. According to Bess, Perkins and McCown (2011), OL and organisational change have explicit connections. In addition, OL researchers (e.g. Collinson and Cook, 2007; Crossan, Lane, White and Djurfeldt, 1995) articulated that OL embraces behavioural and cognitive changes. Moreover, Buckler (1996) states that "for an organization to be successful in today's rapidly changing environment, its capacity to learn must exceed the rate of change imposed on it" (p. 31). In addition, "organisational learning has in the

management literature been seen as adaptations to changed operational environments" (Wahlström, 2011, p. 65).

Researchers varied in determining the extent of OL support to organisational change. Lähteenmäki et al. (2001) considered OL as a tool for effectively managing change in organisations. Accordingly, they provided a model of OL that encapsulates change aspects. This model considers that the learning process comprises the change process and vice versa. Moreover, Woodman and Dewett (2004) argued that learning organisation could provide theoretical basis that assists to improve the understanding of individual and organisational change. They supported their argument by listing several researchers who integrated learning organisation with organisational change. In addition, Gareis (2010) considered OL as an organisational change that has high potential for change through a sequence of processes. Accordingly, he elicited that the responsibilities of OL should be visibly defined and OL should be continuum with defined processes. These include recognising new knowledge, acquiring this knowledge, offering it to the employees, unlearning ancient inappropriate knowledge and creating new knowledge. However, West and Burnes (2000) analysed several case studies of the impact of OL on organisational change and reported that the case studies attained different levels of success. Another opinion was raised by Karataş-Özkan and Murphy (2010) who cited that critical theorist views organisational individuals within the context of OL as agents of change.

More specifically, while organisational change can be categorised to either planned or unplanned change and to either continuous or episodic change (Poole, 2004), OL is planned (Bess et al., 2011; Seo et al., 2004) continuous (Poole, 2004) organisational change. On the one hand, knowledgeable actors implement and manage intentionally planned change. The main objective of planned change is the achievement of required improvements in organisations. On the contrary, unplanned change can occur without the involvement of any human decision or control. In addition, it could affect organisations either positively or negatively. On the other hand, continuous change is constant evolving change and its emphasis is a long-run adaptation. Contrarily, episodic change is infrequent and discontinuous change. It concentrates on short-run adaptation (Poole, 2004). Additionally, Seo et al. (2004) were consistent with Pool (2004) as they

clarified the position and the characteristics of learning organisation as a planned organisational change approach. They divided the planned organisational change into three generations based on their characteristics and emerging periods. The first-generation of planned organisational change originated back to the late of the 1950s and early of the 1960s. It consisted of the following approaches: action research, sensitivity training, team building, sociotechnical systems, and quality of work life. The second-generation appeared at the 1980s. It included two approaches: organisational transformation and large group interventions. Finally, the third-generation emerged at the late of the 1980s and it comprised learning organisations and appreciative inquiry approaches. The characteristics of this generation are:

- focusing on individual, group and organisational levels,
- building internal capability to tackle external challenges,
- developing a human system which facilitates strategic and technical adaptations,
- encompassing both negative focus aspects as it addresses organisation problems and positive focus aspects as it highlights the positive organisational change reasons (e.g. creating opportunities or developing a positive vision) ,
- concentrating on continuous change to be ready for episodic processes,
- being proactive since OL takes place in advance of problems, and
- holding open change processes (i.e. it is not secret and does not limit information sharing).

Drawing on the above literature review of the relationship between organisational change and OL, it seems that OL is a suitable choice to study ITIL implementations since OL is an approach of planned continuous organisational change. That is coherent with the nature of ITIL implementations because:

- An ITIL implementation requires a careful plan in advance in addition to a pre-assessment in most cases.
- An ITIL implementation can be considered a continuous process based on the concepts of continual service improvement (Taylor, Case and Spalding, 2007) and ITIL implementation maturity (Marrone and Kolbe, 2011).

Additionally, Love, Li, Irani and Holt (2000) proposed a model to facilitate OL and change in the situation of implementing Total Quality Management (TQM). Similarly,

as the principles of TQM can be helpfully adopted to attain effective ITIL implementation (Pollard and Cater-Steel, 2009), OL and change would be also helpful in the situation of implementing ITIL.

In conclusion, while adopting ITIL represents a fairly change, there is a strong relationship between the abilities of an organisation to change and to learn. More precisely, OL can be considered a planned continuous organisational change. Thus, it is significant to utilise OL during ITIL implementations in a way that manages the resulted change. This view is another supportive perspective of choosing OL theory to understand how ITIL could be implemented successfully.

4.4 OL Models

The previous section elaborates the rationale of using OL theory to investigate the success and failure of ITIL implementations in organisations. Moreover, it reveals the opportunity to provide valuable insights of ITIL implementations through OL.

To study how organisations can successfully adopt ITIL through OL lens, it is important to understand how organisations learn. This section aims to select an OL model to be utilised in the current research to study ITIL implementations. The literature shows that there is wide research investigating how organisations learn and many researchers proposed different OL models that lead to better understanding of OL (Easterby-Smith, 1997). Therefore, I extensively reviewed OL literature to seek for a suitable model to interpret success and failure of ITIL implementations. The present section presents two famous OL models that would be a suitable to achieve the aim of the present research which is to understand why organisations would succeed or fail in implementing ITIL. These models are Huber's model of OL and 4i framework.

4.4.1 Huber's Model of OL

Huber (1991) reviewed the literature and discussed four OL constructs and processes: knowledge acquisition, information distribution, information interpretation and organisational memory that shown in Figure 4-1. This model focused mainly on the information processing aspects of OL.

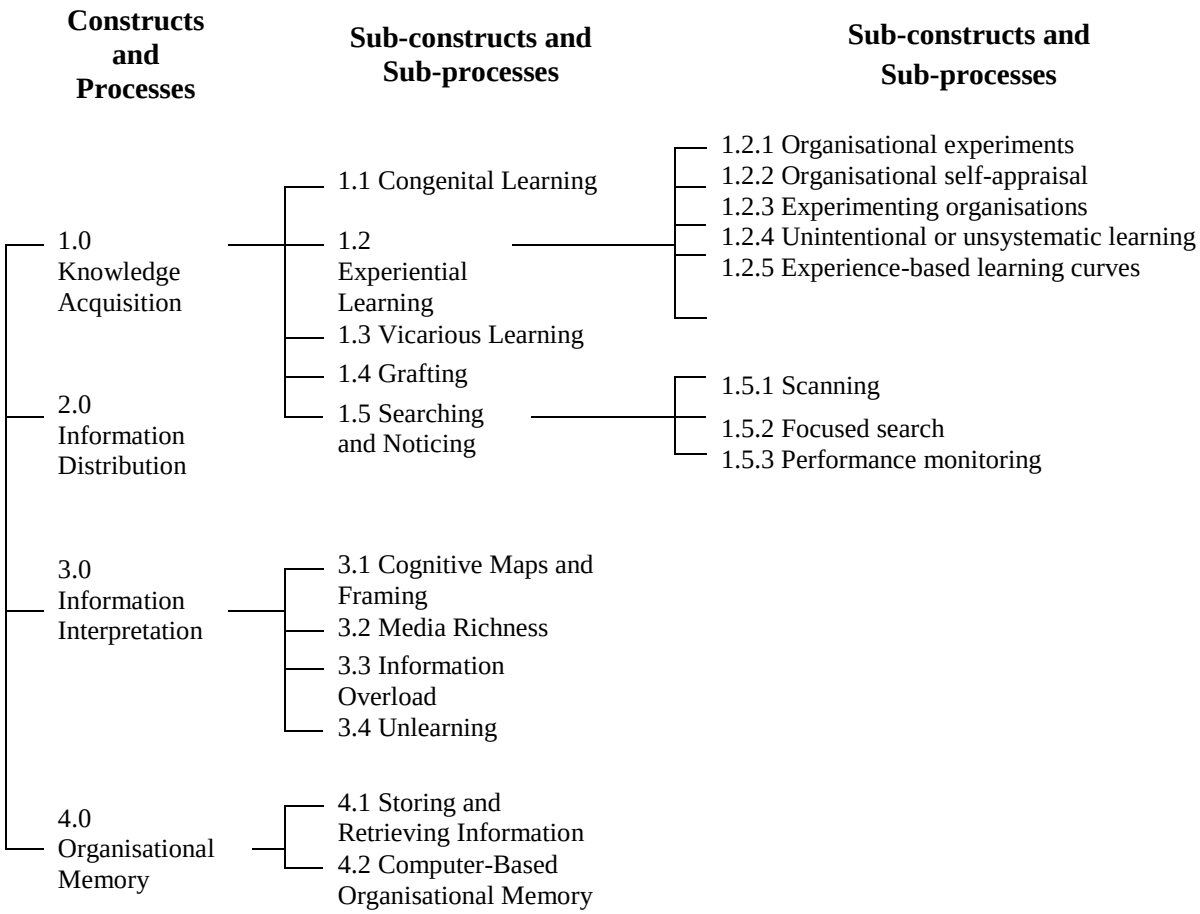


Figure 4-1 Huber's Model of OL - Adopted from Huber (1991)

The first process is knowledge acquisition by which organisations obtain information and knowledge. It contains five sub-processes. Firstly, congenital learning represents acquiring knowledge before the formation of organisations. Secondly, experiential learning allows organisations to gain knowledge from experience that mostly would be unintentional. Third sub-process is vicarious learning in which organisations learn from other organisations. The fourth sub-process is the grafting in which organisations acquire new knowledge by hiring new employees or through the acquisition of another organisation. Finally, the fifth sub-process is the searching that could be one of three forms: scanning, focused search, and performance monitoring. Scanning implies the sensing of the external environment. Focused search denotes a narrow search often in response to real or expected dilemmas or opportunities. Performance monitoring indicates the sensing of the effectiveness of fulfilling the organisation objectives.

The second process is information distribution. This process aims to distribute information among organisation so individuals and units can easily retrieve it. It also combines and shares information from different sources that allow having new information and understanding.

The third process is information interpretation in which distributed information is granted shared understood interpretations. Several factors affect the shared interpretation of information. These factors comprise the consistency of previous cognitive maps of different units, the richness of the media employed to communicate the information, the information overload that would hinder efficient interpretation, and the necessary unlearning before creating new interpretations.

The fourth construct is organisational memory, which is a means to store information and knowledge for future usage. Various processes of OL depend on organisational memory that comprises storing and retrieving information as well as computer-based organisational memory.

4.4.2 4i Framework

Crossan et al. (1999) developed the 4i organisational learning framework (4i framework, in short) that represents one of the most used OL models. This framework describes the process of learning in organisations by explaining how organisations create, acquire and stream knowledge across individual, group, and organisation levels (Crossan et al., 1999). It comprises feed-forward learning (namely exploration) and feedback learning (namely exploitation). With exploration, organisations assimilate new ideas and learning that would become institutionalised in organisations. This learning streams from the individual level to group level to organisation level. With exploitation, organisations use previous learning that would affect people's behaviour and think. This learning feeds back from organisation level to group level and individual level.

4i framework comprises four feed-forward processes: intuiting, interpreting, integrating, and institutionalising. These four processes occur through three learning levels: individual, group, and organisation levels, while there are relation effects between cognition and actions. However, not all of the four processes occur at all of the three levels. While, the associated processes with individual level are intuiting and

interpreting, the associated processes with group level are interpreting and integrating. Moreover, the associated processes with organisation level are integrating and institutionalising. Therefore, each level associates two processes and there is a progression of the processes through the levels as illustrated in Figure 4-2.

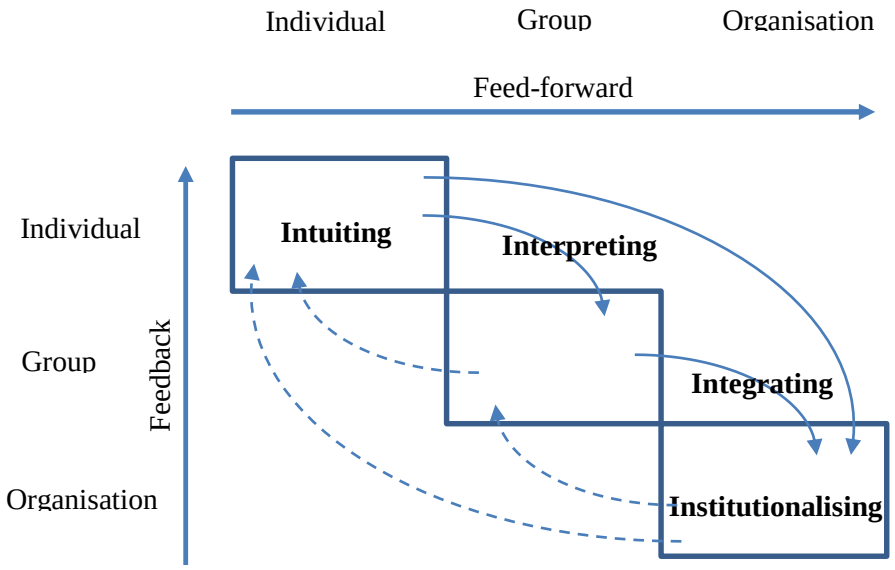


Figure 4-2 4i Framework - Adopted from Crossan et al. (1999)

Intuiting as the first process of 4i framework occurs only at the individual level because it is a "preconscious recognition of the pattern and/or possibilities inherent in a personal stream of experience" (Crossan et al., 1999, p. 525). Therefore, insights and ideas are resulted at the individual level from previous individual learning. Interpreting, which is the second process, is defined as "explaining, through words and/or actions, of an insight or idea to one's self and to others" (Crossan et al., 1999, p. 525). This process bridges the individual and group levels by inspecting, refining and improving individual intuitive insights. Therefore, it entails interaction among individuals through different means such as conversations. Integrating is the third process, which is "the process of developing shared understanding among individuals and of taking coordinated action

through mutual adjustment" (Crossan et al., 1999, p. 525). Group conversations and discussions at the interpreting process lead to the integrating process, which involves group shared knowledge and actions among an organisation. Thus, the integrating process spans both the group and organisation levels. Finally, the fourth process is the institutionalising which is defined as "the process of embedding learning that has occurred by individuals and groups into the organization, and it includes systems, structures, procedures, and strategy" (Crossan et al., 1999, p. 525). It implies that repeated actions resulted from integrating process become organisational embedded routines and formal procedures. Thus, the institutionalising process occurs just at organisation level. In OL, individual learning is not sufficient while it is necessary to transfer knowledge among people with the purpose of institutionalisation (Castaneda and Rios, 2007). Moreover, OL occurs once individual and group learning becomes institutionalised while knowledge is embedded in various organisational repositories such as strategy, culture, structures, routines and systems (Vera and Crossan, 2005).

4.4.3 Conclusion

Both Huber's model of OL and 4i framework represent elaborated models of OL. However, their focuses vary. While Huber's model focuses mainly on the information processing of OL (Huber, 1991), 4i framework concentrates on the process of OL (Crossan et al., 1999). Moreover, 4i framework provides integrated framework rather than isolated constructs. Therefore, 4i framework is more suitable than Huber's model for interpreting the success and failure of ITIL implementation.

In the present research after comparing the two models as shown in Table 4-1, I selected 4i framework as a means to achieve its aims because of the following reasons. First, Crossan et al. (1999) built 4i framework after the prosperity of the area of OL and based on several OL theorist studies. Second, the work of Crossan et al. (1999) was been referred rapidly. Research databases show that there are hundreds of research publications citing Crossan et al. (1999)'s work. Third, 4i framework has been extended or adopted heavily to investigate different phenomena in different context by several researchers (e.g. Berson, Nemanich, Waldman, Galvin and Keller, 2006; Dutta and Crossan, 2005; Jones and Macpherson, 2006; Lawrence, Mauws, Dyck and Kleysen, 2005; Sambrook and Roberts, 2005; Stevens and Dimitriadis, 2004; Tiwana and

Ramesh, 2000; Wang and Lien, 2010; Wesner, 2010). Fourth, 4i framework was originally developed to support strategic renewal (Crossan et al., 1999). Since strategic renewal is considered a kind of change (Agarwal and Helfat, 2009), this framework seems suitable to interpret ITIL implementation which is a change endeavour.

S	Criterion	Huber's Model	4i Framework
1	publication date	1991	1999
2	main focus	information processing	strategic renewal
3	relation of components	separated processes	integrated processes
4	processes	knowledge acquisition, information distribution, information interpretation and organisational memory	intuiting, interpreting, integrating and institutionalising
5	other features	-	- Many researchers utilised 4i framework in different areas. - It has several extensions.

Table 4-1 Comparison between OL Models

In summary, 4i framework explains how organisations learn through four processes and across three levels and it has been adopted widely in the literature. As it seems that 4i framework is a suitable OL model to investigate the success and failure of ITIL implementations, I reviewed the literature of 4i framework. The next couple of sections (i.e. Section 4.5 and Section 4.6) present the findings of this review related to the extensions and applications of 4i framework.

4.5 Extensions of 4i Framework

As 4i framework is proposed in the previous section (i.e. Section 4.4) as to investigate the success and failure of ITIL implementations, the present section reviews the extensions of this framework ordered chronologically to understand investigate more its suitability to support the aim of the present research. There were many attempts to extend and improve 4i framework by many researchers across a variety of domains. The extensions of 4i framework reveals several aspects of the processes of 4i framework or adds new processes as detailed in the following subsections.

4.5.1 Environmental, Socio-Political and Feedback Processes

Kleysen and Dyck (2001) found that is essential to extend 4i framework. Their study presents an extension of 4i framework that comprises five processes in addition to the original four processes developed by Crossan et al. (1999). The five new processes included attending, championing, coalition-building, encoding and enacting. Attending is directly related to the external environment; championship and coalition-building are socio-political processes linked to feed-forward learning while the last two, encoding and enacting, are related to the feedback learning. These five processes with the original 4i framework processes interact to promote OL.

While both attending process and intuiting process occur at the individual level, they vary as attending involves a conscious and deliberate focus on the environmental changes. However, it interacts with intuiting to influence the feed-forward OL. In other words, the attention of external situations such as user opinions and market opportunities generate new ideas that would interact with intuition and initiate new learning.

Championing as a socio-political process supports the development of creative ideas and interacts with the interpreting process to influence people's cognitive maps through persuasive conversations regarding the advantages of new ideas. Champions play essential roles in championing process to promote new ideas, build support, and resolve any resistance.

In addition to championing, coalition building is another a socio-political process. However, it interacts with integrating processes to support the development of new ideas through resource allocations and coherent collective action. Therefore, the coalition-building process allows people's collective actions based on new ideas.

The encoding process is a feedback process that is parallel with integration feed-forward process. Thus, it connects the organisation level back to the group level. However, it encodes institutional procedures into group scripts and knowledge structures. Therefore, it diffuses informational constraints on action between individuals and groups

The enacting process is another feedback process, but it is parallel with interpreting feed-forward process. Therefore, it connects group level back to individual level. In this process, individuals enact group scripts resulted from the encoding process. In other words, group scripts guide and constrain individual actions.

4.5.2 Action-Based Processes

Zietsma, Winn, Branzei and Vertinsky (2002) used 4i framework to analyse a company that had been trying for years to resist the stakeholder pressures for change. One of their analysis results was an extension of 4i framework with two additional action-based processes: attending and experimenting.

The findings of Kleysen and Dyck (2001) were consistent with those of Zietsma et al. (2002) who emphasised the importance of attending as a feed-forward process in which individuals attend to external information and bring that information into the organisation. This process enrich intuiting process as it occurs at the individual level by attending to inconsistent information with previously known information within the organisation.

Additionally, Zietsma et al. (2002) added also experimenting process. Similar to interpreting this process connects individual and group levels. However, while interpreting concentrates on cognition, experimenting encompasses of actions such as experiments. Nevertheless, the results of experiments would support and adjust interpreting process.

4.5.3 Political Processes

Lawrence et al. (2005) emphasised that 4i framework focused on learning from a social-psychological perspective and entirely excluded the critical role of political dynamics. Moreover, they argued that organisational power and politics contributes to OL including streaming of ideas between individual, group and organisation levels; and then spreading institutionalised learning back from organisation to group and individual levels. Then, Lawrence et al. (2005) identified four political processes and linked each process of 4i framework with one of the political processes. More specifically, they linked intuiting with discipline, interpreting with influence; integrating with force; and institutionalising with domination.

First, discipline as a political process shapes the understanding of individuals of different behaviours and actions. Therefore, it supports expertise development, fosters intuition of individuals and shapes the manners in which people perceive new experience. Some examples of discipline practices are socialisation, compensation, training, and teamwork.

Second, influence is the most associated power to overcome vagueness and uncertainty of the interpretation of ideas to become apparent and accepted. Champions play the most important role to activate influence power that would affect cognitive maps of others. Some examples of influence practices are moral suasion, negotiation, persuasion, ingratiation, and exchange.

Third, force is the most important political process to facilitate the integration of new ideas into collective group-level actions, which involves the restriction of the options available to individuals. Examples of force include limiting the option consideration, setting agendas and dealing with opponents of the new ideas.

Fourth, domination is the most effective political process for institutionalisation. It supports OL by overcoming any resistance to changes. Such power would result from a variety of systems that would restrict the choices of individuals and thus affect their behaviours. Some examples of these systems are material technologies, physical layouts of a manufacturing plant, and information systems.

In sum, Lawrence et al. (2005) contributed to 4i framework by focusing on the role of power and politics and linking particular political processes to the 4i framework processes.

4.5.4 Intertwining Process

Jones and Macpherson (2006) analysed OL of SMEs. Their study showed that as these organisations had limited internal resources, they utilised external knowledge such as customers, suppliers and knowledge providers to facilitate the institutionalising process. They found that organisation could institutionalise new knowledge from external knowledge providers through inter- OL. Therefore, they added a new organisational process intertwining process.

Intertwining process involves the active involvement of organisations with their external knowledge network. Therefore, the organisational learning extended beyond organisational boundaries to the interaction with different sources of external knowledge. The process through which organisations institutionalise new knowledge using external sources would be the emphasis on a critical incident; the owner-manager acknowledgement about the need for external knowledge; the development of organisational systems and structures in order to share knowledge; or the institutionalisation of systems and structures. Then, the institutionalised external knowledge creates a cycle of integrating, interpreting and intuiting as staff learn from new practice.

In summary, Jones and Macpherson (2006) provided valuable contributions to the field of OL as they broadened 4i framework by inter-organisational learning process namely intertwining.

4.5.5 Conscious Learning Processes

Castaneda and Rios (2007) concentrated on extending 4i framework in the dimension of conscious learning. They identified five conscious new learning processes, three at the individual level and two at the group level, that were essential in guaranteeing learning and to influence action. The individual conscious learning processes were retention, production and motivation while the group conscious learning processes were conversation and social modelling.

The first individual learning process added by Castaneda and Rios (2007) is retention which allows transforming the learnt information in an event to be represented by memories as rules or ideas in a symbolic form. The second individual learning process is production or motor reproduction. The production process aims to recover the knowledge stored in brains as symbolic representations to convert this knowledge into appropriate actions. The third individual learning process is motivation. The motivation process allows transforming personal learning into action using incentives. Usually, people do not perform everything they learn, but they act according to motivations such as such as social incentives, tangible incentives, modelled incentives (e.g. rewarding others for their behaviour) and self-initiated incentives.

In addition to the conscious learning processes at the individual level, Castaneda and Rios (2007) identified two conscious learning processes at the group level that are related to the second process of 4i framework (i.e. interpretation). The first identified process is conversation. Conversation is a conscious process between two or more people to exchange thought and explain learning. The second conscious learning process at the group level is social modelling. People learn modelled actions, techniques, principles and judgements by observing the actions of other people. Therefore, individuals, who observe models, can learn the rules of behaviours.

4.5.6 Information Foraging Process

Jenkin (2013) extended 4i framework by adding information foraging process before the intuiting process. In addition, she expanded OL levels through introducing tool level.

Information foraging is a conscious process that denotes the active engagement of individuals with data sources and environment as part of the learning process. Information foraging can includes activities such as identifying information sources, scanning, seeking for information, noticing and assessing information. For information foraging to start, a goal for information seeking needs to be developed. After this goal has been articulated, search terms can be defined where individuals scan for information.

Tools are often used in information foraging process to search, access or process data and information. However, tools may also be useful in processing data and supporting other learning processes at other levels: individual, group and organisational.

4.5.7 Summary of the Processes of 4i Framework and Its Extensions

At the end of discussing the extensions of 4i framework, it is worthwhile to summarise the feed-forward processes of 4i framework and its extensions. These processes can be segregated into four sets according to the original processes of 4i framework: intuiting, interpreting, integrating, and institutionalising.

First, the intuiting process occurs at individual level that also entails five other processes: attending, discipline, retention, production and motivation. In brief, intuiting is a preconscious process that involves the perception of the patterns or prospects inherent in an individual stream of previous experience (Crossan et al., 1999). Therefore, prior individual learning provides insights and results in new ideas. As another individual level learning process, attending is a conscious process that focuses on and attends to external environmental changes, information, or situations such as user opinions. It interacts with intuition and generates new ideas (Kleysen and Dyck, 2001; Zietsma et al., 2002). Discipline is a political process that affects the ways in which individuals perceive their experiences; and shapes their understanding of different behaviours and actions (Lawrence et al., 2005). Another individual level learning process is retention that transforms learnt information to individual memory such as rules and concepts in symbolic form (Castaneda and Rios, 2007). Production process recovers symbolic representations of brain knowledge and converts it into appropriate actions (Castaneda and Rios, 2007). Finally, motivation process uses incentives to transform personal learning into actions (Castaneda and Rios, 2007).

Second, the interpreting process bridges the individual and group levels with six other processes: experimenting, championship, influence, conversation and social modelling. These processes happen at both the individual and group levels. In addition, they concentrate on the individual understanding and actions through bridging the individual and group levels. The first process is the interpreting, which entails describing a perception or sense to others verbally or through actions. Therefore, it entails interaction among individuals (Crossan et al., 1999). The second process, namely experimenting,

encompasses actions such as experiments (Zietsma et al., 2002). Third, championship as a political process supports the development of novel ideas to influence people's cognitive maps through persuasive conversations regarding the advantages of the new ideas (Kleysen and Dyck, 2001). Fourth, influence is a political process that aims to overcome vagueness and uncertainty of the interpretation of ideas to enhance clarity and acceptance (Lawrence et al., 2005). Fifth, conversation process is a dialog between two or more people to exchange thought and explain learning (Castaneda and Rios, 2007). Sixth, social modelling process is the observation of other people that allows learning modelled actions, techniques and judgements (Castaneda and Rios, 2007).

Third, the integrating process bridges the group and organisation levels. It also associates coalition-building and force processes. These processes bridge the group and organisation levels of 4i framework and its extensions through focusing on coherent collective actions. Integrating is the first process among these processes and it develops common comprehending among individuals and harmonised actions (Crossan et al., 1999). Second process is coalition-building that is a political process supporting the development of new ideas through resource allocations and coherent collective actions (Kleysen and Dyck, 2001).Third, force as a political process facilitates integrating new ideas into collective group level actions, and involves the restriction of the options available to individuals (Lawrence et al., 2005).

Finally, the fourth process is institutionalising that occurs at organisation level that entails also the domination process. Institutionalising is the essential process at organisation level that embeds learning into organisations through different systems, procedures, regulations, structures and strategy (Crossan et al., 1999). The second process is domination that is a political process aiming to overcome any resistance to changes (Lawrence et al., 2005).

To summarise, Table 4-2 integrates the above processes into four sets depending on their learning level. It also describes the processes shortly.

S.	process	learning level	reference	description	process type
1	intuiting	individual	Crossan et al. (1999)	recognising the patterns or possibilities inherent in a personal stream of experience	preconscious
2	attending		Kleysen and Dyck (2001) Zietsma et al. (2002)	focusing on the environmental changes and attending to external information to bring new knowledge into the organisation	conscious
3	discipline		Lawrence et al. (2005)	shaping the understanding of individuals of different behaviours and actions	political
4	retention		Castaneda and Rios (2007)	transforming learnt information of an event to be represented to memory as rules or concepts in symbolic form	conscious
5	production		Castaneda and Rios (2007)	recovering the knowledge stored in brain as symbolic representations to convert this knowledge into appropriate actions	conscious
6	motivation		Castaneda and Rios (2007)	transforming personal learning to actions using incentives	conscious
7	interpreting	individual to group	Crossan et al. (1999)	explaining, through words and/or actions, of an insight or idea to one's self and to others	conscious
8	experimenting		Zietsma et al. (2002)	performing actions	conscious
9	championship		Kleysen and Dyck (2001)	influencing people's cognitive maps through persuasive conversations regarding the advantages of new ideas	political
10	influence		Lawrence et al. (2005)	overcoming vagueness and uncertainty of the interpretation of ideas to become clear and accepted	political
11	conversation		Castaneda and Rios (2007)	exchanging thought and explaining learning	conscious
12	social modelling		Castaneda and Rios (2007)	observing other people to extract the principles embodied in the actions of others	conscious
13	integrating	group to organisation	Crossan et al. (1999)	developing shared understanding among individuals and taking coordinated action through mutual adjustment	conscious
14	coalition-building		Kleysen and Dyck (2001)	taking collective actions based on new ideas	political
15	Force		Lawrence et al. (2005)	facilitating the integration of new ideas into collective group-level actions, which involves the restriction of the options available to individuals	political
16	institutionalising	organisation	Crossan et al. (1999)	embedding learning that has occurred by individuals and groups into the organisation, and it includes systems, structures, procedures, and strategy	conscious
17	domination		Lawrence et al. (2005)	overcoming any resistance to changes	political

Table 4-2 The Processes of 4i Framework and its Extensions

4.6 Applications of 4i Framework

As I proposed 4i framework to be used in the present research to understand and explain the success and failure of ITIL implementations, it is worthwhile to examine how researchers utilise this framework in different contexts. Therefore, the objective of the current section is to explore how researchers apply 4i framework to investigate and analyse learning in organisations in various situations. The literature shows the abundance of such investigations that studied how learning accrued in organisations. I identified several studies that applied 4i framework with an aim to understand how researchers analyse and interpret learning in organisations in different contexts. Examples of these context include ERP implementation (Ke, Wei, Chau and Deng, 2003), operation of a metal industry company (Lehesvitra, 2004), NSD process (Stevens and Dimitriadis, 2004), entrepreneurial opportunities (Dutta and Crossan, 2005), quality improvement (Chen and Kuo, 2011), new venture development (Brockman, 2013), and creation of new packing service (Duarte Aponte and Castañeda Zapata, 2013). Another examples also include family SMEs (Lionzo and Rossignoli, 2013), Six Sigma implementation (Monlouis, 2013), value stream mapping (Schulze, et al., 2013), programme management (Dutton, Turner and Lee-Kelley, 2014), crowdsourcing (Schlagwein and Bjørn-Andersen, 2014), and information system adoption (Santos and Steil, 2015). The reset of the present section provides brief descriptions of these applications.

Ke et al. (2003) investigated a case study of an organisation that implemented ERP system in China. Researchers argue that implementing ERP system represents a process of organisational strategic renewal. The researchers collected data of the case study which was a large Chinese organisation through semi-structured interviews and several documents. Then they concluded that a variety of factors influences the implementation of ERP and that the organisation achieved strategic renewal through utilising 4i framework. While Ke et al. (2003) found that getting external knowledge from consultants was important, they concluded that the most important factor in the development and implementation of the ERP was the involvement of seniors and mid-levels managers. Furthermore, information sharing within the organisation was essential

in the ERP. As they viewed the ERP implementation project through 4i framework, they found that exploitation and exploration were critically important in the development and implementation of the ERP as the ERP implementation was a complex learning process. In sum, they attributed the ERP implementation success to the OL management and its failure to the bad management of OL.

Lehesvitra (2004) conducted an ethnographic study of a metal industry company to analyse how learning processes occur at the individual and group levels. She applied 4i framework but focused only on three OL processes: intuition, interpretation and integration. The findings of the study suggested that conflicts and crises generate individual learning processes. Therefore, individual learning processes emerged while individuals adapted to the changes imposed by environment. In order for individual learning processes to generate group processes of learning, a variety of factors should be taken into consideration, such as the recognition of the importance of shared knowledge, abilities of individuals, their willingness to share experiences, and the way in which the managers supports the processes of learning. Furthermore, in order for individuals to share their knowledge, a recognition of the significance of information is needed. If individuals consider that some information is not significant, they will not share it with their group. Nevertheless, if individuals want to share the significant information with others, they need to have the ability to communicate with others efficiently.

Stevens and Dimitriadis (2004) used 4i framework to study NSD process of two different organisational services: the non-food department restructuring in a supermarket and a new retail service launching in a bank. They tested whether there is an OL process occurring during the NSD process using a comparative analysis of the two case studies. Three stages of NSD were identified: initiation, formal development and implementation. The findings of the study indicated that 4i framework can be successfully applied to describe the development of a new service in the two enterprises and the components of 4i framework were present in each stage of the NSD, although neither the NSD processes nor the OL processes were linear processes. To sum up, 4i framework has an essential role in describing and understanding of how to develop new services within various enterprises.

The study employed by Dutta and Crossan (2005) aimed to present a detailed description of the phenomenon of entrepreneurial opportunities using 4i framework. They argued that applying each process of 4i framework helps to understand the life cycles of entrepreneurial opportunity. Using 4i framework helps in conceptualising the process of entrepreneurial opportunities through its four processes. This allows understanding how opportunities develop as a process that involves individuals (i.e. entrepreneurs), groups (i.e. entrepreneurial networks) and organisations. Dutta and Crossan (2005) argued that when an entrepreneur undertakes entrepreneurial opportunities, the learning process unfolds itself. The transfer of learning from individuals to groups to organisations occurs while the life cycle of the entrepreneurial venture evolves.

Chen and Kuo (2011) studied the relationship between quality improvement and OL in hospitals in Taiwan using 4i framework. They analysed research articles of the empirical studies of quality control circle and OL. Their study exposed the existence of a connection between OL and quality control circle activities. More specifically, quality control circle practices facilitated the diffusion of OL concepts and contributed to health care quality improvements. Additionally, they found that OL could increase the powers of employees and share individual knowledge among groups. The learning resulted from quality control circle activities can lead to change the attitude and behaviour of individuals. In sum, they found that there was an interrelation between OL and quality improvement as they identified the associations of the 4i framework processes with different aspects of quality improvement such as process management, cost management and clinical process problems.

Brockman (2013) analysed how OL evolved in the stages of new venture development. In particular, using 4i framework, she investigated how learning can occur in the three stages of new venture development: pre-start-up, start-up and growth. One reason of her selection of 4i framework was that 4i framework involves the evolution from individual to group to organisation. She showed that there are connections between 4i framework processes and new venture development stages. The development of a new venture in the pre-start-up stage begins with an opportunity recognition and can be characterised by individual level of learning at intuition process, action learning and entrepreneurial

alertness. The second stage, start-up, includes behavioural learning processes such as information acquisition, dissemination and interpretation; and can be characterised by shared knowledge and group collective actions at interpretation and integration processes. Finally, the last stage of venture development is growth that includes cognitive learning and can be characterised at organisational level through institutionalisation process.

Using a qualitative research, Duarte Aponte and Castañeda Zapata (2013) explored how 4i framework unfolds in a pharmaceutical enterprise, more specifically in the creation of a new packing service. Their study purpose was to investigate the application of 4i framework and its extensions in this context. 4i framework was used to guide data collection and analysis. Their study findings indicated that the new service of packing turned out to be a result of 4i framework. Moreover, the learning process is not linear that begins at the individual level then moves to group level to organisation level. For example, individual and group learning would occur at the same time and affect each other while they are continuous processes. Moreover, they concluded that 4i framework and its extensions (i.e. Castaneda and Rios, 2007; Zietsma et al., 2002) could interpret the new packing service.

Lionzo and Rossignoli (2013) studied the learning process of family SMEs empirically. They applied 4i framework to explore three case studies using qualitative research. They found that the role of families was fundamental in initiating and maintaining the learning and change process as of a family attitude was the key influence in enabling or obstructing various learning processes to support organisational change. Moreover, the role of a family was crucial in shaping a collaborative organisational context. Theoretically, they proposed a model of learning in family SMEs as an extension of 4i framework.

Monlouis (2013) investigated the effect of Six Sigma DMAIC (Define, Measure, Analyse, Improve, and Control) process improvement methodology on OL. She conducted several case studies of organisations implemented incremental business process improvement using Six Sigma DMAIC. According to the empirical results, the study provided valuable insights of Six Sigma DMAIC processes that enhance or impede OL. For example, Six Sigma DMAIC enhanced learning only at individual and

group levels. Moreover, the study identified the structural, social and psychological factors that enable or constrain OL.

Schulze et al. (2013) investigated the effects of value stream mapping and its implementation in new product development on 4i framework by conducting multiple case studies of German automotive suppliers. Value stream mapping is a method of lean management that aims to enhance organisational processes. Schulze et al. (2013) found that value stream mapping facilitates OL in the context of value stream mapping processes. However, the effectiveness of value stream mapping as a facilitator varied across the cases. Additionally, they claimed that merely applying VSM without considering how it is applied is insufficient. Their study confirmed 4i framework premises of the four learning processes that link individual, group, and organisational levels; and advised to consider OL multilevel nature when organisations aim to enhance adaptation and adopt continuous improvement.

Dutton et al. (2014) investigated within- and cross-programme learning. A programme is, according to APM (2012, p. 241, as cited in Dutton et al., 2014), "a group of related projects and change management activities that together achieve beneficial change for an organisation" (p. 747). They conducted a qualitative case study of a UK big organisation that offered telecommunications and data network services as well as business process services for public and private clients. Moreover, they used 4i framework as an investigatory framework and a basis for discussion. The results of this study demonstrated that 4i framework could model effectively within-programme learning. However, another conclusion of the investigation was that an important cross-programme knowledge transfer agent is an employee. Employees assist knowledge transfer in their environment through several ways including informal social networks. Moreover, the main obstacles to cross-programme learning are corporate policies that would hinder the exchange of information.

Schlagwein and Bjørn-Andersen (2014) examined the contribution of crowdsourcing to OL. They conducted a case study of a huge recognised organisation that accomplished a systematic application of crowdsourcing to improve its learning to examine how it learnt from crowdsourcing to benefit from the ideas of the clients and public. Estellés-Arolas and González-Ladrón-de-Guevara (2012, p. 197, as cited in Schlagwein and

Bjørn-Andersen, 2014) defined crowdsourcing as “a type of participative online activity in which an individual, an institution, a non-profit organization, or a company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task” (p. 756). Since the theory of OL is an appropriate theoretical basis for the comprehension of crowdsourcing, Schlagwein and Bjørn-Andersen (2014) adopted 4i framework in their study of crowdsourcing. 4i framework suits crowdsourcing because of its multi-level, recursive and systematic nature. They found that the first two processes of 4i framework associated crowdsourcing. This means that intuiting and interpreting were done systematically by public who were not members of the organisation, so they proposed the concept of ambient OL as a theoretical framework for OL with crowdsourcing.

Santos and Steil (2015) studied an information system adoption in a Brazilian public organisation using Lawrence et al. (2005)’s power extension of 4i framework to identify social, cognitive and political dynamics in this case study. The results of the study showed that two learning cycles unfolded during the information system implementation. The first cycle of learning occurred at the individual level and involved the first two learning processes of 4i framework, intuition and interpretation, without accomplishing the feed-forward process of learning. The second cycle focused on how power dynamics influenced individual and group learning; and underlined the essential role that power had in the institutionalising of the learning.

In conclusion, researchers have applied 4i framework and its extensions within various organisational contexts. Some examples of these applications are ERP implementation, operation of a metal industry company, NSD process, entrepreneurial opportunities, quality improvement, new venture development, creation of new packing service, family SMEs, Six Sigma implementation, value stream mapping, programme management, crowdsourcing, and information system adoption. This finding encourages investigation the subject of the present research (i.e. ITIL implementations) using 4i framework.

4.7 The Role of 4i Framework

As the present research adopts 4i framework, it is worthwhile to clarify and declare how the research would utilise 4i framework. Defined as “a set of concepts used to define and/or explain some phenomenon" (Silverman, 2013, p. 112), theory usually stimulates research. It also facilitates researchers' understanding of loose and fragmented aspects of phenomena. In addition, "theory provides both a framework for critically understanding phenomena and a basis for considering how what is unknown might be organized… By provoking ideas about the presently unknown, theories provide the impetus for research” (Silverman, 2013, p. 112). However, using theories among qualitative research varies widely. Some qualitative studies may generate a theory at the end. Other studies may use a theory early at the beginning as a lens that influences data generation and analysis. Others may use a theoretical lens, such as a focus on feminist, which directs whole research (Creswell, 2013).

In the present research, drawing on the critical analysis shown in Chapter 3 of ITIL CSFs in the literature, I proposed the utilisation of the OL theory to conceptualise the success and failure of ITIL implementations. This critical phase was of immense importance as it informed later phases of the study. Accordingly, in the current chapter, I reviewed OL literature and based on reviewing the plethora of studies, I adopted 4i framework as a theoretical lens in a way where theory becomes the end to provide a broad explanation (Creswell, 2013). Accordingly, I gathered detailed data of case studies, analysed deeply collected data by extracting themes and developed a model accordingly. Then, I discussed and synthesised this model with 4i framework that resulted in a model to interpret the success and failure of ITIL implementations as an extension of 4i framework. Accordingly, present research and 4i framework would inform each other that coinciding with Lewis (2003) who stated that “the relationship between design, data and theory is a multi-directional one” (p. 49). Moreover, she emphasised “the interactive, iterative and non-linear linkages between theory and data” (Lewis, 2003, p. 49). However, while I utilised 4i framework as a theoretical basis for the present research, I exerted to avoid the following major destructive approaches explained by Lewis (2003):

- ‘Simplistic inductivism’ who just concentrate on emergent constructs through immersing themselves in research settings.
- ‘Kitchen sinkers’ who are distrusted by unordered ideas.
- ‘Grand theorists’ who are fully restricted to theory.

To summarise, the present research as a qualitative research uses 4i framework as a theoretical lens "to describe the broader explanations" Creswell (2013:51) of success and failure of ITIL implementations.

4.8 Conclusion

The present chapter reviews the OL literature in the aim of evaluating the previous chapter proposal of utilising OL theory to interpret the success and failure factors of ITIL implementations. The review supports strongly this proposal and shows that OL theory, and more specifically 4i framework, can provide fresh insights and perceptions in this area because of several reasons. First, OL theory supports multidisciplinary research. Second, the literature shows that OL research tackled areas related to ITIL implementations such as service management, information systems, ITSM and organisational change. Third, 4i framework is characterised as an integrated systematic framework that comprises three levels of learning: individual, group and organisation; and four learning processes: intuiting, interpreting, integrating and institutionalising. Finally, several researchers extended or utilised 4i framework in different directions in various contexts such as ERP implementation, NSD process, quality improvement, Six Sigma implementation, value stream mapping, and information system adoption that enhanced the maturity of 4i framework. To conclude, 4i framework can be utilised to understand the success and failure factors of ITIL implementations in organisations. However, to the best knowledge of the researcher, there is no previous research used OL to investigate ITIL successful implementations. Therefore, I decided to utilise 4i framework in the present research hoping to reveal more about professionals’ experience of implementing ITIL.

As a summary of the last three chapters, these chapters addresses the first research question as they elaborating the possible theoretical foundations of ITIL success and failure. Chapter 2 reviews the literature of implementing ITIL successfully and results in several research gaps in this area such as the lack of applying theories, the fragmented findings and the inconsistency of reported ITIL CSFs. For example, the literature of ITIL successful implementations fundamentally focuses on separated ITIL CSFs and little attention was given to holistic perspectives. Therefore, I analysed the literature ITIL CSFs in Chapter 3. Drawing on this analysis, I proposed OL theory to understand the success of ITIL implementations. Finally, the current chapter evaluates this proposal by extensively reviewing OL literature in the context of successful ITIL adoption phenomena. This review has increased the confidence of proposing OL as a suitable candidate to theoretically understand ITIL implementations. Therefore, I have recruited 4i framework as a theoretical foundation of the present research drawing on the literature review because it offers a theoretical holistic view of ITIL successful implementations that can reveal subtle aspects of such implementations. Accordingly, the theoretical elaboration foundations in the last three chapters has provided a good basis of further fieldwork. Therefore, the next chapter describes the present research design and methodology in detail and shows that the fieldwork consists of three purposely selected case studies to investigate learning aspects in diverse contexts. The first case study is a successful ITIL implementation; the second case study is a failed ITIL implementation; and the third case study is a partially successful ITIL implementation.

CHAPTER 5: RESEARCH DESIGN AND METHODOLOGY

5.1 Introduction

The research design is an important stage of any research project as it immensely contributes to research success (Arthur and Nazroo, 2003). It attests to several important elements including defining the aim and objectives of research clearly; maintaining coherence and connection between all phases of the research; and confirming claims of rigor, validity and reliability of the research (Lewis, 2003).

Therefore, setting research design and methodology represents a critical endeavour. The current chapter describes the design and methodology used in the present research. Drawing mainly on a middle way of the wholesale of Oates (2007)'s 6Ps (Purpose, Paradigm, Process, Participants, Products and Presentation) research model and research methods of the Qualitative Research Unit at the National Centre for Social Research which is a principal independent social research organisation in the UK (Ritchie and Lewis, 2003), I adopted and adapted current research design.

Oates (2007) argued that 6Ps research model is suitable for any research, and she elaborated that each 6Ps component is set out to achieve and respond to a specific part of research. I utilised 6Ps research model to tackle different aspects of research design. Hence, this chapter is organised according to the six components of 6Ps research model. Next section discusses the research purpose. Then, section three elaborates the research paradigm. Next, section four presents research process. Section five takes care of issues related to research participants. Then, section six portrays both research products and presentation. Finally, section seven discusses the research quality and section eight concludes the chapter.

5.2 Research Purpose

According to Oates (2007), the purpose of research, which is the first component of 6Ps research model, tackles research motivation, importance, objectives and rationale. The major concern of the present study is to understand an immediate phenomenon that is the nature of successful and failed ITIL implementations in Saudi Arabia theoretically utilising 4i framework. The following research questions could capture this aim to understand this contemporary phenomenon:

> Question 1: How can the success and failure of ITIL implementations be theoretically interpreted?
>
> Question 2: Why do some organisations succeed in implementing ITIL while others fail?

These research questions embody the characteristics of an ideal research question such as be clear and well-defined; focused and direct; not too abstract that does not require data collection; beneficial and appropriate; linked to and informed by theory and previous research; and has possibility to build original knowledge or to fill a gap (Lewis, 2003).

5.3 Research Paradigm

The second component of 6Ps research model is research paradigm, which represents a philosophical way of research thinking (Oates, 2007). In other words, the paradigm is "An overall framework for looking at reality" (Silverman, 2013, p. 112). Although the main IT trends is technically oriented, and researchers often keep themselves busy with developing technical protocols and other matters, the present study focuses on the examination of social or more precisely human factors in this field. This is because the investigation of ITIL implementation projects is a studying of the social world that raises several philosophical, ontological and epistemological aspects (Snape and Spencer, 2003). While ontological assumptions tackle the nature of reality, epistemological assumptions care of inquiring into the reality and nature of the world.

This section provides an overview of these philosophical aspects and identifies the current research philosophical stance (i.e. position).

The philosophy behind any research affects its design, particularly its methodology, methods, analyses and interpretations. Philosophical stances of the social world contain important assumptions about the ways researchers view the world around them. Based on their beliefs, researchers adopt various views of the nature of knowledge (i.e. ontology) and take decisions onto how they approach that knowledge (i.e. epistemology). Such decisions represent philosophical stances and dramatically influence research practices including research strategies and methods. Additionally, the consistency between a research stance and its practices has an effect on its overall quality, claim for knowledge and location in the world. In other words, it is important in any research to declare its philosophical stances as different stances lead to different beliefs as well as different research practices; and to measure its quality based on the consistency of these stance and practices. Therefore, to ensure the quality of the present research as well as the validity of its assumptions and produced knowledge, it is important to describe the philosophical background that underpins the present research.

Ontology is one of the most important philosophical aspects that affects research strategies and methods because it forms the perception of researchers and their views of the world concepts, terms, and arguments. Ontology addresses beliefs in what can be known of social world. In general, researchers are often inconsistent in their ontological positions mainly because they hold different views of the similarities and differences of physical and social worlds (Snape and Spencer 2003). Among major ontological positions are realism, materialism and idealism. Both realism and materialism attest that there is an external reality, which exists independent of human beliefs or understanding. Accordingly, there is an obvious difference between people's interpretations of the world and the way the world is perceived. However, materialism insists that material and physical features hold reality. In contrast, idealism believes that there is no external reality as reality is only knowable through the mind of human mind or socially constructed meanings. These three positions have been mixed or adjusted to generate non-extreme positions. For example, Ritchie and Lewis (2003) stood on subtle realism, which is a reform of realism affected by idealism. Accordingly, they accepted that “the

social world does exist independently of individual subjective understanding, but that it is only accessible to us via the respondents' interpretations (which may then be further interpreted by the researcher)" (Snape and Spencer, 2003, p. 19). In other words, subtle realism stresses that an external reality exists independent of people's beliefs and understanding while it is only knowable through the human mind and socially constructed meanings.

Epistemology is another important philosophical aspect of research. It tackles beliefs in knowledge production and acquisition. In other words, epistemology considers the ways of knowing the reality of the social world. There is a wide array of philosophies in the literature of social science research. These philosophies represent mainly two contestable schools of thought or paradigms: positivism and interpretivism. Positivism stresses that social world operates according to rigid laws, like physical world that is detached from us, very much referred to as the scientific method. Positivists favour quantitative research methods such as surveys, experiments, close-ended questionnaires, etc. However, positivism does not appropriately represent social realm and as it claims that meanings reside in the world and not shared with us. On the other hand, interpretivism implies that meaning is shared among several signifiers and it can be constructed depending on different experiences of participants who shape the reality. More precisely, interpretivism and constructivism are related terms. According to Creswell (2013) and Gray (2013), interpretivism and constructivism are often combined as interpretivism is a theoretical perspective linked to constructivism. Moreover, Collins (2010) and Oates (2007) argued that interpretivism represents several philosophical approaches including constructivism, hermeneutics and phenomenology. These views contradicted the opinion of Schwandt (2000) who claimed that constructivism and interpretivism have subtle variances. However, in the context of the present research the two terms are used interchangeably that concern with social context understanding (Oates, 2007) and "adopt the position that our knowledge of reality is a social construction by human actors" (Walsham, 1995, p. 376). Therefore, interpretivism favours qualitative research methods such as interviews, participant observations, narrative methods, etc. and emphasises the interpretation role to understand the social world (Oates, 2007; Snape and Spencer, 2003). In light of the above discussion, I located the current study in the tradition of interpretivism to explore and understand

ITIL implementations in their natural settings, which represent a social world. Therefore, the perspective of current research participants shapes its basis. Additionally, I as the researcher of current research considered myself as an instrument and my role was to neutrally empathise participants, understand their perspectives and based on that to interpret the context meaning. My objective was to interpret the context meaning based on the views of the participants and to provide a holistic perspective. In sum, interpretivism "stresses the importance of interpretation as well as observation in understanding the social world" (Snape and Spencer, 2003, p. 7) with the following characteristics: multiple subjective realities, dynamic, socially constructed meaning, researcher reflexivity, study of people in their natural social settings, qualitative data analysis, and multiple interpretations (Oates, 2007). Interpretivism therefore informs the present research in several directions including the way I engaged with theory, literature, data collection and data analysis. The rationale behind this choice is that studying implementations is a kind of investigation social world based on the views of research participants. Thus, I strived to understand their perspectives and to interpret their views.

In summary, setting the philosophical position of the research is fundamental as this position affect research practices. The research stands on interpretivism paradigm. Interpretivism endeavours to interpret the views of research participants and to construct knowledge based on their perspectives. The choice of adopting interpretivism influences the selection of current research method, strategy, data collection and data analysis as described in the next sections.

5.4 Research Process

The third component of 6Ps research model is research process. According to Oates (2007), research process incorporates the activities to accomplish the research. I adopted her research process model as it allows conducting research in a systematic manner. In consequence, I started current research by identifying research purpose, questions and paradigm, as explained above, based on my experiences and motivations. Besides that, I reviewed the literature to identify the knowledge gaps and to seek for a theoretical basis

of the current research. While I reviewed and analysed the literature of ITSM in Chapter 2 and Chapter 3, I reviewed the literature of OL in Chapter 4. Soon afterwards, I selected and adopted the present research method, research strategy, data collection methods, and data analysis methods as explained in the following subsections.

5.4.1 Qualitative Method

Current research is based on qualitative research method rather than quantitative research method. I took this key research decision because of two major reasons that follow. First, qualitative research is informed by interpretivism position, which is the philosophy stance of current research. Second, the characteristics of qualitative research such as handling social situations and unexpected emergent concepts suit the subject of current research (i.e. ITIL implementation success and failure). In contrast, quantitative method is closure to positivism paradigm and it concentrates on more structured numerical investigations and utilises statistical techniques. Thus, qualitative research method is more appropriate for the present research than quantitative research method.

Qualitative research focuses on the interpretation of social meaning and "attempts to provide a holistic understanding of research participants' views and actions" (Snape and Spencer, 2003, p. 7). The potential of qualitative research with its capability and power would allow providing in-depth interpretation and understanding of the myriad aspects surrounding my explanation of ITIL implementations in the Saudi Arabian context.

Additionally, as one of the strength points of qualitative research is its ability to explore emerged unanticipated issues, I realised that it is the most suitable method for the current research. Within the tenets of an exploratory research design, I understood my exploration of ITIL implementation aspects as a way to reveal the emergent issues surrounding this application. In other words, through its flexibility, adaptation and inclusiveness, qualitative research method allows responding to emergent themes and understanding them better. Moreover, since the present study is most probably the first of its kind to explore the success and failure of ITIL implementations in a Saudi context, I perceived the qualitative research as most suitable to meet any unanticipated issues. In addition to its potential in exploring innovative studies, qualitative research allows understanding of complex social phenomena (Lewis, 2003; Ritchie, 2003). An

ITIL implementation, the key theme of this research, is a complex process in nature that requires an adaptive and flexible research design. Indeed, any study that explores an implementation in general and ITIL implementations in particular requires an in-depth understanding of the myriad and multifaceted aspects of the implementation. Qualitative research supports ideally investigating such matter as it provides in-depth understandings and interpretations of researched environments (Snape and Spencer, 2003).

Moreover, another characteristic qualitative research is that it studies purposively selected samples (Snape and Spencer, 2003). The purposive sampling ensures some diversity of samples with tackling different key aspects. As explained in details in the following subsections, this research is based on cases studies that were chosen purposively. Within purposively selected samples, qualitative research collects and handles very detailed data.

Another characteristic of qualitative research that it involves close contact between researchers and research participants (Snape and Spencer, 2003). The present research collects very exhaustive data of purposively selected case studies mainly through individual interviews with participants. The interview method implies nearby interactions between researchers and interviewees.

In summary, qualitative research suits the objectives of this research as this method can expose the existence or absence of a phenomenon in different situations such as the success of ITIL implementations. Moreover, it allows investigating the possible causes or effects of phenomena such as ITIL success. These characteristics harmonise with the present research philosophy. Therefore, I applied qualitative research method and utilise its power with an aim to achieve the present research objectives.

5.4.2 Case Study Strategy

The research strategy is the overall approach to answers its questions. In the current research, I utilised case study as a research strategy to fulfil its objectives. According to Yin (2003), case study as a research strategy is “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries

between phenomenon and context are not clearly evident" (p. 13). I deemed case study methodology suitable for the current study because of several reasons.

First, case study strategy has a close link with qualitative research method so it is extremely appropriate for qualitative research, which is the selected research method of current research. "The term 'case study' is strongly associated with qualitative research although it is used in a variety of ways. Indeed, it is sometimes appears to be used as a synonym for qualitative research" (Lewis, 2003, p. 51).

Second, as Yin (2003) argued, case study methodology is appropriate for investigating contemporary events and for answering why research questions. Among the key aims of the study is to respond the question why ITIL implementations would succeed or fail. Therefore, case study methodology suits the present research.

Third, case study strategy is an effective methodology to explore new or unclear processes as it allows investigating multiple views and leads to holistic interpretation (Hartley 1994; Lewis, 2003). Additionally, the success of ITIL implementations (i.e. the subject of the current research) is a contemporary phenomenon that involves uncertain situations and it is also multifaceted phenomena that requires probing into multiple perspectives of various related participants. Therefore, investigating ITIL implementations necessitates case study strategy.

Finally, drawing on the literature, I found that organisational research broadly utilised case studies to investigate phenomena in organisations (Hartley, 1994). More specifically, several researchers recommended conducting case study methodology for ITSM research including the implementations of ITSM in organisations. For example, McBride (2009) stated: "there is a growing need for research and case studies which explore the issues around the development, delivery and improvement of IT services in organisations" (p. 237). In addition, Conger et al. (2008) and Winniford et al. (2009) recommended using case studies to understand the differences between successful and unsuccessful ITSM implementations, which is closely related to the present study.

On the other hand, I adopted the approach of multiple case studies, as this approach is stronger than conducting a single case study even though multiple case studies require

resources and time more than a single case study. "The evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust" (Yin, 2003, p. 46). More specifically, I adopted and adapted Yin (2003)'s approach of multiple case studies that comprises three stages: (1) define and design; (2) prepare and collect; and (3) analyse and conclude.

In the first stage (i.e. define and design), I identified the CSFs of ITIL implementations in the literature as explained in Chapter 2. Additionally, I analysed these CSFs as presented in Chapter 3. Then, I also elaborated the usage of OL theory to understand ITIL success and failure in Chapter 4. I then selected the case studies as described below in the Subsection 5.4.3, titled The Selection of Case Studies and Participants, and designed data collection instrument that is described later in the Subsection 5.4.8, titled Data Collection Methods.

Then in the second stage of the approach of multiple case studies, namely prepare and collect stage, I conducted three case studies. The below Subsections 5.4.5, 5.4.6 and 5.4.7 portray these case studies. It is beneficial to state that these two stages were not linear. Conducting an initial fieldwork in this stage provided feedback to the first stage that enhanced the selection criteria and data collection protocols.

Finally, in the third stage (i.e. analyse and conclude), I analysed the three case studies as described later in Subsection 5.4.9 namely Data Analysis methods. Chapter 6 and Chapter 7 provide the findings of the analysis.

5.4.3 The Selection of Case Studies and Participants

The research objectives influenced the choice of the selection criterion of the case studies. Therefore, the characteristics of the three selected ITIL implementation case studies typified the subject matter under study while they held diversity to explore the interdependence and influence of different aspects of ITIL implementation success. More precisely, the basis of selecting the case studies and participants in the present research was purposive sampling based on certain criteria for the ability to provide a detailed understanding and to enable comparison.

While part of research design is to plan how to select research participants that facilitate the investigation of research, there are several types of sampling strategies for case studies and qualitative research. In the present research, I managed sample coverage carefully by defining the characteristics of samples that make them suitable for research. More specifically, I applied purposive sampling as most samples of qualitative research are selected purposely. “In purposive sampling, decisions about which criteria are used for selection are often made in the early design stages of the research. They will be informed by a range of factors including the principal aims of the study, existing knowledge or theories about the field of study, hypotheses that the research may want to explore or gaps in knowledge about the study population” (Ritchie, Lewis and Elam, 2003, p. 80). To select purpose samples of the present study based on its objectives, I explicitly identified that its population is organisations that implement ITIL. Additionally, as my research aimed to understand and interpret ITIL implementation success or failure phenomenon using case study strategy to gather retrospective accounts of both successful and failed ITIL implementations, I selected case studies that would facilitate understanding, unpack meanings and generate themes and theories in this regard. Therefore, I carefully chose selection criteria of my research samples after identifying their characteristics. As the present research is a kind of organisational research, I implemented the multi-stage design to define selection criteria and study samples that comprises of two stages: organisational stage and at individual stage. While organisational stage concentrated on identifying the characteristics of nominated organisations, individual stage specified the qualities of individual participants within organisations. In both stages, I concentrated on the depth of data collection more than breadth coverage of the participants. “Since qualitative research will be being used because of its in-depth coverage, it is usually better to retain depth of data collection rather than breadth in terms of sample size, even if this means focusing the study on certain parts of the population rather than achieving a more broadly defined sample.” (Ritchie, Lewis and Elam, 2003, p. 104).

On the one hand, at organisational stage, I identified purposively the characteristics of three organisations as case studies of the current research based on a selection criterion that would support achieving the research objectives. This criterion was the success and failure of ITIL implementations while I considered the final consequences of an ITIL

implementation project represent its success or failure. More precisely, I deemed an organisation successfully implemented ITIL processes if ITIL processes became part of its daily routines. Conversely, an organisation failed to implement ITIL if it decided to stop ITIL implementation endeavours. Therefore, the three heterogeneous samples of organisation case studies for the present research based on this selection criterion were:

- The first case study was an organisation that successfully implemented ITIL. Moreover, I deemed an organisation that implemented ITIL depending on its internal resources (i.e. independent of external consultants) as an extreme of a successful case.
- The second case study was an organisation that failed to implement ITIL. Likewise, I regarded an organisation that implemented ITIL depending on an external consultant as an extreme of a failed case.
- The third case was an organisation that succeeded partially in implementing ITIL. I considered the partially successful case as a case that succeeded of implementing some ITIL processes while failed of implementing other ITIL processes.

To identify applicable organisations to conduct the present research, I contacted several candidate organisations that satisfied above criteria through my professional contacts and provided them the permission request letter of the Graduate School of De Montfort University (DMU). Among those organisations, I got permission from three suitable organisations that represented the research case studies. From here on, I denote for the these three case studies as Case Study A, Case Study B and Case Study C respectively. Moreover, the following Subsections 5.4.5, 5.4.6 and 5.4.7 describe them. In addition, these three case studies sufficiently represent organisations that implement ITIL successfully or unsuccessfully because of the widely variance and diversity of case studies while “qualitative research designs tend to work with a relatively small number of cases” (Silverman, 2013, p. 105). Additionally, among the researchers who investigated ITIL CSFs, Pedersen et al. (2010) contrasted a successful ITIL implementation with a failed ITIL implementation. Moreover, Ahmad et al. (2013) investigated a failed ITIL implementation project. To the best knowledge of the researcher, no previous study researched partially successful implementation ITIL case study.

On the other hand, I identified purposively the characteristics of the individual participants at individual stage to form heterogeneous samples based on a clear selection criterion. The selection criterion of the participants was the achievement of a breadth coverage of the key participants correlated to an ITIL implementation project. Based on this selection criterion, I carefully selected and interviewed the participants of the case studies where their roles include the following as applicable:

- Chief Executive Officer (CEO) or general director
- Chief Technology Officer (CTO) or IT director
- IT service manager or ITIL implementation manager
- IT technical employee
- IT service desk manager
- IT service desk agent
- External consultant
- ITIL implementation contractor

However, it is important to mention here that the aim of the interviews was to ensure the richness of data. Therefore, during the fieldwork, the sample size of participants could increase by interviewing more than one person of the same role or would decrease depending on the depth of the collected data. The exact number and roles of participants of each case study appear explicitly later at the description of the case studies in Subsections 5.4.5, 5.4.6 and 5.4.7. A sign of the data depth is the realisation of diminishing return point where collected data is likely sufficient and more samples would not be beneficial (Ritchie, Lewis and Elam, 2003).

It is also appropriate to mention here that with purposively selected sampling, the small scale of sample size is sufficient. Therefore, the size of qualitative samples is usually small. Ritchie, Lewis and Elam (2003) provided three reasons for this argument. First, if case studies are selected and analysed properly, new evidence is rarely acquired from the additional case study. Second, unlike quantitative research design, the sample size is not a major concern in qualitative research method. Third, collected data for qualitative research is rich and detailed, so it is recommended having a small sample size. However, I selected carefully the sizes of both organisational and individual samples as it was important to be sure that the sample size was not too small. In other words, “it is

impossible to do justice to the richness of the data yielded if the sample is large scale. But their small scale only works if good purposive or theoretical sampling has taken place." (Ritchie, Lewis and Elam, 2003, p. 107). Moreover, they provided several factors that determine the research sample sizes. Therefore, utilising their factors, I judged and determined the current research sample sizes. The factors are in the following:

- The number of selection criteria: More selection criteria of samples require more samples.
- The heterogeneity of the study population: The sample size of the homogeneous population is smaller than the sample size of the heterogeneous population.
- The extent to which nesting of criteria is necessary: Nesting of criteria of samples increases samples.
- Groups of special interest that necessitate study: If there are some groups of special interest within the population, the study would need more samples.
- Multiple samples within one study: Comparison studies demand multiple samples.
- Type of data collection methods: Individual interviews require usually sample size smaller than the sample size of group interviews.
- The budget and resources available: Larger sample size necessitates more budget and resources.

The following subsections describes the current research context and then the selected three case studies.

5.4.4 Research Context

Any research writing needs to include some background information about its context (White, Woodfield and Ritchie, 2003). Therefore, the present subsection discusses the reasons of selecting the present research context. Then, it briefly describes the possible cultural impacts of this selection.

I conducted the current research at organisations in Saudi Arabia. There were several reasons for this choice. First, Saudi Arabia is rich of ITIL implementations. Currently, the government of Saudi Arabia supports the trends of information society and e-

government transformation, due to their enormous benefits. Additionally, many public and private Saudi Arabian organisations depend significantly on IT. Therefore, the investments of IT is dramatically increasing. Because of such tendencies, many Saudi Arabia organisations implement or incline to implement ITIL to operate IT appropriately. Second, literature reveals that previous researchers, as explained previously in Subsection 2.4.2 titled The Diffusion of ITIL Implementation, performed ITIL studies in several countries. However, it appears that there is no previous research of ITIL success and failure in Saudi Arabia. Therefore, the present research of ITIL implementations in Saudi Arabia is unprecedented. Third, many service researchers call for taking a global perspective of service research (Ostrom et al., 2010). The current study supports this trend by studying ITSM in Saudi Arabia and cross-analysing its findings with the related literature of ITSM research in other countries. Fourth, ITIL is a Western thought so it is valuable to study its adoption in other countries and different environments as that can lead to sharing experience between different territories. “There are positive and negative features in all societies, and the goal of all of us should be mutual learning from the 'other'” (Walsham, 2001, p. xiv). Fifth and final reason of conduction present research in Saudi Arabia is the easiness for me to locate and access required research case studies.

Every research context has some cultural impacts. The culture is resulted from the people's way of thinking, talking and acting in a specific context based on their shared literature, language, values and norms. Every country has its own culture. As the context of the present research is Saudi Arabia, it is worth to highlight its culture that would affect the present research. The culture of Saudi Arabia would impact decision making, communication and management styles.

First, in this country it is normal to make decisions slowly. However, it is easy to overturn decisions. This would late taking decision of ITIL implementations and could lead to cancel adopting ITIL. Second, people usually prefer face to face communication. Therefore, agreements generally may take long time since it would be required to have several meetings to settle what could be handled in shorter time. However, the younger generation prefers using apps and eservices as a result of the influence of the internet and mobiles. Finally, managers normally make decisions, while in general their staffs

wait to be told what to do. In other words, it is normal that personnel do not question the decisions that have been made. In sum, there are many cultural differences of Saudi Arabia that would influence the present research subject (i.e. implementing ITIL successfully).

5.4.5 Case Study A

Case Study A represented a successful ITIL implementation of an organisation in Saudi Arabia. Its purpose was to understand the success factors of ITIL implementations. Therefore, the criteria for selecting a candidate organisation such that it would be a typical instance for this purpose were two criteria: its success in implementing ITIL and its long experience with ITIL. In addition, as an extreme of a successful case study that would reveal learning aspects, I decided to select an organisation that implemented ITIL based on its internal resources and independent of external consultants. Based on these three criteria, I selected an organisation as Case Study A.

The organisation in Case Study A was an information service provider in Saudi Arabia, which concentrated on providing distinguished e-services for public and private sectors. It represented an intermediate entity between information providers and information consumers nationally in Saudi Arabia. Although, the organisation actually initiated in 2002, its business has grown dynamically. Its electronic transactions reached yearly at 2010 more than 160 million. However, the organisation size would be considered small since the number of the employees was only around 250 employees.

In addition, this organisation had two IT departments: operation department, which was responsible for implementing ITIL, and development department. The organisational structure of these departments evolved gradually. Both departments were originally under one administration unit headed by an IT manager who decided to implement ITIL. At that time, the IT operation department held around thirty employees without any clear internal administration units except the helpdesk unit. Moreover, the business operation department was an independent of IT departments. Then, these departments were reorganised. The IT operation and development functions were separated into two independent departments. Moreover, the business operation department was merged within the new operation department. Thus, from that time the operation department

handled technical and business operation. Recently, the organisation had appointed a consultancy firm to create a strategic plan of the organisation and evaluate its organisational structure. Based on the consultancy firm recommendations, the operation department and development department remerged within one administration unit headed by CTO.

When I collected data of Case Study A, the approximate employee number of operation department staff was about 45 employees distributed across six units: helpdesk unit, application support unit, internal systems unit, network and security unit, service operation unit, service operation unit and service management unit. First, the helpdesk unit represented the first line support of operation. The helpdesk contained thirteen employees who worked in three shifts daily (i.e. 24 hours). Second, the application support unit provided external customers the needed support related to the organisation e-services. Third, the internal systems unit managed servers and different internal systems such as the email system. Fourth, the network and security unit contained two teams: one team was responsible for networks and communications; and the other team was responsible for security management. Fifth, the service operation unit was responsible for business operation of services such as service administration problems, authority issues and customer business questions. The work of this unit was divided among the employees according to the services. For each service, a service owner followed up the concerns of customers related to that service. Sixth, the service management unit mainly owned and pursued ITIL adoption initiatives. In addition, it held a separate team responsible for database administration because of historical responsibilities of some team employees. Four employees were responsible for ITIL and its tools while it was expected to hire another employee.

I interviewed six people in Case Study A to obtain multiple perceptions about the ITIL implementation. The interviewees were IT Operation Manager, Service Management Unit Leader, Internal Systems Unit Leader, Helpdesk Unit Leader, Service Management Senior Expert, and Helpdesk Agent. Additionally, I utilised documents as a second data source. For example, I got some information of Case Study A from ITIL project plan document and its public website. In the Subsections 5.4.8 and 5.4.9, I describe the data collection and data analysis methods of all case studies.

5.4.6 Case Study B

Case Study B was an ITIL implementation of an organisation that launched an initiative to implement ITIL and struggled for success; however, at the end, its ITIL implementation project stopped. Therefore, Case Study B represented a failed case of ITIL implementation.

The purpose of this case study was to understand the failure factors of ITIL implementations. Therefore, the main criterion of selecting an organisation as a typical instance for this purpose was an organisation that started ITIL implementation then it did not continue. In addition, I considered an organisation that implemented ITIL dependent on external consultants as an extreme of unsuccessful case study to reveal the aspects of OL.

Based on these criteria, I chose Case Study B. The organisation in Case Study B was a governmental huge agency in Saudi Arabia, which provided different public services for citizens and residences. Its head office was located in the capital that managed more than four hundred sites across the country. Although these sites spread geographically, they varied in terms of their staff sizes. The total number of the staffs in all sites was more than twenty thousand employees. Since the country population was increasing yearly, the load of the organisation work also was increasing. Thus, the organisation initiated a dedicated IT department in 1994 containing three employees. This department evolved dramatically until it became IT general directorate in 2006. It was responsible for the IT installation, operation and services across all sites. Moreover, it was divided into eight departments and its human resources were over two hundred employees. While around half of these employees were working in the head office, the rest were distributed across the computerised sites (around one hundred sites) as operators and end user supporters. The IT general directorate major responsibilities included the suggestion of targets, strategies and policies related to IT and their utilisation within the organisation and its sites; the provision of IT services on all levels and to all sites; and the operation and maintenance of the operating systems, applications, networks, servers and terminals. Moreover, it comprised eight departments: quality control department, operation department, IT project management department, application department, network department, e-services department,

maintenance department, and secretary department. To improve the organisation services to the end customers, it was crucial to enhance the IT services. Therefore, the Chief Information Officer (CIO) decided to initiate the ITIL implementation project. Unfortunately, this project failed.

In Case Study B, I interviewed several interviewees who played key roles of implementing ITIL at different organisational levels in Case Study B. They were CIO, IT Operation Manager, Contractor Project Manager, Independent External ITIL Consultant, IT Consultant and Subcontractor ITIL Consultant. I interviewed them at their convenient time and work place after getting an approval from the organisation. Moreover, I got several documents related to Case Study B that helped me in the analysis phase. These documents were the project plan, as-is assessment, gap analysis, final report and go live assessment. The data collection and analysis methods are described below in Subsections 5.4.8 and 5.4.9 consecutively.

5.4.7 Case Study C

Case Study C was a partly successful ITIL implementation. The organisation Case Study C started ITIL implementation. While it successfully implemented some ITIL processes, it failed to implement most ITIL processes.

The main purpose of Case Study C was to study abnormal ITIL implementation case that would facilitate the understanding of both the success and failure factors of ITIL implementations. This selection would enrich the present research by investigating different situations. Consequently, the criterion of selecting such case was an organisation that implemented ITIL, succeeded in implementing some ITIL processes and failed in implementing other processes.

The government of Saudi Arabia created the organisation in Case Study C in the outset of the 2000s. It was responsible to develop real estates in partnership with the private sector to provide integrated services to meet investors' requirements and to contribute to the development of society. The number of the employees in the organisation in Case Study C were 110 people. Among them, the IT department hold only 11 employees. Therefore, the organisation was small. These employees worked madly into three

sections: helpdesk, applications, and infrastructure. The IT director took the decision to implement ITIL aiming to enhance IT services.

After getting the approval from the organisation in Case Study C, I interviewed several participants in the organisation. They were current Chief Executive Officer who was the IT Director at the beginning of ITIL implementation project, current IT Director who was the Application Development Manager, IT Helpdesk Manager, IT Helpdesk Agent, ITIL Project Manager and External ITIL Consultant. It is worthwhile to mention here that all the interviewees agreed to record their interview except the IT Director. Thus, I wrote his answers while I interviewed him. Moreover, his interview took two sessions because the writing during the interview slowed the interactions. In addition, I sent him the transcription of his interview and he provided me minor corrections. The average of the interviews in Case Study C was about fifty minutes. Moreover, I was able to collect three documents of Case Study C: ITSM implementation project Request for Proposal (RFP), organisation ITIL processes, and organisation ITIL roles. The following two subsections (i.e. Subsection 5.4.8 and Subsection 5.4.9) provide details about the data collection and analysis methods of all case studies.

To brief the last three sections about the case studies, Table 5-1 summarises the interviewees of case studies and Table 5-2 summarises the collected documents. Moreover, Table 5-3 briefs the major related aspects of the case studies.

Case study	Interviewee Position	Notes
Case Study A	IT Operation Manager	
	Service Management Unit Leader	
	Internal Systems Unit Leader	
	Helpdesk Unit Leader	
	Service Management Senior Expert	
	Helpdesk Agent	
Case Study B	Chief Information Officer	
	IT Operation Manager	
	Contractor Project Manager	
	Independent External ITIL Consultant	
	IT Consultant	
	Subcontractor ITIL Consultant	
Case Study C	Chief Executive Officer	-was IT Director during ITIL project
	IT Director	-was application development manager -not recorded -two sessions
	IT Helpdesk Manager	
	IT Helpdesk Agent	
	ITIL Project Manager	
	External ITIL Consultant	

Table 5-1 The Interviewees of the Case Studies

Case Study	Document	Author
Case Study A	Project Plan	Service Management Unit
	Public Website	The Organisation
Case Study B	Project Plan	Contractor Project Manager
	As-Is Assessment	Subcontractor ITIL Consultant
	Gap Analysis	Subcontractor ITIL Consultant
	Final Report of ITIL Project	Subcontractor ITIL Consultant
	Go Live Assessment	Independent External ITIL Consultant
Case Study C	ITSM Implementation Project RFP	ITIL Project Manager
	Organisation ITIL Processes	ITIL Implementation Team
	Organisation ITIL Roles	The Contractor

Table 5-2 The Documents of the Case Studies

S.	Aspect	Case Study A	Case Study B	Case Study C
1	Business	information service provider	governmental services	development of real estates
2	Organisation size	more than 250 employees	about 20000 employees	about 110 employees
3	IT people	45 employees	more than 200 employees	11 employees
4	Organisation growth	rapid growth	stable	rapid growth
5	Study period	about 4 years	about 2.5 years	about 1.5 years
6	Successful processes	incident, change, and problem management	-	incident management and request fulfilment
7	Failed processes	-	incident management, problem management and request fulfilment	change, problem, service level, release, configuration, and IT service continuity management
8	Case selection criteria	- success of implementing ITIL - long experience with ITIL - independent of external consultants	- failure of implementing ITIL - existence of external consultant	success of some processes and failure of other processes
9	Successful Implementation	yes	no	partial
10	Period of data collection	mid of 2013	last quarter of 2013	last quarter of 2013
11	Total length of interviews	about five and half hours	about five hours	more than five hours
12	Understood ITIL	yes	no	partial
13	OL Capacity	high	hindered then stopped	partial

Table 5-3 Aspects of the Case Studies

5.4.8 Data Collection Methods

I collected data of the case studies primarily using individual interview method. In addition, I also used documents as a second data source, which provided more information of the ITIL implementation projects, such as ITIL project plans and reports. Table 5-2 provides a list of the collected documents of the case studies. Therefore, the present research adopted method triangulation. However, I considered interview method as the main instrument to generate data for the ITIL implementation case studies because interviews "give participants a direct and explicit opportunity to convey their own meanings and interpretations through the explanations they provide" (Lewis, 2003, p. 57). For ethical fulfilment of the study, I got permissions as presented in detail later in Subsection 5.5.1, titled Research Ethics, that presents the research applied ethical practices.

To generate data of Case Study A, I conducted interviews using a data collection protocol used in previous research. More precisely, the literature review revealed that several researchers utilised the semi-structured interview questions that initiated in German by Hochstein and his colleagues and translated to English by Cater-Steel and her colleagues (Cater-Steel and McBride, 2007; Cater-Steel, Toleman and Tan, 2006; Hochstein, Tamm and Brenner, 2005; Hochstein, Zarnekow and Brenner, 2005; Pollard and Cater-Steel, 2009; Tan et al., 2009). Therefore, I decided to use the interview protocol of these semi-structured questions to investigate ITIL implementation case studies. Thus, I obtained permission from Hochstein and Cater-Steel to reuse the protocol in the present research. Therefore, I used the semi-structured interview protocol that shown in Appendix C. It includes enquiries about ITIL implementation initiation, strategy, and CSFs as well as the implemented ITIL processes. Using the protocol, I carried out two semi-structured interviews with Service Management Unit Leader and Internal Systems Unit Leader in Case Study A. However, after conducting these two interviews, I recognised that even though collected data via the semi-structured interview protocol contained valuable info, this data had some limitations. First, collected data was general and as a result, it would not suggest a deep investigation. Second, while implementing ITIL endeavour is a social matter, the

questions did not consider the human factor. Thus, collected data was abstract. Third, some questions depended directly on the personal views of the interviewees such as asking directly about the CSFs of ITIL projects. Such direct questions would be more suitable to be asked via survey questionnaire where many people respond. Interviews suit to explore experiences, such as success ITIL adoptions, “that cannot easily be observed or described via pre-defined questionnaire responses" (Oates, 2007, p. 187). Fourth, there was no clear need to ask all people some general questions such as the overview questions. Fifth, some questions were not known by all people roles. For example, Internal Systems Unit Leader did not have full information about the ITIL project objectives. In addition, it seemed that this protocol was designed originally for several issues including ITIL CSFs so it was not dedicated for ITIL success and failure. Therefore, the conducted semi-structured interviews were useful to assess the ability of semi-structured interview questions to address the research questions. It seemed that the collected data via the semi-structured interview protocol would not provide deep insight for the present research. To overcome these limitations, I decided to recollect data using in-depth (i.e. unstructured) interviews to generate detailed data of the explanatory case study that can expose a theme for the case studies and suggest a theoretical basis for the present research. Therefore, to understand the narratives of ITIL implementations, I designed a new interview instrument for investigating explanatory ITIL implementation case studies that allowed the interviewees of different roles to describe their experience freely and in detail. "An explanatory study goes further than a descriptive study in trying to explain why events happened as they did or particular outcomes occurred. The case study analysis seeks to identify the multiple, often inter-linked, factors that had an effect, or compares what was found in the case to theories from the literature in order to see whether one theory matches the case better than others" (Oates, 2007, p. 143). The interview instrument of collecting data, shown in Appendix D, was a topic guide for in-depth interviews of ITIL implementations to generate detailed data of the case studies that would lead to interpret both the successful and unsuccessful ITIL implementations. Therefore, this topic guide suited to achieve the present research objectives and to investigate ITIL case studies, which were explanatory case studies, to explain successful ITIL implementations. I selected in-depth interviews because of several reasons. First, they are generative while flexible as they are interactive and use probes to achieve depth

of data. “The aim of the in-depth interview is to achieve both breadth of coverage across key issues and depth of coverage within each” (Legard, Keegan and Ward, 2003, p. 148). Therefore, they are useful to inspect complex situations at detailed levels (Lewis, 2003) such as ITIL implementations. Second, in-depth interviews ensure greater consistency with current research paradigm (i.e. interpretivism) as both of them consider interviewers as research instruments. This requires several qualities of interviewers and implies several necessary fieldwork practices. Therefore, I as an interviewer did my best efforts to listen well to interviewees, comprehend their answers, distil the meaning from answers, and to link different answers. Based on that, I would decide to articulate subsequently suitable questions or to probe further. Third, in-depth interviews are consistent with qualitative research method, which was the selected research method of the current research. Qualitative research widely utilises in-depth interviews that provide flexible interactive data collection while they generate and capture depth and rich data in its natural form. Fourth, in-depth interviews encourage people to talk freely and that allows disclosing the nature of the occurred learning at the transformations of IT management to ITSM. Finally, in-depth interviews allow collecting longitudinal aspects of the case studies.

The topic guide represented an agenda of the interviews as it consisted of subjects of investigation with research participants. It guided the present research fieldwork and facilitated reporting the research process. As show, it was short because shorter guides encourage detailed data collection. “Depth of information will be lost in favour of breadth of coverage” (Arthur and Nazroo, 2003, p. 123). In addition, it described each topic briefly using a single word or phrase. That led to active interviews, as I was able to phrase questions based on interview circumstances. Also, I was able to fit in the situation and to engage the interviewees. In short, it facilitated systematic investigating of the key topics while it allowed me to explore the case studies flexibly. The topic guide contained five sections. Each section contained several subtopics as shown in Appendix D in chronological order because ITIL implementations encompass events and it is beneficial to organise interview questions chronologically to study events and processes (Arthur and Nazroo, 2003). Accordingly, I ordered the explored topics in the topic guide logically. This allowed me to conduct interviews more smoothly and to get in-depth data. The structure of the topic guide of the interviews consisted of

introduction, personal information, interview body and close. The introduction provided interviewees a quick overview about the discussed topics in the context of the present research. Next, the personal information was about the daily duties and ITIL responsibility of the interviewees, so it was a very broad question to allow interviewees to provide their experience in detail and to deal smoothly with interviews (Arthur and Nazroo, 2003). The third component of the topic guide of the in-depth interviews was the body, which is the major component. The present research objectives and the literature review influenced entirely the topic guide. It elicited the experiences of the interviewees about issues of ITIL implementations related to the situations before, during, and after such implementations (i.e. in chronological order). In other words, it touches the status before implementing ITIL, the process of ITIL implementations and their outcomes. Therefore, it includes the reasons for selecting ITIL, the states before and after implementing ITIL, the launch of ITIL implementation, the ways of implementing ITIL, what happen during ITIL implementations, the obstacles to ITIL implementations, the results of ITIL implementations, its benefits, its effects, and the success and failure reasons of ITIL implementations. The final component of the topic guide was the interview close. It encouraged the interviewees to summarise their experience and to add any other information.

In practice, I interviewed the participants of the case studies at their convenient time and place in 2013. These participants played key roles of ITIL implementations as they directly affected or were affected by the ITIL implementation in their organisation. The participants of each case study were listed previously during the description of each case study in Table 5-1.

I got informed consent from all interviewees. In addition, I got their permissions to record the interviews by a digital recorder except of one interviewee who forbore from recording. I conducted all interviews in Arabic as it is the mother tongue of the participants and took notes for unrecorded interviews. While I conducted in-depth interviews of the case studies based on the topic guide, the order of some topics differed based on the context of the interviews. In addition, some interviews involved additional questions depending on the information offered by the participants. For instance, I utilised probe questions that were a means to elicit additional descriptive and

explanative information. A probe is an important qualitative research technique to follow up information and to collect detailed data. This technique allowed me to pose additional questions based on the interview context to get more information and to encourage the interviewees to provide detailed comprehensible explanation. Actually, I did not specify probe questions in advance as they depended on the answers of interviewees. While they varied from interview to interview, they allowed exploring specific instance (e.g. difficult or recent) in details to enrich data (Arthur and Nazroo, 2003; Legard et al., 2003). I made efforts to establish good relationship with an interviewee at the beginning of his interviewee. Then, I provided him an introduction about the research and the purpose of the interview. After answering the interviewee questions and getting the informed consent, I asked a permission to record the interview. Next, I started by asking some background questions about the interviewee without reading to allow him to enter to the mood of meeting and to answer spontaneously. Thenceforth, I led the interview by asking about the main topics identified beforehand in the topic guide and the emerged issues. Moreover, I probed further by additional questions to explore some topics in detail. At the end of the interview, I made sure that the interviewee does not have any further needed related data, and mentioned the near of interview ending to allow the interviewee to get out of the interview mood gradually. Once the interview is over, I thanked the interviewee for the participation and allowed him to get out of meeting atmosphere. In average, I spent about an hour for most of these interviews. The recorded interviews were transcribed. Professional translators translated all interview transcripts and notes to English. Appendix E provides an example of a translated interview.

5.4.9 Data Analysis Methods

In the present research, to analyse the collected data thoroughly, I applied the analysis triangulation that is “the use of more than two methods of analysing the same set of data for validation purposes” (Tran, 2015, p. 1351). Precisely, I utilised two analysis methods: Framework analysis method and event narrative analysis method. Initially, I analysed the case studies systematically and inductively using the Framework analysis, which is a systematic qualitative thematic analysis approach (Spencer, Ritchie and O'Connor, 2003). The findings of the Framework analysis exposed the narrative aspects

of ITIL case studies. Therefore, I then applied the event narrative analysis (Webster and Mertova, 2007) that was a chance to verify the findings of the Framework analysis and to reveal more aspects of the case studies.

After collecting data, I started the analysis of the case studies to investigate the generated data. This phase comprised qualitative analysis to answer the second research question. However, there are numerous forms of qualitative analysis. In other words, there is no single right way of performing qualitative analysis. According to Spencer et al. (2003), "there are no clearly agreed rules or procedures for analysing qualitative data. Approaches to analysis vary in terms of basic epistemological assumptions about the nature of qualitative inquiry and the status of researchers' accounts" (p. 200). Selecting a suitable analysis way should depend on the research epistemological stance and aims. At the beginning of the analysis, I aimed to order and classify collected data; reflect its complexity and detail; generate findings; and explain phenomena from the perspectives of the research participants based on emerged evidences. Therefore, I tended to thematic analysis that concentrates on understanding, interpreting data and capturing meanings rather than on exploring language structure. Thematic analysis was more appropriate for the present research than other kinds of qualitative approaches such as discourse analysis. Discourse analysis principal focus and objectives were not appropriate for the present research because discourse analysis concentrates on the syntax of data and the language structure.

First, I therefore applied Framework analysis method, which was utilised by researchers of miscellaneous disciplines over several years, because it is a thematic analysis approach and an analytical tool to analyse qualitative data through identifying themes and constructing concepts. It also grounds the analysis in the accounts of the interviewees while it strives to link evidently the interpretation with data. This method enhances the research quality as it allows tracing the research conclusions. In addition, I selected Framework analysis method because it is grounded in the data; allows the access of raw data easily during any analysis stage; organises and orders data so that researchers can investigate it based on related topics; and supports moving through the whole data easily through iterative, forward and backward movement. Framework analysis method also allows collecting data systematically; summarises and reduces

data in efficient way; facilitates and displays ordering; applies systematic analysis across the whole data; contains different analytic activities; permits analysis within and between cases; captures emergent ideas, concepts and findings that appear at any stage of analysis; and permits captured synthesis. Additionally, this method checks analysis outcomes against the original material; results in transparency as it allows others to review analysis and findings; permits flexibility, and utilises collected evidence (Spencer et al., 2003).

Figure 5-1 depicts Framework analysis as a conceptual scaffolding that comprises three analysis stages: data management, descriptive accounts and explanatory accounts that expose how the conceptualisation and abstraction findings are related to collected data. Each stage contains several activities. However, it is not a linear process. Therefore, I could move up and down to identify underlying meanings as analysis progress and new findings appear. This leads to unpack more outcomes and refine the analysis. Practically wise, I went through the three gradual phases of Framework analysis. In addition, I applied in each stage certain activities according to the process of Framework analysis, which represents the analytic hierarchy shown in Figure 5-1. “The analytic hierarchy refers to the process through which qualitative ‘findings’ are built from the original raw data. This is a form of conceptual scaffolding that the structure of the analysis depends on. The process is iterative and thus constant movement up and down the hierarchy is needed.” (Spencer et al., 2003, p. 217).

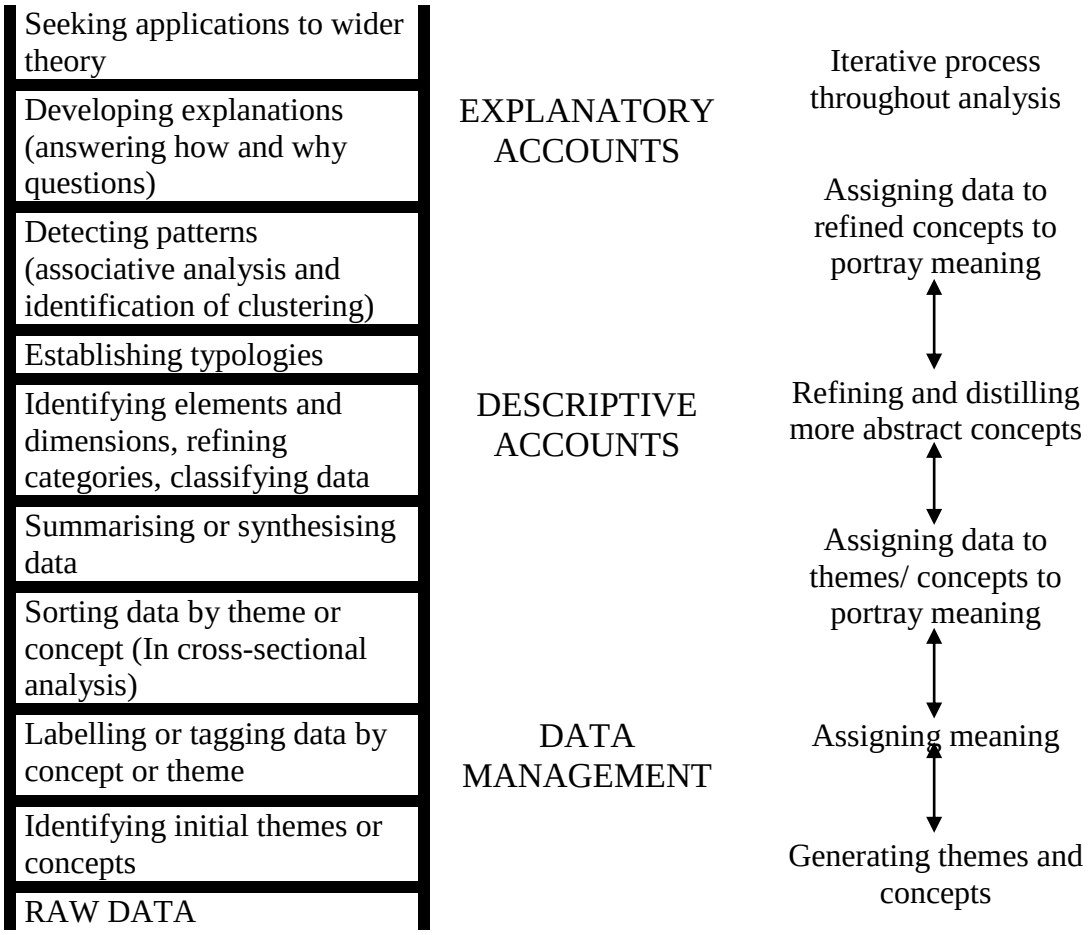


Figure 5-1 The Analytic Hierarchy - Adopted from Spencer et al. (2003)

Accordingly, in data management stage I initially handled the mass and tangled raw data. To familiarise myself with the data, I started the analysis by reading the interview transcripts several times as an attempt to gain an overview of the data, and to immerse myself in the entire story told by the raw data. Additionally, during this stage I started to identify initial inductive themes or concept of raw data that would be used in later stages to label, sort and synthesise data. The inductive themes are grounded to the language of the interviewees, which portrays the phenomenon. Therefore, in this activity I remained close to raw data. The list of themes evolved during the reset of research analysis process. The final major themes were human role, ITIL implementing strategies, communication, technology role, and results of ITIL implementation. These major themes were divided into subthemes and were arranged into analysis codebook as

shown in Appendix F. Then, I reread raw data and indexed or labelled it using the identified themes. Next, I rearranged and sorted the data according to the themes into a thematic matrix using an Excel spreadsheet as I felt that would immerse me more in the data. While the columns of the thematic matrix represented the major themes and their associated subthemes, the rows embodied the case studies and the interviewees. Then in each cell of the thematic matrix, I copied related excerpt of data or summarised it that corresponding the cell interviewee and subthemes to make data more manageable. To clarify the outcomes of the data management stage, Appendix G shows an excerpt of a thematic matrix. Next in the second stage of the Framework analysis (i.e. descriptive accounts), I endeavoured to make sense of synthesised data in the thematic matrix through various activities to describe, categorise and conceptualise data. Reading data horizontally allowed understanding the themes of each case study. Additionally, reading data vertically in each column alone allowed understanding different perspectives of participants and to define related elements and dimensions of each theme and subtheme by labelling insights and experiences in synthesised data. Then, I categorised the elements in a more abstract expressions and classified data based on the identified dimensions to unpack data content, expose it conceptually and clarify ITIL success and failure phenomena. Next in the stage of explanatory accounts, which represents the third and last stage of the Framework analysis, I tended to explain data, patterns, and recurrent linkages. “Sometimes explanations will be offered with some certainty because of the strength of the evidential base. Other times they will be suggested as hypotheses which need to be tested in further research” (Spencer et al., 2003, p. 216). This stage allowed me to find patterns of association and to justify occurrence of these patterns. It also allowed me to discover different kinds of linkages such as explicit linkages; sets of phenomena linkages; and linkages between views, experiences and behaviours and specific characteristics of research participants. Finally, it is worthwhile to mention that the activities of these three stages were not discrete steps or linear processes. In other words, they were continuous and iterative processes as I moved forward and backward as needed. The findings of the Framework analysis are documented in Chapter 6 of the present thesis. Among of these findings, I recognised the importance of the time factor and the order of events in interpreting the success and failure of ITIL implementations. Another important finding was that the event sequence

of ITIL projects would provide some insights to understand the interrelation of ITIL CSFs. These findings led to design and conduct a second analysis of the case studies using adapted Webster and Mertova (2007)'s event narrative analysis method. Accordingly, the results of the first investigation informed the present research design as Lewis (2003) stated: "In practice, the relationships between study design, theory and data collection are iterative, and each should inform and be informed by the others. Research design is therefore not a discrete stage but a continuing process" (p. 75). The decision to conduct this analysis was supported also by the fact that an ITIL implementation consists of several sequenced events. Moreover, reanalysing the case studies using the event narrative analysis was a chance to validate the Framework analysis findings as a result of analysis triangulation.

Second, I accordingly applied event narrative analysis that takes into account people experience through the construction and reconstruction of individual stories. In addition, narrative analysis allows investigating complex events though individual interpretations (Elliot, 2005). Webster and Mertova (2007) proposed the method of event narrative analysis in the settings of teaching and learning that could be used also in other contexts. Accordingly, I adopted and adapted their event narrative method to analyse the case studies. For each case study, I identified the events of ITIL implementations and arranged them in an event table chronologically using an Excel spreadsheet. The headers of the event table are serial, event description, actors and notes of learning. To portray the event tables, Appendix H contains a screenshot of an excerpt of the Excel spreadsheet of Case Study B's event table. Then, I investigated the ITIL implementation events, their sequences and how they facilitated or impeded learning. Moreover, I then aggregated the events into major phases that allowed studying learning evolvement factors in each case study regarding ITIL implementation events from the participant perspectives. The analysis comprised within-case analysis to investigate the events of each case study and cross-analysis of the cases to compare emergent results among the different case studies as documented in Chapter 7.

5.5 Research Participants

The fourth component of 6Ps research model is research participants or people who are engaged in research (Oates, 2007). In this research, participants are the interviewees of case studies. While Subsection 5.4.8 describes the way of selecting research participants, the present section reflects on how I dealt properly and ethically with the research participants. Moreover, it highlights the researcher reflexivity to depict as best as possible the influences between the researcher and the participants.

5.5.1 Research Ethics

Research ethics is part of research design (Lewis, 2003; Oates, 2007). In current research, before conducting its interviews, I got an ethical approval from DMU Faculty Research Ethics Committee to interview participants of ITIL implementation case studies that shown in Appendix I. In addition, I committed myself to informed consent, anonymity and confidentiality.

Informed consent is an important ethical practice. It ensures that the participants have clear understanding of research aims, data usage and their rights (Lewis, 2003; Oates, 2007). In current research, at the beginning of each participant interview, I requested the informed consent of the participant as well as I provided full explanation and information to the participant about the interview objective, the participant rights, the usage of collected data and the interview expected duration. Therefore, I did not conduct an interview unless I got a permission from the interviewee. Interviewees were free to give consent and to participate in the interviews. In addition, they could change their minds and stop interviews at any time (Legard et al., 2003).

In addition, I applied the anonymity that denotes keeping the identity of the participants unknown if they wish (Lewis, 2003; Oates, 2007). Transcripts and analyses of the present research were managed in a way that did not compromise the anonymity of any participant. I gave pseudonyms to the three investigated organisations in the present study: Case Study A, Case Study B, and Case Study C while I stood for research participants by disguised roles.

I kept the data collected from the interviewees confidential. As I informed them, the recorded and transcribed interviews are kept secure and safe while accessible only for research purposes for myself as well as my supervisors. Moreover, I did not pass information about the participants or case studies to any other parties. Finally, the data attributions of current research avoided the identifications of the participants to ensure confidentiality.

5.5.2 Reflexivity

Reflexivity rationalises the relationship between researchers and their research settings by considering the prospective influence of researchers as Oates (2007) argued that "reflexivity is concerned with the relationship between the researcher, the participants and the research process" (p. 178). In addition, reflexivity maintains awareness of the likely effects between researchers and participants (Yin, 2011). The beliefs, cultures, norms and performances of researchers affect normally their research as they are not neutral. Based on this, I maintained self-reflectivity during all research phases. More specifically, I acknowledged the fact that my assumptions, experience, beliefs and fieldworks have all affected the research and findings.

Therefore, the present subsection reflects on how the researcher's background, preconceptions and experience influenced the research setting, participants, data collection, analysis and report. As for a brief reflection about my background, I occupied several positions during my career including programmer, senior system analyst, development team leader, project manager, IT consultant, PMO director, chief management consultant and organisational excellence expert. During my work, I was responsible for the implementations of several standards and best practice methodologies, such as ISO 9001, ITIL, balanced scorecard and daily Kaizen. My professional work and previous experiences affected the research in several directions. They helped me to locate organisations that implement ITIL and to access them. Additionally, they influenced my perception of data collection, analysis and discussion. For example, one of my current thought is the possibility to generalise the resulted model in the research to implement any standard or best practice methodology. However, I struggled to distance myself from any influences that could affect the research quality. In addition, I made every possible effort to avoid biases as possible

during different research stages including data collection, analysis and discussion. For example, I took a special attention to designing and conducting interviews to avoid the directive interviewing questions such as making sure to ask non-leading questions during the interviews. Following Snape and Spencer (2003), I provided in the current chapter detailed information about the taken consideration at different stages of the present research such as the disclosure of data collection and analysis ways as well as the research process.

Additionally, I properly managed to locate my relationship with research participants in terms of access and rapport as researchers should consider such relation during research design (Lewis, 2003). These considerations were informed by the adopted research stances while it seems that they increased the success likelihood of the present research. For example, I explained the purpose of the research to the interviewers. I also respected the organisational structure and got permission from managerial levels. In addition, I asked for a single contact point for each case study. Moreover, I adhered to research ethic as explained above. For instance, I replied to the concerns of participants and considered their wishes to cancel or stop relevant interview recording. Finally, during the interviews, I encouraged the interviewees to articulate their experiences and interpretations and to provide plentiful responses that reflected their experiences. In addition, I managed the interviews to get in-depth data on discussed topics without affecting the views of the interviewees. Therefore, I phrased questions and if there was a need, I probed by additional questions to collect sufficient detailed data. In summary, I maintained the role of an independent questioner.

5.6 Research Products and Presentation

The fifth and sixth components of 6Ps research model are products and presentation (Oates, 2007). Research products embody its outcomes. For the present research, the foremost outcome were its contributions to knowledge that shown in the last chapter (i.e. Chapter 9: Conclusions) that shows several different types of knowledge including theoretical aspects and practical implications. Additional products were the addressing of the research questions through the thesis.

On the other hand, while research presentation is “the means by which the research is disseminated and explained to others” (Oates, 2007, p. 13), writing qualitative research is one of the most daunting research phases (White et al., 2003). However, I wrote up this thesis as a major means to present the current research. Moreover, I carried out this thesis professionally by adopting the writing style of Holliday (2007). The structure of current thesis is typical that comprises title page; abstract; introduction; literature review; research methodology; results and discussion of case studies; conclusions with the recommendation and suggested future research; appendices; and references. I struggled to make the study appropriate by assembling evidence, justifying research selection, creating new knowledge, reflecting research process, providing support evidence, and using reference convention.

Moreover, in qualitative research writing, it has been more acceptable to use the first person (Holliday, 2007). As a consistency with this trend Oates (2007) stated that “it is now becoming more common to use the first person active … 'I' often seems to suggest too much subjectivity to reviewers and assessors, and so is mostly used for reporting projects where such researcher subjectivity is expected” (p. 312). Therefore, as I stood on interpretivism stance that implied subjectivity, I decided in this thesis to use the first person (i.e. the single pronoun ‘I’). This decision allowed separating explicitly the voice of the researcher from the voices of the participants. This consequently increased the transparency and accountability of the research (Holliday, 2007).

In addition, during the presentation of the findings of the qualitative analysis, I weaved together the findings, quotes from the generated data and data interpretation by following the style of writing about qualitative research findings suggested by Holliday (2007). He advised to have three elements during the writing about qualitative research findings: argument, data extracts and discursive commentary. While data extracts represent evidence to support an argument, a discursive commentary explains how data extracts support the argument. I adopted this writing style in the chapters of findings (i.e. Chapter 6 and Chapter 7).

5.7 Research Quality

Different research paradigms require different assessment ways of research quality (Snape and Spencer, 2003). For example, research of positivist paradigm can be assessed by four criteria: objectivity, reliability, internal validity and external validity. However, these criteria would not be suitable to judge the research quality of other research paradigms (Oates, 2007). In addition, there are several ways and criteria to evaluate the quality of qualitative research (Flick, 2009; Mays and Pope, 2000). For example, to assess the trust of qualitative research, Lincoln and Guba (1985)'s introduced four trustworthiness qualitative research criteria: credibility, transferability, dependability and confirmability as equivalents for the positivist paradigm criteria. To enhance the quality and trustworthiness of the present research, I adopted these four criteria. First, credibility criterion aims to increase the likelihood of the credible findings, provide an external check of research process, refine results gradually, allow examining the findings versus raw data, and to check the research findings by the participants (Lincoln and Guba, 1985). Therefore, I conducted several activities to achieve credibility criterion. These activities included building trust with the participants, asking my supervisors to check the research process, allowing the findings to emerge gradually, describing the analysis process to ground the findings to collected data, and presenting the interpretations to several interviewees to get their feedback about the findings that provided an opportunity to enhance the interpretations. In addition, I used the triangulation of data collection and analysis methods as triangulation would allow improving the quality of qualitative research and producing better knowledge (Oates, 2007). The second criterion is transferability that implies describing in-detailed the research situation to show the applicability of research findings to other situations (Lincoln and Guba, 1985). Accordingly, I described the present research context and the conducted case studies in Subsection 5.4.4 and its subsequent subsections. The third criterion is dependability in which it is required to record the research process to show that the research outcomes are consistent as auditors can repeat them (Lincoln and Guba, 1985). The present chapter describes the research design and process in detail. Proper designing of research establishes its quality (Lewis, 2003) because the manners of conducting fieldwork and data analysis affect research quality. Thus, I strived to design the present research properly to be consistent high

quality research. The fourth criterion is confirmability that aims to judge the research flow from collecting data to articulating research outcomes (Lincoln and Guba, 1985). Therefore, I described comprehensively the analysis methods to allow auditing research conclusions. Moreover, I used Framework method as a qualitative analysis approach striving to ground the analysis in the accounts of the participants. In addition, I carefully wrote the chapters of findings using acknowledged writing style to show how they grounded in raw data and ensure the traceability of the conclusions. Finally, in addition to adopting trustworthiness criteria, I considered another perspective that implied high research quality. This perspective was the consistency between the beliefs of the researcher and research practices (Snape and Spencer, 2003). Therefore, I was committed to enhance the degree of the consistency between the adopted research philosophy that is discussed in Section 5.3 titled Research Paradigm, and the research data collection and analysis that are described in Section 5.4 titled Research Process.

5.8 Conclusion

The current chapter describes comprehensively the design of the present research because it is the basis of the research. Moreover, it shows that the design is well established. The present research aimed to investigate ITIL implementation success and failure as a social phenomenon. Therefore, the investigation aspired to present a holistic understanding of this phenomenon though the perspectives of the research participants. To achieve this target, I stood on interpretivism stance. In addition, I adopted qualitative research with utilising case study as a research methodology and interview as a main data collection method. In addition, the current chapter addresses several other issues of the research design and explains them in detail such as research ethics, researcher reflexivity, and research quality.

Using the research design, I selected purposively three heterogeneous case studies that suited the research objectives. Moreover, I applied triangulation of data analysis using Framework and event narrative analysis methods. While Framework analysis method provided a method to manage data in systematic manner and to produce credible outcomes as described in the following chapter (i.e. Chapter 6), event narrative analysis

method revealed others aspects such as the associations among several ITIL CSFs as detailed in Chapter 7.

CHAPTER 6: FINDINGS OF FRAMEWORK ANALYSIS: UNDERSTANDING ITIL SUCCESS AND FAILURE

6.1 Introduction

The present research aims to interpret the success and failure of ITIL implementations; and to investigate the factors that would facilitate or prohibit successful ITIL implementations. According to the research design, I purposively selected three heterogeneous case studies of ITIL implementations to fulfil the research aims. These case studies were Case Study A as a successful case, Case Study B as a failed case and Case Study C as a partially successful case as elaborated in Chapter 5. Then, I applied triangulation of data analysis by cross-analysing these case studies using two different qualitative analysis methods. First, I analysed the case studies using Framework analysis (Ritchie, Spencer and O'Connor, 2003; Spencer et al., 2003), as a thematic analysis approach. The findings of the Framework analysis exposed the importance of the time factor and the narrative aspects of ITIL case studies. Therefore, I then reanalysed the case studies using an adapted approach of event narrative analysis (Webster and Mertova, 2007) that verified the findings of the Framework analysis and provided new insights. As the analysis covered a period of several years of the case studies, it revealed their longitudinal features.

While the current chapter presents the findings of the Framework analysis, the next chapter (i.e. Chapter 7) presents the findings of the event narrative analysis. The writing style of these two chapters adopts the style proposed by Holliday (2007) in which each paragraph comprises three elements: argument, *data*, and discursive commentaries. The arguments represent the findings of data analysis. To show how the arguments ground to data, each argument is supported by an extract of *data* while a discursive commentary explains or discusses data in the argument context. Both the commentaries and the arguments are presented in plain type while the *data* is presented in *italics*.

As the Framework analysis is a thematic analysis method, the present chapter is divided according to the themes that emerged from the Framework analysis of the case studies. The analysis reveals five major themes of the case studies: human role, ITIL implementation strategies, communication, technology role and results of ITIL implementation. Therefore, the following sections presents the findings of these themes in order while each section consists of several sections about different aspects of the related theme. Consequently, each subsection tackles a theme aspect with adopting the writing style of Holliday (2007). Moreover, to ensure the traceability of findings, each subsection ends by a brief summary while the last section (i.e. Section 6.7 conclusion) integrates the summaries of different subsections into high level findings.

6.2 Human Role

The analysis of the case studies revealed that the human role was exceptionally vital in the ITIL implementation of these case studies. The major human roles affected the case studies were the top management, IT management, ITIL implementation team, and other people. The present section presents the findings related to these roles.

6.2.1 The Role of Top Management

Drawing on the findings of the case studies, the top management role related to ITIL implementations varied across the case studies. While they could have a great impact on ITIL implementation decisions and strategies, they would be neutral if they authorise IT management to take decision for such projects. For example, the CEO's role in Case Study A could be perceived as one of the most essential roles in implementing ITIL whereas the top management in Case Study B and Case Study C did not highly affect ITIL implementations. The effect of the CEO in Case Study A was manifested and consisted of series of decisions and interventions. His personal attitude, support, approval, enthusiasm of ITIL adoption were among the most important factors for ITIL successful implementation. Moreover, although top management would not be confident of ITIL implementation at the beginning, they gradually could learn about ITIL, change their opinions and increase their confidence in ITIL if they realise ITIL benefits. For example, in Case Study A, it was found that while the support of the CEO

for ITIL was at the beginning relatively low, his attitude towards ITIL gradually had become positive as he realised ITIL benefits. As the CEO reported, he expressed his willingness to enhance the work of the IT operation department, and expressed the need to take action to promote the IT operation, which ultimately led to the initiation of the ITIL project. However, the CEO support and agreement to allocate the mandatory resources for the ITIL project inauguration were conditioned by enhancing the IT operation. Additionally, at the beginning of the project, it seemed that he would not fully be convinced of ITIL abilities because he did not approve the proposal to outsource the ITIL implementation and because he decided to internalise ITIL implementation. His decision to implement ITIL using internal human resources had great impact on the strategy of ITIL implementation by implementing ITIL gradually. Finally, data analysis revealed that the CEO becomes gradually confident with ITIL adoption when he started to recognise the practical ITIL advantages. In contrast, the top management in Case Study B were fully neutral of implementing ITIL as IT management were fully authorised for technical decisions. In the same vein, IT management in Case Study C had full authority for technical decisions. However, the top management were aware of and blessed the decision on ITIL implementation project. In summary, the involvement and support of the top management varied widely in the case studies. The following paragraphs elaborated major findings in detail.

Initially, top management would not be fully confident of implementing ITIL and of its practical benefits. In Case Study A, the CEO was involved from early stages with ITIL implementation design and strategy. However, it seems that he was not so convinced of ITIL because he did not want to make huge investments as he requested to deduct the initial proposed costs of the external consultants. Moreover, he did not comply immediately to ITIL processes and policies.

> *"We suggested outsourcing the implementation, but that did not work because our management looked for inexpensive solution."* (Case Study A, Service Management Unit Leader)

> *"The CEO had logical requests of apply something and showing win results"* (Case Study A, IT Operation Manager)

Taking into account the explanations provided by the Service Management Unit Leader and IT Operation Manager, the CEO asked to enhance the IT services in any manner. The IT operation manager proposed ITIL as a solution with outsourcing the ITIL

implementation tasks because nobody in the organisation had any ITIL practical experience at that time. While the expected period of the implementation by using outsourcing would be quite short, the estimated budget would be quite high. As the CEO focused on delivering high quality services in any manner, he asked for an alternative way to apply ITIL, which would reduce the cost and show results. In conclusion, management would affect some ITIL CSFs such as implementation strategy.

However, the CEO's confidence of ITIL increased with the incremental realisation of its benefits. The IT Operation Manager described in the following excerpt how it took time for the CEO to have full adherence to ITIL as a result of the practical learning.

> *"After two years, the CEO said to me 'I become persuaded that the correct way to handle any client's request is to open a ticket, before that I would sometimes forget to follow up some problems and that got me in embarrassment with clients'."* (Case Study A, IT Operation Manager)

According to the IT Operation Manager, the CEO did not practically adhere to ITIL implementation immediately. However, his attitude and position regarding ITIL adoption had to pass through gradual phases until he sensed the need and benefits of ITIL. Therefore, at the early stages of the ITIL adoption, the CEO as a decision maker changed his attitudes after passing through new learning experiences. In the above example, the CEO's decision to adhere to ITIL was reached after a process of a learning experience of the benefits of ITIL that came from the feedback and recommendation of personnel who were responsible for IT operational practice. As such, it is observed that the decisions of the CEO result from direct or indirect learning experience emerging from the feedback of the customers. The adaptation and management confidence had to come from new learning about the change within the organisation because of implementing ITIL and the recognition of ITIL benefits. CEO changed his behaviour of managing customer complaints. At the beginning, as he got a complaint from important customers, he called the operation manager to fix it quickly without recording an incident. However, the operation manager tried to convince the CEO that the customer should open a ticket. After two years, as he realised obviously ITIL benefits, he became confident to ask customers to call helpdesk. Therefore, at the beginning, the CEO did not want to follow ITIL while at the end he was confident to do so. It was a moment for him to learn. Once he realised obviously ITIL benefits in his work and for customers, he

obeyed it. That would be considered a kind of learning which required time for practice. Therefore, management support as an ITIL CSF correlates learning as well as several other ITIL CSFs such as real need realisation of ITIL and realisation of benefits.

The top management would be neutral of ITIL implementations. In contrast with Case Study A where top management influenced ITIL the implementation project, the top management in Case Study B and Case Study C were almost neutral regarding ITIL implementations. The following two quotations illustrate the roles of top management in these two case studies as the CIO in Case Study B detailed the decision process of ITIL implementation project and the External ITIL Consultant in Case Study C summarised the role top management.

> *"The CIO is the person who makes such decisions as he is responsible for the achievements, accountable of monitoring IT employees, and accountable of executing high management policies. This decision was made after internal discussion. It was presented to computer committee responsible for making decisions related to all computer projects. ITIL implementation was presented to this committee as any project that needs management support and financial support"* (Case Study B, Chief Information Officer)

> *"The management were committed including the head of the organisation. I met him personally and he showed interest."* (Case Study C, External ITIL Consultant)

Therefore, according to the CIO in Case Study B, he was responsible to take decisions that would enhance the IT operation, although he got the feedback of an internal committee in computer department. It seems that this organisation was a large organisation so the CIO was authorised to make decisions to improve or enhance the management of IT operations such as implementing ITIL. Accordingly, the top management in Case Study B were neutral of ITIL implementation without any apparent influence. Similarly, the External ITIL Consultant in Case Study C expressed that top management showed interest and blessed ITIL initiative. However, drawing on the case study analysis, top management did not involve deeply in ITIL implementation details.

To summarise, the most important findings presented in the current subsection are: first, management support as an ITIL CSF correlates learning; second, the management support CSF would impact other ITIL CSFs such as realisation of benefits, real need

realisation of ITIL and implementation strategy; and third, proper ITIL learning needs time and practice as it is actually a long process and not just information acquisition.

6.2.2 The Role of IT Management

Besides the role of top management that would affect the ITIL implementations as discussed in the previous subsection, IT management role represents an essential role that would have a huge impact of ITIL implementations. Usually, the IT managers have an essential role in ITIL implementations as they are closer than top management to the IT operation. Therefore, they would influence ITIL implementations more than top management. Accordingly, their real strong support would lead to implement ITIL successfully while lack of their support would terminate ITIL implementation. IT managers would take decision to implement ITIL, become ITIL champions and enforce ITIL practices if they believe of ITIL and feel its benefits. The present subsection discusses these findings related to the role of IT management in the case studies of ITIL implementation.

The support of IT managers represents an important success factor of ITIL implementation. Lack of that support would terminate the implementation of ITIL. For example, the support of the successive CIOs in Case Study B descended until it faded and that resulted of stopping the ITIL implementation which led to a failure ITIL adoption. Moreover, the gradual lack of IT management support in Case Study C resulted in the failure of several ITIL processes. The following two quotations clarify the results of the absence of IT management support in these two case studies.

> *"When we sat down with the new CIO, he said: 'I am not so interested in ITIL project'. I often meet some employees who ask whether we must implement it or not. However, a CIO should know the extent of its importance and sensitivity."* (Case Study B, Contractor Project Manager)

> *"The management behaviour exaggerated the situation because they stopped their pressure on the employees. Thus, nobody still became concerned. And, if I interfered and asked someone to do something, he would say, 'Stop! You can go to the management and your system is complicated'. When I heard this, I was forced to stop asking. At the end, the subject was closed. So, most of the focus is now on the service desk."* (Case Study C, IT Helpdesk Manager)

According to the Contractor Project Manager in Case Study 2 in the first quotation, there was a full lack of the new CIO support for ITIL implementation project. He did not hear of ITIL before he was appointed as a CIO when the ITIL project took a long

time without any real benefits on the ground. These factors led him to be uninterested of the ITIL project and at the end he ordered to stop the project. Therefore, the knowledge absence or the learning deficiency resulted from the lack of management support. Similarly, the shortage of the management support at ITIL implementation late stages in Case Study C would result of failure of most targeted ITIL processes such as change management, release management, service level management, and problem management. In the second quotation, the IT Helpdesk Manager in Case Study C described the scene after the demising of management support when some IT employees revised to obey ITIL processes. However, only the processes related to service desk (i.e. incident management and service request management) survived.

IT managers would take the decision to implement ITIL if they felt it would be successful. In Case Study B, the CIO took time to take a decision to implement ITIL. According to him, in the following quotation, he mentioned that he agreed to implement ITIL once he found an ITIL champion.

> *"One employee suggested the idea. However, he unfortunately left us, but another employee embraced this idea… Since a person, a manager, or someone who makes decisions would like to ensure the success of a project or any decision being made, the availability of the success tools is a key. So, the availability of this employee… He then looked for ITIL otherwise the idea might have died after the first employee left. …The presence of the second employee encouraged us to start the project. If we had a certified ITIL employee who did not like this practice, we would postpone or cancel the project."* (Case Study B, Chief Information Officer)

Therefore, he did not take the decision to implement ITIL until he was convinced of ITIL, expected to get real benefits and assigned the project management to a champion. In other words, as there were some problems, he realised the real need of ITIL. Consequently, he considered ITIL implementation that was suggested by a trusted employee. However, since the employee left the organisation, the CIO did not take ITIL implementation decision until he located another interested employee otherwise the idea would die. Therefore, he expected the project would achieve its goals and be successful with the availability of an ITIL champion. Thus, management support as an ITIL CSF would relate to other ITIL CSFs such as real need realisation of ITIL and champion.

Moreover, IT managers would support and enforce ITIL practices. More specifically, they would become ITIL champions if they believe in ITIL. For example, because of

familiarising with ITIL, the IT Operation Manager in Case Study A had formed a positive attitude and opinion about the benefits of implementing ITIL. Therefore, as he developed strong beliefs in the benefits of ITIL, he became truly enthusiastic of ITIL. The following excerpt describes his intense interest.

> *"If I did not apply ITIL, we would be lost now. It organised our work. Also, it even organised other departments. It had effects even on the development department, marketing department, and sales department"* (Case Study A, IT Operation Manager)

According to his statements, he became aware of the ITIL advantages and provided unlimited support for implementing it in his organisation. He considered ITIL to be an essential aspect of the IT operation management in the organisation and he especially considered ITIL as a vital solution of the problems that his department encountered. He even stated that ITIL did not only help his department to organise its work, but it was useful in organising the work of other departments such as the development, marketing and sales departments. Although initially the IT Operation Manager in Case Study A did not know much about ITIL, after familiarising himself with ITIL concepts and learning its advantages, he became an ITIL champion. Therefore, he recognised several benefits of ITIL that shaped his views toward ITIL. In conclusion, this asserts that management support as an ITIL CSF would relate to other ITIL CSFs such as champion and realisation of benefits.

The support of IT management would vary over time. For instance, in Case Study C, IT management support was available at the beginning, but afterwards it fluctuated. The following quotations describe the situation and show that the IT management support was strong at the initial stages of the project. However, it seems that the IT management support became weak and that affected the ITIL implementation in Case Study C negatively. The next two quotations illustrate the occurrence.

> *"The IT director fully supported the idea to have processes and policies. He also encouraged us by providing a course that would help all IT employees better understand ITIL and its benefits."* (Case Study C, ITIL Project Manager)

> *"Over time, our manager didn't show care of ITIL and he just wanted the achievement and quickness. So, the developers were work and modify without taking an approval, as the doors were opened. The essence of change management is in the organising, but the doors were opened. … Theoretically, he supported the subject and he wanted it to succeed, but it wasn't his*

priority…. So, the system failed and only service desk remained." (Case Study C, IT Director)

In the first quotation, ITIL Project Manager described the high support he sensed from the former IT Director at the beginning of the ITIL project. Accordingly, the former IT Director provided ITIL foundation training to all IT employees. However, in the second quotation the current IT Director, who was the Application Development Manager and was the release process owner at the early stages of ITIL implementation, described his view of the former IT Director support. In his opinion, the support of the former IT Director was low since he did not commit practically to provide sufficient support while his important priority was the quick achievements and not following ITIL change management process. Therefore, he perceived the change management process as an obstruction of quick achievements. Accordingly, this would be a reason of the failure of change management process in Case Study C. Therefore, it seems that there was no real learning that could increase the management support practically. Moreover, the management support would not be strong because it resulted from instantaneous eagerness as described by External ITIL Consultant in the following quotation.

"I would say that they are just following what some people say ITIL ITIL let us go for ITIL. Some of them may be enforced by government. But I would argue that they mostly are just following others' say. I do not see any urgency for people who are seeking improvement which without a change program because any change has its own aspects. A management would say we want to adopt ITIL as it is a big framework and knowing best practice for well improvement but they just follow others" (Case Study C, External ITIL Consultant)

According to the External ITIL Consultant, management would take decision to implement ITIL without real convincing reasons because they were enforced or because they imitated others. However, once they decide to implement ITIL, they would not realise its requirements and obligations. Therefore, their enthusiasms would be instantaneous and their support would disappear gradually. Accordingly, there was a lack of real learning that would maintain the management support.

Therefore, one reason of the absence of the support of IT managers is the learning deficiency. Therefore, management support correlates learning and the lack of management learning would weaken management support. The following quotation describes the knowledge of the new CIO about ITIL.

> *"The new CIO did not believe in the project's importance and he did not hear about ITIL before."* (Case Study B, IT Consultant)

Clearly, the IT Consultant in Case Study B stated in this quotation that the novel CIO did not know ITIL and did not expect much benefits of it. Apparently, this would be a reason of his decision to stop the ITIL implementation project. Therefore, the shortage of learning would result of unsuccessful ITIL implementation.

To sum up, the management support ITIL CSF would associate several other ITIL CSFs such as the realisation of benefits, real need realisation of ITIL and champion. Moreover, sometimes the support of IT managers would vary over time or could be instantaneous because of the learning deficiency. This asserts that the management support correlates learning.

6.2.3 The Role of ITIL Implementation Team

The ITIL implementation team undertake major role of ITIL implementation. Some organisations would prefer to outsource the ITIL implementation and so to establish the ITIL implementation team from external consultants while others would prefer to build internal capabilities and to form the ITIL implementation team from internal staff. Drawing on the analysis of the case studies, an ITIL Implementation team would impact dramatically ITIL implementation as this team interact directly with establishing and maintaining ITIL. Therefore, while qualified implementation teams would certainly facilitate ITIL implementations, unqualified implementation teams would lead to failed ITIL implementations.

The implementation of ITIL using an internal team would have some advantages over using external consultants. In Case Study A, because of the decision of the CEO to implement ITIL internally, the IT operation department elected internal staff of two employees to implement ITIL. Later, this staff was separated into service management unit, which took the responsibility of ITIL implementation. Therefore, building this team capability to implement ITIL was critical because there were no external consultants. While this team got some advanced ITIL training, the implementation practice sharpened the team knowledge. The result was that the team successfully implemented ITIL without external ITIL consultants, depending exclusively on internal

human resources. In the following excerpt, the Service Management Senior Expert in Case Study A provided his view about the internal ITIL consultants.

> *"Having internal consultants is better than hiring external consultants. Internal consultants understand the internal environment and our ability to get into the details."* (Case Study A, Service Management Senior Expert)

The Service Management Senior Expert argued that having internal consultants had some advantages over external consultants for implementing ITIL. His argument was that the internal people would understand the organisational environment and culture better than the external people would. Furthermore, according to him, an internal consultant could reach easily to details. In sum, using external consultants was not an ITIL CSF in Case Study A.

The people practice of ITIL implementation enhances their learning. In Case Study A, the implementation team showed a clear and comprehensive understanding of ITIL and its processes. As an example, the Service Management Senior Expert described the status of implementing ITIL processes in the following quotation.

> *"We applied ITIL V2 and that included five processes of service support. Incident management was fully implemented. It is considered a successful implemented, monitored and controlled process. Also, change management was fully implemented. In case there is a new requirement, it must be requested by change application. After passing QA, it will be presented at CAB for discussion with everyone. Problem management was implemented and it reduced many incidents. Configuration management was implemented had contributed to increase service availability"* (Case Study A, Service Management Senior Expert)

From this description of the Service Management Senior Expert, it is clear that he became familiar with ITIL and developed solid knowledge about it. He described several ITIL processes in this short except. Therefore, although board involvement of people, which is an ITIL CSF, would entail time, it would facilitate individual learning.

In contrast, unqualified implementation team would negatively impact ITIL implementation. In Case Study B, the contractor was responsible for the implementation. However, for different reasons, the contractor failed to fulfil the contractual obligations of implementing ITIL. As the contractor was unqualified to implement ITIL, he attempted three times to implement ITIL through different

subcontractors, but he failed. The Contractor Project Manager described the situation in the following quotation.

> *"Frankly speaking, they chose us because they dealt with us previously and know us… Then we signed a contract with a company called C.S. to execute the project and complete it from A to Z. So, the project began with back to back agreements with this company… It seems that for the subcontractor, it was the first time they implemented ITIL.... If the company was qualified they would know what they should do and what was required. Sometimes, when the customer asked something, it took time from them."* (Case Study B, Contractor Project Manager)

In this quotation, the Contractor Project Manager in Case Study B stated that his company was awarded the project just because it dealt previously with the organisation in Case Study B by delivering computer equipment. Therefore, the company was not qualified to implement ITIL. However, it had a partnership with another company that worked in this area. According to that, the organisation in Case Study B awarded the project to the company of Contractor Project Manager. The contract contained delivering the required equipment and software for ITIL implementation such as a server, phones and ITSM software; outsourcing of three people to work as agents in the service desk; and consultation of ITIL implementation. The real trouble started once the contracted company started to implement ITIL because its partnerships with their qualified partner of ITIL consultation was broken. Accordingly, the contractor looked for an alternative solution to fulfil the requirements of the ITIL implementation consultation part. Therefore, as explained by the Contractor Project Manager in the first quotation, the contractor signed with a subcontractor to fully handle the project part of ITIL implementation and consultation. However, as he stated, it seemed that the subcontractor was implementing ITIL for the first time. After long time, the client was angry from the results so to solve the trouble, the contractor brought a second subcontractor. However, the provided period of the second subcontractor was too short as explained in the following quotation.

> *"My availability on the project was not sufficient because I worked with them without a clear contract with my company. … Actually, the average time we consumed for assessment was short comparing with the assessments of other companies."* (Case Study B, Subcontractor ITIL Consultant)

The second Subcontractor ITIL Consultant spent short time to minimise the cost. In summary, instead of bringing qualified ITIL implementation team and provide them

sufficient time that would allow transferring knowledge to internal people, the contractor tried to execute the ITIL implementation consultation in any cheap way while the client did not feel any actual results or learning. Therefore, the second subcontractor submitted some documents quickly and asked of his compensations. However, after installing the server and the ITSM tool, both the client and the contractor discovered that they were unable to utilise the provided documents. These troubles exhibited the weakness of the project management. Accordingly, and lately, the client located a qualified ITIL consultant and forced the contractor to appoint him as a final attempt to complete the project. The Independent External ITIL Consultant in Case Study B summarised the state by the following quotation.

> *"To me, the prime contractor was active and wanted to successfully conclude the project. But, since he had subcontractors, he did not know what to do. At the end, he offered me a compensation to finish the project. It was not his area. It was not his field. So, he brought subcontractors."* (Case Study B, Independent External ITIL Consultant)

Therefore, according to the Independent External ITIL Consultant, the contractor was not qualified to implement ITIL so he tried to cover the ITIL part through subcontractors. However, as explained above, the first subcontractor was not qualified and the second subcontractor was under time pressure. The third attempt was too late by bringing the Independent External ITIL Consultant who was a known expert in this area, but he did not complete the work as the project was cancelled by the new CIO. Therefore, in sum, the ITIL implementation team in Case Study B was unqualified while the project management was imperfect. Consequently, these issues participated in the delay of the project and finally in its failure, even though it utilised external consultants. Moreover, there was essentially no actual learning or involvement of internal people about ITIL and no real ITIL benefits on the ground. For this reason, there are some relations between several ITIL CSFs such as broad involvement, realisation of benefits, qualified people, external consultants and project management.

In conclusion, drawing on the above discussion, there are four important findings related to the role of ITIL implementation team. First, in contrast with the literature (e.g. Iden and Eikebrokk, 2013; Pollard and Cater-Steel, 2009), using external consultants is not a steady ITIL CSF because the ITIL implementation in Case Study A succeeded without external consultants while the ITIL implementation in Case Study B failed with

the existence of external consultants. Therefore, implementing ITIL using an internal team would be sometimes better than using some external consultants. Second, some ITIL CSFs such as people's broad involvement and external consultants would affect and be affected by learning of ITIL. Third, proper learning would require time to practice and realise benefits. Fourth, the present subsection implies that some ITIL CSFs such as qualified people, external consultants, broad involvement, project management and realisation of benefits would affect each other.

6.2.4 The Role of Other People

The last three subsections present the findings related to the human roles of top managers, IT managers and ITIL implementation teams. The current subsection presents the findings related to the role of other people. The findings imply that qualified people would become champions of ITIL if they realise its benefits. Other findings are related to people training. For example, while ITIL training provides the trainees initial knowledge of ITIL and assist ITIL implementations, inadequate training does not provide people sufficient knowledge of ITIL. Moreover, training alone would not be sufficient to understand ITIL concepts well. Moreover, there are several other learning sources other than training such as broad involvement. Nevertheless, after institutionalising ITIL, it is not important to provide new employees ITIL training. Moreover, unlike old employees, new employees would not have clear resistance and would adapt quickly to work environment and requirements. Finally, while overloaded people would not have sufficient time to adopt ITIL processes, dedicated people for ITIL would facilitate ITIL implementation. The following discusses these findings in details.

Qualified team members would become champions who would assist to enforce ITIL implementation. As they realise the benefits of an ITIL process, people support it. As an example, in the following excerpt, the IT Director in Case Study C talked about the role of two employees who strongly supported the incident process management.

> *"One of the helpful factors is to have members who want ITIL like A.B. and Y.H. as they were supporting ITIL and were excited. Now, if you ask them to do anything they will open a ticket."* (Case Study C, IT Director)

According to the IT Director, the two employees supported practically opening a ticket for any incident as they were excited of how the incident process management

organised their work which was a kind of benefit realisation. Such support was an important factor for adopting incident process management successfully in Case Study C. Therefore, it seems that there are some interrelations between the following ITIL CSFs: qualified people, champion, and realisation of benefits.

In the analysis of the case studies, training of people was another emerged aspect which is related to internal people. ITIL training provides initial knowledge of ITIL to the trainees. In Case Study A and Case Study C, the training would be considered the first practical action to implement ITIL. The following excerpts describes some training aspects of these two case studies.

> *"At the beginning, we got ITIL training. Seventy percent of IT operation employees got ITIL foundation training."* (Case Study A, Internal Systems Unit Leader)

> *"When I suggested ITIL, most of the employees didn't know anything about it. Then they became certified after I gave them ITIL training. One person called B. K. came to me. He was specialised in ITIL. I told him that I wanted the whole team to be certified in ITIL, and that I want to implement ITIL. So, we got the course for two to three days. The whole team passed except only one member who didn't pass. So, we allowed him to take the exam again and he passed."* (Case Study C, Chief Executive Officer)

According to the Internal Systems Unit Leader in Case Study A in the first excerpt, about seventy percent of the forty five IT operation employees in Case Study A got ITIL foundation training at the early stages of ITIL implementation. In the second excerpt, the Chief Executive Officer in Case Study C told that all IT employees in Case Study C got the foundation ITIL training. He also described that IT management insisted to provide ITIL training to all IT employees who were eleven employees. While most of them did not know ITIL before the training, the training was a chance for them to get ITIL foundation certificate. Therefore, ITIL training of people increased their awareness about ITIL.

In contrast, insufficient ITIL Training would weaken the ITIL implementation as people do not have sufficient knowledge of ITIL. In Case Study B, the training was not sufficient as described in the following excerpt by the Independent External ITIL Consultant.

> *"If they give them training, you will not benefit from training one hundred percent. If you apply one percent, you get benefit, but, even the training, they did*

> *not take it including the level of foundation. The scope included training, but the training was for tool users and not for ITIL concepts."* (Case Study B, Independent External ITIL Consultant)

According to the Independent External ITIL Consultant who joined the ITIL implementation in Case Study B at a later stage, people lacked basic knowledge of ITIL as they did not have sufficient training. However, few people in Case Study B got ITIL foundation training long time ago before the final decision to implement ITIL, the training was too early and did not have apparent effects during the implementation. Therefore, people did not get sufficient learning of ITIL and they were almost isolated from the ITIL project. Accordingly, it seems that they did not have clear interest of ITIL implementation project as described by the following quotation.

> *"There wasn't really that degree of interest. If they had really been that interested, it would not have taken that amount of time. My evidence was the long time they really took. I don't know. But, if they felt that it was truly very important then they would have completed it by any means, but the responsible people did not have that degree of interest."* (Case Study B, Contractor Project Manager)

In this quotation, the Contractor Project Manager in Case Study B described the people with low interest of implementing ITIL. He attributed the delay of the ITIL project to this low interest which indicated that ITIL was not on their priority. In other words, there was neither real need realisation of ITIL nor people's broad involvement. That led to the incompletion of their ITIL implementation project and to consider it as a failure case of ITIL implementation. Therefore, training, broad involvement and real need realisation of ITIL as ITIL CSFs would relate to each other.

While training is important for ITIL implementations as discussed above, it would not be sufficient to understand ITIL concepts well. For example, in the following quotation, the IT Director in Case Study C depicted the importance role of training while he explained why the training was not sufficient for actual individual learning.

> *"We started with training. However, through training we understood ITIL in theory not in practice. When we started applying ITIL, some gaps in our understanding started to appear... No one understood the work clearly at that time. I was assigned as a process owner for release management. Also, there was another employee with me and he was the process manager. We were laughing because we didn't understand things clearly like the difference between process owner and process manager; and who was responsible for the process"* (Case Study C, IT Director)

The current IT Director who was the Application Development Manager at the beginning of the ITIL implementation project explicitly provided in this quotation details about some difficulties he and his colleagues faced practically after getting the training. After the practice and involvement, they identified some gaps in their understanding of ITIL. Even though, he was assigned as the release management process owner, he found some ambiguities of who would be responsible for this process. In sum, people do not get sufficient learning by just training. In other words, training alone is not sufficient and it is important to involve and practice after training. Therefore, broad involvement allows people to learn ITIL practically. Moreover, proper learning demands time for people to involve and practice.

The training and broad involvement are not the only sources of learning. In Case Study A, there were other learning sources besides the training. The following statements of the Helpdesk Unit Leader illustrate an example of another learning source.

> *"Since the establishment of CAB, I have become a member of it until now. Before that, we were getting so many calls of customers asking about services that we at that time did not have any idea about so we had to escalate the questions of the customers. But now, things have changed because I am informed about any service before its launch. Also, I can reject a new service if I am not ready to support it. So, there is a sharing of knowledge. For example, I have become aware of the system of services, and now I know that new services are tested before launching."* (Case Study A, Helpdesk Unit Leader)

The Helpdesk Unit Leader in Case Study A explained as a member of CAB how attending CAB enhanced his knowledge. According to these statements, meetings such as CAB involved sharing of knowledge and promoted the learning within organisational setting. Thus, there were other learning sources such as communication.

New employees do not need ITIL training that suits the initial stage of the ITIL implementation. The Helpdesk Agent in Case Study A described the required training of new employees in the following excerpt.

> *"When new employees joined us eight months ago, we started with them gradually. We gave any new employee the list of services and their support plan to read. After three or five days, we explained to him all services and the way to make escalation. Then we sat with him on each service and on the Service Desk tickets. We explained to him the Service Plan and then the work on Service Desk. So, we provided him practical gradually training."* (Case Study A, Helpdesk Agent)

According to the Helpdesk Agent in Case Study A, the new employees received only internal training on the job related to their duties. They received a work orientation in order to be familiarised with the tasks related to their position. Therefore, new employees did not have any specialised ITIL training. However, with the internal training they became aware of some ITIL terms and concepts they need in their work. Accordingly, in Case Study A, after a period of two years, there was no need for an official ITIL training since the ITIL practices were already incorporated within the values and procedures of the organisation. It was important and had a high value only at the beginning of the implementation of ITIL. However, the ITIL training suited only the initial stages of the ITIL implementation in order to understand the ITIL terms and essence. Once ITIL had become an essential part of the everyday organisational work and once people learnt terms needed for their duties, the organisation did not need official ITIL training. Therefore, the importance of training as an ITIL CSF would vary over time.

Moreover, new employees would adapt quickly to work environment and requirements. Unlike old employees, who would have a relative resistance to change in order to stick to their old habits and agenda, new employees would not have strong resistance as they have no previous experience within their new work. The new employees in Case Study A immediately learnt new procedures and worked accordingly. As an example, the Helpdesk Unit Leader in Case Study A recalled how old and new employees dealt with the Interactive Voice Response (IVR) system.

> *"The IVR had been installed and I participated in IVR design, but there was a kind of disagreement among some helpdesk employees because the system would count missed calls. Then, new employees came with previous experience from other organisations that had more calls, so they found the work here is easier and more comfortable."* (Case Study A, Helpdesk Unit Leader)

According to the Helpdesk Unit Leader in Case Study A, new employees, unlike some old employees, adapted quickly to the required work. While some old employees did not want initially to work with the IVR system because it could show their productivity, the new employees were happy with this system. Drawing on the analysis of data, the old employees compared between new required work with the IVR system and the work before this system so they felt that they became more restricted and monitored. Before the system, they could miss some calls without getting blames and they felt that they did

not have to take the responsibility. In contrast, the new employees felt that the required work was comfortable as they contrasted it with their previous work and found the new work easier.

Dedicated people for ITIL would facilitate ITIL implementation. In contrast, overloaded people would not have sufficient time to adopt ITIL processes. For example, in Case Study C, it seems that people were busy according to the following quotations where the ITIL Project Manager in Case Study C referred the success of incident management process to devoting people for this process in contrast with problem management process that was a failed process because nobody felt its importance.

> *"I think that the reason for the success of the incident was that there was a team strictly devoted to working on following up. So, why didn't the problem succeed? I think that it needed additional follow ups and one person dedicated to getting the job done... The problem is an analytical matter and not a thing that you need solved immediately. So, it needs a proper analysis by someone who can really sit and think about what needs to be done. This might be the reason that resulted in undoing the problem management since they did not feel like it was important."* (Case Study C, ITIL Project Manager)

> *"People were very busy and with limited resources. They really had a lot of workload so they couldn't fulfil their daily operation needs and then the project related works."* (Case Study C, External ITIL Consultant)

The ITIL Project Manager in Case Study C in the first quotation compared between the success of incident management process and the failure of problem management process. Relying on his statements, the distinctive issue between the two processes was the dedication of people to incident management process while there was nobody dedicated to problem management process and the process owner was overloaded with other duties. The ITIL Project Manager attributed that to the unfeeling of its importance. Therefore, its benefits were not realised. In addition, the External ITIL Consultant in the second quotation asserted the busyness of people in Case Study C during his description of the project difficulties. According to him, the resources were limited and they overloaded by daily duties and project activities. Therefore, some ITIL CSFs would affect each other such as qualified people, realisation of benefits and broad involvement.

In conclusion, the present subsection infers four major findings that support the findings of the previous subsections. First, several ITIL CSFs would associate other ITIL CSFs such as qualified people, champion, and realisation of benefits; training and awareness;

and training, broad involvement and real need realisation of ITIL. Second, several ITIL CSFs such as training, broad involvement and communication enhance OL. Third, such learning is not just an acquisition of information through training. It requires time as it entails practices and discussions. Fourth, some ITIL CSFs would not be important at all stages and times. For example, it seems that ITIL training at the early stages of ITIL implementation is very critical while it is not so important later.

6.3 ITIL Implementation Strategies

The second emerged aspect of the case studies was ITIL implementation strategies that focused on the strategies used to implement ITIL. Drawing on data, the emerged ITIL implementation strategies were gradual implementation, involvement of people, continuous improvement, and appreciation. The present section describes some important findings related to these implementation strategies.

6.3.1 Gradual Implementation

ITIL implementation strategies would vary among different organisational contexts. While some organisations adopt full implementation approach others prefer phased or gradual approach. With gradual approach of ITIL implementations, organisations adopt some ITIL processes and once they succeed, they adopt other processes and so on. The implementation strategies be affected by several considerations such as management decisions. Moreover, while ITIL gradual implementation strategy would support people to implement ITIL, ITIL rapid implementation strategy would inhibit them to successfully implement ITIL.

Management decisions affect implementation strategies. In Case Study A, the decision of the CEO to implement ITIL based on internal human resources was a strategic decision that influenced the implementation strategy. According to this decision, the implementation of ITIL processes was very gradual and for the period of about four years, only three processes were implemented. The IT Operation Manager and Service Management Senior Expert in Case Study A mentioned how they planned to implement ITIL based on the decision of the CEO.

> *"Once we got the approval to implement ITIL ourselves, we planned to implement ITIL process by process."* (Case Study A, IT Operation Manager)
>
> *"We implemented and enhanced the maturity of implemented processes gradually."* (Case Study A, Service Management Senior Expert)

In these quotations, the IT Operation Manager and Service Management Senior Expert in Case Study A declared that the strategy of implementing ITIL in Case Study A was a gradual implementation that approached the most critical process first, and then moved to the next one and so on. This decision was a result of the strategic decision of the CEO to adopt ITIL depending on internal human resources rather than on external consultants. Since they depended entirely on the internal people, it took quite a long time to build the required skills and knowledge capabilities. The analysis of the data gathered revealed that in Case Study A, the implementation of the service support processes of ITIL V2 was in stages based on the assessment of process priorities. Thus, for the first two years, the implementation team focused only on the incident process management. Then, the team moved on and implemented roughly a process each year in addition to enhancing the previously implemented processes. In other words, at the beginning they implemented incident management process. After two years, they implemented change management process. On the following year, incident management and change management processes were enhanced; and problem management process was implemented. Then configuration management process and release management processes were planned to be implemented in the subsequent years. While the gradual ITIL implementation in Case Study A took long period of time, it provided effective results and small wins. Thus, people learnt that their works became much better as they implemented more ITIL processes. Therefore, the gradual ITIL implementation strategy involved some kind of learning, although this strategy imposed on the implementation team based on the decision of the CEO to implement ITIL using internal human resources. In sum, the management support affected the ITIL implementation strategy to be gradual. Moreover, the gradual implementation strategy led to involve, train and raise awareness among people about ITIL and its achieved benefits without external consultants.

Implementing several ITIL processes simultaneously would impose some difficulties. For example, in contrast with Case Study A, ITIL implementation in Case Study C

aimed to implement several processes concurrently. However, the results disappointed people. In the following quotation, the IT Helpdesk Agent in Case Study C described the situations.

> *"I always suggest that it's better to not apply it fully. I mean we were excited and applied everything. If we focused on or applies just two processes and we worked on for 5 years for example, it would be better than applying 10 processes without any good results. I mean, if we applied and worked on three processes; and each year applied two or three more processes, I think we will be more focused and the whole team will not be exhausted."* (Case Study C, IT Helpdesk Agent)

The IT Helpdesk Agent in Case Study C stated that he advised to implement ITIL gradually. However, the project plan implied implementing several processes together. These processes included incident management, request fulfilment, problem management, change management, release management, configuration management and service level management processes. However, only incident management and request fulfilment continued. Therefore, the rapid implementation would hinder learning.

In summary, ITIL implementation strategy would associate several ITIL CSFs such as management support, involvement of people, training, external consultant, awareness and realisation of benefits. Moreover, it would affect directly or indirectly individual learning of ITIL. For example, while gradual ITIL implementation facilitates learning, rapid ITIL implementation impedes learning.

6.3.2 Involvement of People

Data analysis revealed that people's involvement with an ITIL implementation would support the implementation success as such involvement would provide people a chance to practice ITIL processes, result in their buy-in and manage their resistances. Moreover, the lack of people's involvement with ITIL implementations would be an indicator for failed implementations.

People's involvement in a change initiative is a means to obtain their buy-in of the initiative and to overcome their resistances. Engaged people usually have pertinence. The following excerpts from the interviews with the Service Management Unit Leader in Case Study A and with ITIL Project Manager in Case Study C show some activities in which people were involved to implement ITIL.

> *"It is important to engage people to obtain their buy-in. During design process period, we encouraged the stakeholders to discuss the problems they had and to suggest solutions. That included meetings of business employees, and meetings between business and technical employees."* (Case Study A, Service Management Unit Leader)

> *"The role of the company was to provide mentoring. We wanted the employees to document the processes, and that was also difficult. So, at the end, we asked the company to bring ready workflows and apply them directly, but they did not bring them. We preferred that they brought the workflows and discussed it with people later."* (Case Study C, ITIL Project Manager)

In the above first quotation, the Service Management Unit Leader in Case Study A explained that engaging people in ITIL implementation was an effective way to facilitate their buy-in. The stakeholders in Case Study A were engaged even in making the detailed decisions during ITIL implementation. For this purpose, they were encouraged to discuss about the related problems they faced to find adequate solutions. Activities of involving people to obtain their buy-in included design sessions and meetings with different business and IT employees. Similarly, in the second quotation, the ITIL Project Manager in Case Study C implied that they gave importance to transfer knowledge from the external consultant to the internal people. Accordingly, at the beginning, it was compulsory of internal people to document the workflows of the processes under the supervision of the external consultant. However, as internal people failed, the alternative way was that the external consultant would suggest the workflows but by discussing these workflows with internal people to ensure their understanding. In sum, people's involvement in ITIL implementations encompasses communication and increase their knowledge of ITIL. Moreover, people's involvement would result learning that contributes of qualifying people.

In contrast, the lack of people's involvement in an ITIL implementation would be an indicator for its failure. Drawing on data, Case Study B, which resulted unsuccessful ITIL implementation, embodied lack of people's involvement. For example, as explained in the following quote, it was planned to outsource the service desk.

> *"... the operation of the service desk was, as based on outsourced contract, which included the first line support requirements. It was outsourced and this was one of the obstacles"* (Case Study B, Independent External ITIL Consultant)

Therefore, according to the Independent External ITIL Consultant in Case Study B, instead of involving internal people to operate the service desk, the contract aimed to outsource the service desk operation. He considered that situation as an obstacle to implement ITIL properly since the internal people was disengaged. Therefore, the disengagement of people would be a sign of learning shortage.

In conclusion, people's involvement as an ITIL CSF would correlate various ITIL CSFs such as communication and qualified people. Moreover, people's involvement would facilitate learning practically.

6.3.3 Continuous Improvement

Drawing on data, continuous improvement would be an emerged ITIL implementation strategy of the case studies. It denotes a nonstop endeavour to improve ITIL adoption. It includes not only huge improvements but also small improvements that gradually would make differences. Examples of the continuous improvement include enhancing the maturity of ITIL processes and simplifying the processes. Such improvements would support ITIL implementations and treat difficulties.

The process continuous improvement would increase the maturity of ITIL processes. In Case Study A, the implementation team exerted effort and gave attention to enhance the maturity of the implemented processes. In this context, the IT Operation Manager in Case Study A talked about the current maturity levels of some ITIL processes as follows.

> *"We're working on enhancing the maturity of the processes. We measure their maturity based on a scale of five levels. Currently, the maturity of the incident management is four. Also, the change management is the same. But the maturity of the problem management is three."* (Case Study A, IT Operation Manager)

In this excerpt, the IT Operation Manager in Case Study A illustrated the maturity level of the implemented processes at the time of data collection. According to him, some implemented processes were more mature than other processes. The most mature processes were incident management and change management as their maturity was 4 out of 5. Moreover, the next mature process was problem management as its maturity was 3 out of 5. The consideration of enhancing the maturity of the processes represents continuous improvement.

Continuous improvement implies work enhancement and allows overcoming appeared obstacles. In Case Study C, the improvement of incident management process contributed to the people compliance with the process as explained by the IT Helpdesk Manager in Case Study C in the following quotation.

> *"Within the current tool that we have already started working on, we simplified the process more and more. The old process was really ITIL, but it had problems. So, what I'm trying to say is, if we are able to replace the old process by a simplified process so no employee complains about its difficulty and no one tells you that he doesn't memorise it. Thus, as a conclusion, what we really want is a process that is easy for all employees to understand, memorise and is not complicated."* (Case Study C, IT Helpdesk Manager)

In this quotation, the IT Helpdesk Manager in Case Study C implied that the previous incident management process was complicated. Therefore, some employees complained because of the difficulties to report incidents in the previous tool. Therefore, they changed the tool and adopted simplified incident management process. The new process was more suitable for the employees and contributed in enforcing the new practice. Accordingly, they went through a learning situation that resulted an improvement. Consequently, continuous improvement would be a result of learning.

In conclusion, some ITIL CSFs such as qualified people would support continuous improvement. Therefore, there would be an association between those ITIL CSFs. Moreover, continuous improvement would be reinforced by individual learning as learning reinforces continuous improvement. In other words, people would utilise their new experiences which were resulted from their involvement to proceed to a better position and to learn more.

6.3.4 Appreciation

The findings of the case studies indicated that people appreciation would essentially contribute to face their resistance to ITIL implementation. Moreover, purposeful rewarding would encourage people to involve with ITIL implementation.

Appreciating people assists in the remedy of resistance. For example, the following quotation explains how the ITIL implementation team in Case Study A utilised appreciation to handle people resistance. The team highlighted people efforts and that enforced people to comply with ITIL and reduced their resistance.

> *"There was also resistance because of ITIL extra work. So, we tried to thank them in many different ways, like sending them for training."* (Case Study A, Service Management Unit Leader)

According to the Service Management Unit Leader in Case Study A, ITIL implementation involved extra workload that led people to resist the required change. Accordingly, the ITIL implementation team took several actions to solve the trouble. For example, the team showed gratitude toward affected employees through various means including sending them to get training. Moreover, the team practically shared the value and the winning of the ITIL implementation with all IT and business people and expressed their gratitude and appreciation toward other departments. These actions contributed in managing people resistance. In sum, there are different ways to appreciate people and reduce their resistance to ITIL implementation. Therefore, appreciation would be proposed as an ITIL CSF.

Rewarding people would be a means to involve people. As the IT Helpdesk Manager in Case Study C suggested in the following quotation, involved people would get more work. Accordingly, it would be wise rewarding them.

> *"Tell him that he is responsible for certain work, and give him anything so he feels that he has something worth having. While you give one engineer more work, the other is free. So, give him a certain benefit so he will feel that he is rewarded for his work. So, he would like the work and won't think of it as an overload on him. No one would like to work more without some sort of benefit in return such as extra money, or any higher position. You can't just tell someone that he is responsible for doing something."* (Case Study C, IT Helpdesk Manager)

In the quotation of the IT Helpdesk Manager in Case Study C, he mentioned that people would be encouraged to perform extra tasks of ITIL probably and to involve broadly with ITIL implementation by encouragement. Therefore, he recommended to reward active people to ensure their continual engagement. Accordingly, deliberately appreciating people would support ITIL implementation.

Therefore, in Case Study A the data reveals that there were several different moments to appreciate people such as for extra workload, the success of implementing incident management process, and for the ability to run the ticket system.

The different used means of appreciations and rewards were chances to learn that enforced people's behaviours. In other words, the individuals learnt better as they

rewarded and the rewarding facilitated individual learning within organisations as well. People were involved in repetitive behaviours and actions because of extrinsic motivation or, otherwise stated, because they were rewarded. In addition, more people would emulate rewarded people and follow their behaviours and actions.

In summary, people appreciation in ITIL implementation projects would lead to successful ITIL implementation. Moreover, there are several means to appreciate and reward people that reduce their resistance and encourage them to involve. Finally, people appreciation is probably an ITIL CSF.

6.4 Communication

Communication was identified as an essential aspect of the case studies. Drawing on data, formal communication influences ITIL implementations positively or negatively. Moreover, awareness and persuasion would support the success of the adoption of ITIL by managing people resistance. Finally, performance management would facilitate ITIL implementation through reporting and connecting the performance of the employees with ITIL implementation.

6.4.1 Formal Communication

Drawing on the analysis of the case studies, formal communication would play an important role in ITIL implementations. The findings indicate that communication influence ITIL implementations positively or negatively. While some practices such as the establishment of formal contacts would facilitate ITIL implementations, the communication lack would lead to unsuccessful ITIL implementations.

Communication is important in ITIL implementations. It would facilitate ITIL implementations. The ITIL Project Manager in Case Study C explained the role of communication in the following excerpt.

> *"Communication is very important. How would they believe that ITIL implementation is important without communication?"* (Case Study C, ITIL Project Manager)

In this excerpt, the ITIL Project Manager in Case Study C emphasised the importance of communication during the ITIL implementation. According to him, proper

communication would increase people's belief in ITIL and thus pave the way for ITIL implementation. This confirms that communication is an important ITIL CSF.

More specifically, assigning formal contact people would simplify the communication and assist ITIL implementation. In Case Study A, the interviewed Helpdesk Agent explained in the following excerpt that the establishment of a formal contact person was essential in solving specific issues.

> *"We had some tasks that we were struggling with. We followed up with the service owners, however, some of them did not been answered during out of working hours. One of the useful things that helped us to overcome this issue was that we agreed to have only one-way communication with the service owners through A.A"* (Case Study A, Helpdesk Agent)

Based on the above excerpt, the Helpdesk Agent stated that some service owners did not answer out of the working hours. This put them in trouble with urgent tickets. In order to solve this issue, they established a one-way communication with the service owners through a specific person who in turn could provide required information or reach appropriate service owners. This action simplified the communication between the helpdesk unit and the different service owners and in turn solved the raised issue. Therefore, proper communication would solve troubles that could impede ITIL implementations.

On the other side, the lack of communication would indicate failure of ITIL implementations. For example, in the following quotation, the Independent External ITIL Consultant in Case Study B described the communication situation of the ITIL implementation in Case Study B and how it participated in the failure of the implementation.

> *"There was a lack of communication. Only few people and the management knew about the project. The others did not know what was happening. It was not well communicated."* (Case Study B, Independent External ITIL Consultant)

According to the Independent External ITIL Consultant in Case Study B, the communication of the ITIL implementation was poor. Most people did not know about the role of the project and its progress. Therefore, the situation indicated a lack of communication. Moreover, he considered this issue as one of the reasons of the failed ITIL implementation in Case Study B. Accordingly, improper communication would

affect negatively ITIL implementations and thus it requires special considerations during ITIL implementations.

In summary, communication as an ITIL CSF would play an important role during ITIL implementations. Appropriate communication would facilitate ITIL implementation and solve troubles that could impede ITIL implementations. In contrast, inadequate communication would hinder implementing ITIL and accordingly lead to failed ITIL implementations.

6.4.2 Awareness

According to data analysis, the awareness also played an important role in the ITIL implementations of the case studies. Suitable awareness would support the success of the adoption of ITIL and its processes. It also would manage people resistance. In contrast, the absence or shortage of awareness would lead to troubles of ITIL implementations. Moreover, it would lead to a failed implementation of ITIL projects or processes.

Awareness of ITIL facilitates ITIL implementations. Such awareness contains various continual awareness messages. This kind of messages allows people to learn as the messages are sent consciously and intentionally. The following excerpt from the interview with the Service Management Unit Leader in Case Study A describes some ITIL awareness messages in Case Study A.

> *"The permanent message which we wanted to convey was that process design is import; ITIL is under implementation; all, business and IT, share value; we have ticket system; and intangible value exists."* (Case Study A, Service Management Unit Leader)

In the above quotation, the Service Management Unit Leader stated that the implementation team exerted their effort to aware people by different messages. Some messages were to inform people about the ITIL project. Another message was about the importance of ITIL. Moreover, the implementation team shared the success credit with people. In other words, they did not dedicate the success credit only for their team. Therefore, presenting any earned ITIL success in the organisation was a strategy of utilising a success to earn another new success. At the end, such messages provided a chance for people to understand better, know new things and to learn. Therefore, ITIL awareness would support individual learning that facilitates ITIL implementations.

In contrast, unclear messages during implementing ITIL that indicates weakness of awareness would lead to ITIL adoption troubles. For example, the IT Director in Case Study C described in the following quotation the ambiguity related with the adoption of Service Level Management (SLM) process.

> *"Regarding SLM, at the beginning the message reached that we want to be professionals and very fast. The message didn't reach that the SLM protects you, the main objective is to agree together, it helps to control the contractor agreements, and I don't sign SLA higher than OLA with contractors. However, you deliver a message that it looks like IT wants to pressure and exhaust us. To this level, matters reached!"* (Case Study C, IT Director)

According to the IT Director in Case Study C, people did not understand well the objectives and expected benefits of SLM process as well as other related concepts such as Service Level Agreement (SLA) and Operational Level Agreement (OLA). Therefore, instead of realising that they need SLM to enhance their work, they expected that they would be responsible for more works. Moreover, instead of understanding how SLM would assist them, they thought that it would tighten them. This ambiguity and lack of awareness raised people resistance and would contribute in the failure of adopting SLM process. In sum, there would be some interrelations between the following ITIL CSFs: awareness, real need realisation of ITIL, broad involvement and realisation of benefits. Moreover, shortage of ITIL awareness would impact negatively individual learning about ITIL.

Moreover, the lack of awareness would result of a failure of whole ITIL implementation. For instance, Case Study B was a failed ITIL implementation that suffered from awareness deficiency as described in the following quotation by the Independent External ITIL Consultant in Case Study B.

> *"People did not know what was going on and they did not know the expectation of the project. There was internally no communication and awareness for such a project while the success of the project depended significantly on the technical team who are the main users. I met people, but I did not see anybody who came and asked me about the project. Why? It is obvious that there was a disconnection"* (Case Study B, Independent External ITIL Consultant)

In this quotation, the Independent External ITIL Consultant in Case Study B revealed that people of the organisation in Case Study B were not aware of the ITIL project and its progress. Accordingly, they became uninterested and disconnected from the project. Therefore, low awareness would contribute in denying ITIL implementations.

In summary, awareness of ITIL would support individual learning about ITIL. In contrast, the lack of ITIL awareness would impede individual learning about ITIL. Moreover, awareness as an ITIL CSFs facilitate ITIL implementations. In addition, awareness would correlate several other ITIL implementations such as real need realisation of ITIL, broad involvement and realisation of benefits.

6.4.3 Persuasion

The persuasion would lead to change individual opinions. Moreover, it would lead to change people's behaviour. Persuasion would emerge through informal as well as formal communication between ITIL champion and other employees to change the way of people thinking. However, people persuading is not just a communication as it requires time and great efforts using various means.

Persuasion is a means to change the way of people thinking and to create ITIL-friendly culture. In the following excerpt, the Helpdesk Unit Leader in Case Study A described how he tried to persuade his team to increase their responsibilities.

> *"I hope helpdesk team will handle also the second level* tickets *in the future… I was trying to change the way of employees thinking by convincing them that increasing our unit duties strengthen it through conversations and persuasion."* (Case Study A, Helpdesk Unit Leader)

The Helpdesk Unit Leader in Case Study A tried to convince his employees by conversations and persuasion. He would like the helpdesk unit as a first line of support to be able to handle directly more tickets rather than transferring them to other units as second line of support. This would increase the workload of the helpdesk agents. However, the Helpdesk Unit Leader tried to persuade his team by conversations in order to change their thought. He told them that even though they took more responsibilities, the helpdesk unit would become more strength. This instance revealed also that the Helpdesk Unit Leader advocated the strategy of continuous improvement as he tried to improve the work manner. Therefore, persuasion would be connected to several ITIL CSFs such as communication, champion, ITIL-friendly culture and continuous improvement.

Moreover, people persuading is not just a communication as it requires time and great efforts. In the following excerpt, the IT Helpdesk Manager in Case Study C recalled

how he convinced team to adopt the ticket concept according the incident management process instead of their previous work manner.

> *"My team were responsible for the helpdesk that applied these processes, but still, they didn't know how. So, I helped them by checking the tickets and other things. I tried to explain to them how to classify the tickets. For example, this ticket shall be a service request, the other one shall be an incident as it was a trouble. I mean, I tried to clarify and simplify things by further explaining things, such as how to set priorities. I tried to follow up with them to be sure that they opened a ticket for each service they provided"* (Case Study C, IT Helpdesk Manager)

According the quotation, the IT Helpdesk Manager in Case Study C exerted himself to persuade the helpdesk team to change their work from the previous traditional manner to be according ITIL incident management process. According to him, the team at the beginning did not know well how to apply this process. Therefore, he tried his best to follow up with the team to guide them. In this way, he was able to convince them gradually to adhere to ITIL incident management and request fulfilment processes. Accordingly, the helpdesk team went through a learning journey that involved several ITIL CSFs such as communication, awareness, and broad involvement with the IT Helpdesk Manager as a champion. Therefore, people persuading would consume long time and exhaust effort.

Finally, persuasion has various means. The following two quotes of IT Operation Manager and Service Management Unit Leader in Case Study A shows how persuasion by various means assisted the ITIL implementation in Case Study A.

> *"One of the persuasion methods I used was to draw attention of service quality."* (Case Study A, IT Operation Manager)

> *"We concentrated on people persuasion especially in the orientation period."* (Case Study A, Service Management Unit Leader)

Drawing on the statement of the IT Operation Manager in Case Study A, informal dialogue with people to draw their attention of service quality was a persuasion way to convince them to open tickets. In the second quote of the Service Management Unit Leader in Case Study A, he stated that one of the ITIL implementation team objectives during the orientation period that lasted about two years was to persuade people. Therefore, all of the conducted training and awareness sessions during the orientation

period could be considered means of persuasion. Accordingly, persuasion would associate some ITIL CSFs such as communication, training and awareness.

In summary, people persuasion of ITIL supports successful ITIL implementation. Moreover, several ITIL CSFs would contribute to build people persuasion of ITIL, such as champion, communication, awareness, broad involvement, training and creating an ITIL-friendly culture. However, such persuasion would consume long time. Finally, as persuasion is a way to affect others to do something through argument, it would be a result of learning. In other words, once people learn, they would become persuaded then they would change their behaviours.

6.4.4 Performance Management

The performance management consists of setting objectives, measuring the performance, and producing reports. Proper performance management would facilitate ITIL implementation through connecting the performance of the employees with ITIL implementation objectives. Moreover, the reports of performance would enhance individual learning and encourage them to adjust their behaviours according to ITIL processes.

Connecting the performance of the employees with the required objectives of ITIL implementation is an effective practise that support successful ITIL implementation. In the following two quotations, the Helpdesk Unit Leader Case Study A described the alignment of the helpdesk employee objectives with the helpdesk objectives that were based on adopting ITIL processes. Moreover, the IT Helpdesk Manager in Case Study C urged that setting objectives on employees would force them to changer their work manner.

> *"I met helpdesk employees and based on the objectives of the unit we set up objectives of employees to achieve the unit objectives. The evaluation system was changed as follows: eighty percent of an employee evaluation became according to his achievements of his objectives and his direct manager estimated only twenty percent of this evaluation"* (Case Study A, Helpdesk Unit Leader)

> *"I feel that there is a need for the enforcement of management. The management should support us by asking the employees to work on the system and to document their work. They can put this as an objective for employees. If the employees don't organise and complete their work through the tool, they would*

> *be held accountable during their evaluation. That will force the employees to work."* (Case Study C, IT Helpdesk Manager)

According to the data analysis of Case Study A, connecting the performance of the employees with the required ITIL objectives facilitated the ITIL implementation. The Helpdesk Unit Leader in Case Study A stated that each employee had specific objectives to achieve in order to fulfil the unit objectives that mainly based on applying ITIL. That let the employees tried their best to achieve their objectives, which in turn contributed toward adopting ITIL processes successfully. Therefore, performance management would support broad involvement ITIL CSF. Moreover, in the second quotation of the IT Helpdesk Manager in Case Study C, he suggested that the management should set targets of the employees to support ITIL implementation. He expected that setting their targets would enforce them to exert their efforts to achieve the targets. Accordingly, management support would support performance management ITIL CSF.

Besides connecting the performance of employees with the required objectives as a means of performance management, reports are another important means. As reports of performance clarify the situations, they encourage people to adjust their behaviours and assist decision makers to take appropriate decisions. Thus, they can be considered a source of learning. The following quotations shows the role of some reports in ITIL implementation in Case Study A and Case Study C.

> *"Then a monthly report issued to show the productivity and to review work"* (Case Study A, Helpdesk Unit Leader)

> *"Software helps us in the reporting and clarifying incidents that don't resolved. Without a system, it is difficult to follow it up"* (Case Study C, ITIL Project Manager)

In the first quotation, the Helpdesk Unit Leader in Case Study A during his description of the helpdesk roles talked about issuing a monthly report of the tickets. This analytical report measured the monthly productivity of the different teams related to the incident management process. Thus, it allowed the management and team to review the monthly work and take appropriate actions to enhance the work performance. As reporting is a kind of communication, communication as an ITIL CSF would support performance management as an ITIL CSF. In the second quotation, the ITIL Project Manager in Case Study C talked about the role of ITSM software in generating reports that would be used

to follow up any resolved incidents to enhance performance management. Accordingly, ITSM software as an ITIL CSF would support performance management as an ITIL CSF. Finally, such reports would represent a valuable source of learning because they allowed people to adjust their performance to handle tickets, manage incidents, and achieve the objectives.

In conclusion, performance management which is an ITIL CSF would affect or be affected by several other ITIL CSFs such as broad involvement, management support, communication and ITSM software. Moreover, performance management would facilitate people practicing and learning of ITIL.

6.5 Technology Role

Drawing on data analysis, technology role was another emerged aspect of the case studies. The data showed that technology played important roles in supporting successful ITIL implementations. Among the related findings of technology role, the ITSM tools would represent a significant role in implementing ITIL as they would facilitate or obstruct ITIL implementations. Moreover, technology also would support individual learning of ITIL practices. The following subsections describe briefly the findings of each of these findings.

6.5.1 ITSM Tool

ITSM tools would play important role in ITIL implementation. They would simplify, complicate or hinder ITIL implementations. Therefore, it is important to select and install proper ITSM tool as unready tool would result obstacles. Moreover, the gradual evolvement of ITSM tools based on the real needs would support ITIL implementations.

Selecting suitable ITSM tool is important as the tool would affect the ITIL implementation. People in Case Study B recognised the effects of the selected tool. For example, the IT Director and the Chief Executive Officer in Case Study C described in the following two quotations the difficulties they faced because of choosing inadequate ITSM tool.

> *"The tool was very difficult, huge and slow. We had to simplify the interface for the users so they can use the system."* (Case Study C, IT Director)

> *"We faced a problem related to ITIL tools. The tools were either very simple with very limited capability or very big like ours. There was nothing in the middle… I hope we could have a tool for mid organisations that have 100 to 500 employees and allow us to integrate processes and tool such that it could drive me in a good manner. I think that will help ITIL for sure to be successful"* (Case Study C, Chief Executive Officer)

According to the IT Director in Case Study C, the selected ITSM tool was difficult and huge. Therefore, they spent time to simplify the interface to suit the users. Moreover, the Chief Executive Officer in Case Study C claimed that the ITSM tools were not suitable because they either very huge or very small. In addition, he suggested that it would be possible the matter by predefining the processes in tools. Then, he claimed that such tools would support successful ITIL implementations. Therefore, ITSM tool would affect ITIL implementations positively or negatively.

Moreover, unready ITSM tool would late or hinder ITIL implementation. For example, the Subcontractor ITIL Consultant in Case Study B described the effects of delaying the installation of the ITSM tool on implementing ITIL.

> *"ITIL depends on tool implementation and not vice versa. As the tool had not been installed and it took long time, you did not have any validation of data that you prepare to work with"* (Case Study B, Subcontractor ITIL Consultant)

According to the Subcontractor ITIL Consultant in Case Study B, the ITSM tool was not ready during his work in the project. Therefore, he could not perform the consultation and the design of ITIL properly. This led the Subcontractor ITIL Consultant to provide some documents in the scheduled time to get his compensations. However, as explained in Subsection 6.2.3 titled The Role of ITIL Implementation Team, the documents were useless. After installing the ITSM tool, the client discovered that the documents did not suit the ITSM tool. The result was a delay of the project that gradually led to cancel the project. Therefore, in Case Study B, technology was not properly managed that affected negatively the ITIL implementation in contrast with Case Study A and Case Study B. This asserts that technology would affected positively or negatively ITIL implementations.

In addition, ITSM tool gradual evolvement based on the needs would help to implement ITIL. As an example, in the following, the Helpdesk Unit Leader in Case Study A

clearly talked about the ITSM tool evolvement that supported incident management process in the following quotation.

> *"The recording of incident had begun on the SharePoint. The escalation was manually at that time by phone calling. Then, we used the CRM system so the escalation became automatic. At the end of 2007, HP Service Desk was installed. Also, a while ago, monitoring was applied through HP systems, which could discover many hardware problems and directly solve them or convert them to incidents, and then I could open tickets about them."* (Case Study A, Helpdesk Unit Leader)

Drawing on this quotation, the helpdesk unit leader described the evolution of the used software to implement the incident management process. At the beginning, they utilised SharePoint for mainly recording incidents, which can be considered a generic system instead of a specialised ITSM software. The decision to use this primitive way to manage incidents indicated a kind of uncertainty of ITIL at the initial stages. Gradually development was an essential dimension of the role of technology. After SharePoint, CRM had been used for escalation. Then after some time, they decided to utilise an ITSM system so they installed HP Service Desk that was a noticeable change to specialised software. This decision to use this system implied a gradual confidence in ITIL. Finally, they utilised advanced features of HP systems to automatically monitor hardware systems and record incidents if needed. From another perspective, the quotation revealed that the continuous improvement in implementing ITIL in Case Study A, which illustrated above in Subsection 6.3.3 titled Continuous Improvement, included also the improvement of software. In sum, ITSM tool gradual evolvement represents a kind of learning of both ITIL processes and software usage.

In conclusion, as ITSM tools would affect ITIL implementations positively or negatively, it is important to select and manage the tools properly. Moreover, the gradual adoption of ITSM tool would support individual learning. Accordingly, ITSM software as an ITIL CSF would support learning.

6.5.2 Learning from Technology

Drawing on the analysis of the case studies, one of the important roles of technology in implementing ITIL was its association with learning. More specifically, technology would support individual learning of ITIL. In addition, it would enforce ITIL practices that also supports learning.

Adopted technology to assist ITIL implementation provides chances of learning. The following experts from the interview with the Helpdesk Agent in Case Study A shows an example of learning from technology.

> *"There was no possibility to follow up calls, and there was no one to follow up with you and to understand what you were going through except your manager. Then IVR system was installed and we started to have policy that each call should have a ticket, and these tickets could follow via SharePoint and CRM. After that, HP was installed before about two years and consequently we used tickets with a clear policy for services. Then the old problems were collected and classified into categories depending on previous tickets"* (Case Study A, Helpdesk Agent)

In the above quotation, the Helpdesk Agent in Case Study A explained how helpdesk team managed and followed up calls. At the beginning, calls could not be traced at all. Then, the IVR system was placed in use and each call started to be monitored and to have a ticket, which could be followed electronically. At the end, as a result of their gradual learning, they decided to deal with old problems. Therefore, they collected and classified these problems into categories depending on their experiences with tickets. Therefore, the team learning of technology usage enhanced gradually.

Another important technology role of the ITIL implementation is the enforcement of ITIL practices. Since technology would enforce practices, it supports the success of ITIL implementations. For example, the following two quotations describe how technology could participate in enforcing ITIL practices in Case Study A.

> *"Automation and tools are very important. If they were absent, ITIL implementation would be very hard in my personal opinion. Also, the mistake of selecting the tool would limit applying processes, as the tool is the leader."* (Case Study A, Service Management Unit Leader)

> *"IVR system helped us. Before a helpdesk agent answers calls, he should log in to IVR system. So, if he ignores any call, it will be logged as a missed call."* (Case Study A, Helpdesk Unit Leader)

According to these quotations, technology played an essential role in supporting and enhancing ITIL practices in Case Study A. The Service Management Unit Leader in Case Study A argued in the first quotation that ITIL would be very difficult to implement without appropriate tools. Furthermore, in the context of talking about the problem of ignoring agents some phone calls, the Helpdesk Unit Leader in Case Study A in the second quotation described how the IVR system helped them to overcome this

problem. The IVR system required the login of the agents before they could get calls. Moreover, it logged any missed calls. Accordingly, the behaviour of the agents changed because they feared of ignoring any phone calls. In sum, the IVR system contributed to institutionalise of ITIL practices within the organisation in Case Study A. Similarly, technology also played important role and participated in enforcing ITIL practices as described in the following two quotations of Case Study C.

> *"The most important point is that you have a tool. The tool of ITSM is a must. It is a trouble that you work manually and have documents for requests. So, if you don't have the appropriate tool that assists you, and you work manually, you would be in trouble. If you don't have the tool, you won't benefit."* (Case Study C, IT Helpdesk Manager)

> *"One good thing was that we connected the system with the phone calls so the caller information would appear directly."* (Case Study C, IT Director)

According to these quotations, technology also performed a vital role in enforcing ITIL practices in Case Study C. The IT Helpdesk Manager in Case Study C in the first quotation asserted that using a tool was necessary for ITIL implementation. Moreover, he described manual work as trouble since it would be difficult to enforce ITIL manually. The IT Director in Case Study C in the second quotation described how technology assisted them to simplify and enforce incident management process. They were able to connect the ITSM tool with phone calls so once any employee called them, her information appeared directly in the tool. Therefore, in both Case Study A and Case Study C, technology contributed in enforcing ITIL practices that would support and enhance people's understanding of ITIL.

In summary, an important role of technology with ITIL implementations was the support of learning. Adopting and customising appropriate technology would facilitate gradually individual learning of ITIL. Moreover, technology would enforce ITIL practices. Therefore, it provides people opportunities of ITIL learning and assists them to comply with ITIL processes.

6.6 The Results of ITIL Implementation

The last emerged area of the analysis of the case studies was the results of ITIL implementation that incorporates different but interrelated aspects: resistance to ITIL, benefits of ITIL and learning of ITIL. First, ITIL results in some kind of resistance that could be handled by several means. Most of these means support learning that would reduce or eliminate resistance. Second, implementing ITIL results in benefits at different levels. The realisation of ITIL benefits would promote learning. Finally, this learning journey would lead to institutionalising ITIL practices. The present section describes briefly the findings of each of these aspects.

6.6.1 Resistance to ITIL

ITIL generally involves changing of working style. The analysis of the case studies revealed several aspects of ITIL resistance. Some employees tried to get rid of the new responsibilities imposed by the ITIL implementation. Moreover, people who did not understand ITIL well showed some kinds of resistance. However, there were several preventive and corrective actions taken to deal with resistance (e.g. communication, awareness, realisation of benefits and involvement). These actions led to or supported learning. Finally, some people did not show resistance as they had sufficient learning or as ITIL did not touch their works.

Some people in Case Study A and Case Study C had resistance because they mainly did not understand ITIL correctly. Therefore, they did not comply immediately with the new processes imposed by ITIL. The following excerpts show an example of each case study.

> *"At the beginning, people internally considered opening a ticket as just a delay and getting rid of responsibility.*" (Case Study A, IT Operation Manager)

> *"They said you made it complicated, and it was much easier in the past. Of course, the user, who wanted to delete or wanted to do something, needed to get permissions and approvals. So, for sure the users would not be much satisfied."* (Case Study C, Chief Executive Officer)

In the first excerpt, the IT Operation Manager in Case Study A stated explicitly that some people considered that opening a ticket as just a delay. Therefore, based on their wrong comprehension, they had prejudgment of using tickets and they did not actually perceive the spirit of tickets. The result was that they did not understand the reasons of

opening a ticket. Moreover, they had a mistaken perception of tickets as they consider opening a ticket as a delay of work. Similarly, in the second excerpt, the Chief Executive Officer in Case Study C described how some people perceived adopting ITIL processes as a complication of work because ITIL restricted their privileges. Therefore, people lack of sufficient ITIL learning would lead them to resist ITIL.

Regardless of the fact that some people had a tendency to resist to the changes imposed by the ITIL implementation, there were many actions that reduce or eliminate resistance. These actions included explaining people what the ITIL constructs are and how it works. An instance of this action was during the applying problem management in Case Study A as shown in the following quotation.

> *"When problem management was applied, resistance also occurred. Some people said applying incident management is enough. Because of that, we clarified the added value for solving problems such as eliminating root cause of problems instead of personal communication with involved people. So, problem solving will be in a much smoother way."* (Case Study A, Service Management Unit Leader)

In this quotation, the Service Management Unit Leader in Case Study A stated that some people resisted problem management process as they thought it is same as incident management process. The ITIL implementation team handled this situation by explaining how these two processes vary and where problem management can benefit. In other words, showing the benefits of an ITIL process would help to implement another ITIL process. In Case Study A, the ITIL implementation team utilised the success of incident management process to create another success of change management process. Thus, this instance implies that communication and individual learning were means of implementing ITIL successfully.

People consciousness of ITIL and its benefits would reduce their resistance. The following two quotations clarify the importance of individual learning about ITIL and about its benefits. In the first quotation, the IT Helpdesk Agent in Case Study C described that people resisted ITIL because they did not understand it. Moreover, in the second quotation, the Service Management Unit Leader in Case Study A mentioned that clarifying ITIL benefits which people could gain in addition to providing them explanation about ITIL would reduce or eliminate their resistance.

> *"An obstacle was that you understood the idea of ITIL in the first place. Why do you apply it? Are you really convinced of ITIL? Each person had to be convinced of why we apply ITIL. If he became convinced, seventy percent of the project would work perfectly. But if someone comes to you while he isn't convinced yet, the project will not work well. One obstacle we faced was how to convince people as there was some resistance from their side."* (Case Study C, IT Helpdesk Agent)

> *"Before applying ITIL, the system administrator sat and modified directly any needed configuration without any restrictions, but with ITIL there are CAB and particular procedures so he became restricted. To reduce his resistance, the added value, which he gained, was explained to him… The responsibility now is shared among others and he is not the only one who bears the responsibility... So he became protected by CAB power, as CAB's acceptance is a must before any amendment. We said to him 'You ceded the power, but you are now protected. Also your effort has been documented and is clear in front of everyone, while most of your previous works were not known to anyone'."* (Case Study A, Service Management Unit Leader)

In the first excerpt, the IT Helpdesk Agent in Case Study C explained the difficulties that would face ITIL implementations with the absence of people's understanding of ITIL. According to him, the project would work perfectly if people would be convinced of ITIL. Therefore, it is important to be sure that people understand ITIL properly to ensure smooth implementation. Moreover, the second excerpt describes a resistance instance in Case Study A because of changing the authorities. The resistance appeared because the system administrator became restricted as his responsibility moved from an individual level to a group level according to ITIL change management process. The Service Management Unit Leader in Case Study A explained how he tried to convince him about how CAB role in the new process would really benefit him, even though the board restricted his power, as he would be protected by the CAB power and shared responsibility. Accordingly, the taken actions to manage the resistance of the system administrator was a kind of learning process that included justifying the new changes and highlighting the personal benefits. Therefore, to reduce people resistance against change, it was important to show personal benefits and to make them aware of their advantages of ITIL implementation. Therefore, several ITIL CSFs would contribute to reduce or eliminate people resistance to ITIL adoption. In addition to communication, awareness and realisation of benefits are important factors to learn people and minimise their resistance.

In order to further decrease the resistance of the employees, the data told that people's involvement was an essential aspect to accept ITIL. Involving employees in designing ITIL processes would illuminate their resistance to ITIL changes. Employees do not resist the changes that come with ITIL implementation when they are involved in the decision making process since people support their works and ideas. In the following excerpt, the Service Management Unit Leader in Case Study A explained some aspects of involving people and allowing them to participate in order to manage their resistance.

> *"The resistance solution is to get the buy-in of people. For example, we can ask them: what do you think how to open a ticket? What information do we need from a client based on your experience in answering phone calls? We asked people from helpdesk, technical and business to participate in designing ticket template."* (Case Study A, Service Management Unit Leader)

Taking the above excerpt as an example, many employees had been involved in the design of the ticket template. People from helpdesk, technical and business departments had been asked about required information in a new ticket. Data revealed that involving those employees in designing the process had a great contribution in decreasing their resistance to ITIL implementation. Therefore, people's broad involvement as an ITIL CSF would reduce people resistance and accordingly would promote successful ITIL implementation.

Some people would not show noticeable resistances like others for different reasons. For example, the Subcontractor ITIL Consultant in Case Study B in the first quotation informed that the people resistance was not apparent. Moreover, the Service Management Unit Leader in Case Study A told in the second quotation that some people did not show any resistance.

> *"The resist of change is not clear. It exists but not obvious. It only appears once you reach to the details of process implementation. As you still talk about design subject, a business user, who is the source of resistance, still senses freedom."* (Case Study B, Subcontractor ITIL Consultant)

> *"However, there were accepted people who did not show any resistance. They knew the importance of ITIL."* (Case Study A, Service Management Unit Leader)

According to the Subcontractor ITIL Consultant in Case Study B in the first quotation, the resistance of people in Case Study B was not so obvious because the implementation did not reach to change the work manner. As the ITIL implementation

in Case Study B did not proceed the design stage, people did not feel restrictions. Therefore, some people would not show resistance as ITIL did not touch their works. In addition, in the second quotation, the Service Management Unit Leader in Case Study A explained that some individuals did not show any resistance because they understand ITIL essence and importance. Therefore, people's tendency to show resistance to ITIL implementation changes would vary among employees depending on their learning. This asserts that individual learning is an important factor for successful ITIL implementations.

As a conclusion of the key findings of ITIL resistance, learning is an essence treatment of the people resistance to ITIL implementation as some people would resist ITIL implementation mainly because they lacked proper knowledge while learnt people would not show obvious resistance. Moreover, several ITIL CSFs, such as communication, awareness, realisation of benefits and broad involvement, would support OL and accordingly would contribute to eliminate or reduce people resistance to ITIL that indicates an association among these CSFs. In sum, learning could be a key of several actions to manage resistance and of implementing ITIL successfully.

6.6.2 Benefits of ITIL

Drawing on data analysis, there were several important issues related to the ITIL benefits in the case studies. Unclear ITIL implementation benefits would result people hesitation of participation and would lead to a failed ITIL implementation project or process. In contrast, people would adhere to ITIL practices once they realise its benefits. In addition, top management would provide more ITIL support if they realise ITIL benefits. Finally, planned awareness can lead to the realisation of ITIL benefits.

Unclear ITIL implementation benefits would result people hesitation to participate and would lead to failed ITIL implementation. For example, in Case Study B which was unsuccessful ITIL implementation, the benefits of ITIL were not planned nor appeared as explained in the following quotation by the Independent External ITIL Consultant.

> *"Each employee is asking himself: 'So what? Why should I invest my time in such a project? What are the benefits for me?' These questions were not answered. It was not clear how each one, I mean the stockholders, would get benefits from the project. In general, what will they get? It was not clear."* (Case Study B, Independent External ITIL Consultant)

According to the Independent External ITIL Consultant in Case Study B, different stakeholders were not aware of the benefits of the ITIL implementation project. Therefore, as people did not know how they would benefit from ITIL implementation, they were not eager to invest their time by the participation in the project. This emphasises that the realisation of benefits is an important ITIL CSF.

Similarly, but on the practice level, unclear benefits of ITIL implementation processes would direct people to ignore these processes. The IT Director in Case Study C in the following quotation attributed the cancellation of CAB meetings that were important practice of ITIL change management process to the absence of their benefits.

> *"We started to meet at CAB but all of our meetings were for emergencies. We met once or twice. Then, as we didn't feel the benefits of these meetings, we neglected these meetings."* (Case Study C, IT Director)

Therefore, in Case Study C according to the IT Director, people neglected the meetings of CAB because they did not feel their benefits. Actually, that would be one of the failure reasons of the change management process in Case Study C. Therefore, while the absence of the ITIL benefits in Case Study B contributed in the failure of the whole project, the absence of the benefits of some ITIL processes in Case Study C contributed in the failure of these processes. This affirms realisation of benefits as an ITIL CSF.

In contrast, as people become more aware of ITIL implementation benefits, they adhere more to ITIL practices. Moreover, if top management realise ITIL benefits, they become more interested in ITIL and provide more supports. For example, the following quotation of the IT Operation Manager in Case Study A shows that the CEO was influenced by recognising the benefits of opening tickets after two years.

> *"Our CEO called me once and said that the services were not working with some client but my reply was 'tell him open a ticket'. I was looking for spreading open ticket culture, even internally. After two years, the CEO said to me 'I become persuaded that the correct way to handle any client's request is to open a ticket…' "* (Case Study A, IT Operation Manager)

As IT Operation Manager in Case Study A explained that the confidence of the CEO in ITIL increased along with the realisation of the ITIL benefits. Additionally, as the quote informed, as the CEO wanted to help the key clients quickly, he ordered directly the IT operation manager to handle their complaints without following ITIL incident management process and opening tickets. This actually would provide an indicator that

the CEO was not so confident of ITIL processes. However, the CEO confidence in ITIL had gradually increased while he practically was involved in ITIL and learnt its benefits. Moreover, the CEO beliefs and behaviours changed once he learnt practically and realised real benefits of ITIL. Therefore, in contrast with the above provided examples of Case Study B and Case Study C, as the CEO in Case Study A realised ITIL benefits, he adhered to ITIL practises although that took long time. Therefore, while the absence of benefit realisation would lead to failure, the existent of benefit realisation would lead to success. Moreover, the realisation of benefits is a kind or learning.

Planned awareness can lead to the realisation of ITIL benefits. In the following excerpt, the Service Management Unit Leader in Case Study A explained some aspects of showing the practical values of ITIL in Case Study A.

> *"On a daily basis, we showed ITIL value, its help and value background. In addition, we exposed the success of incident management"* (Case Study A, Service Management Unit Leader)

Therefore, according to the Service Management Unit Leader in Case Study A, showing the benefits of ITIL was almost a daily activity. As the results of data analysis revealed, this activity would be considered a part of the awareness endeavour over the period of two years. Showing quick wins including the benefits of ITIL in Case Study A was a means to persuade people, including the top management, of the ITIL importance. Moreover, as explained in the previous section about resistance to ITIL, showing the benefits of an ITIL process would help to implement other ITIL processes and to treat resistance. In summary, planned awareness is important to draw people's attention to the ITIL benefits. In addition, this asserts that several ITIL CSFs would correlate with other CSFs such as awareness and realisation of benefits.

To conclude, awareness allows people to see and remember benefits. Therefore, awareness and realisation of benefits are an example of correlated ITIL CSFs. Moreover, realisation of benefits is part of a learning cycle that comprise understanding, practicing, and recognising benefits that enhances understanding and practicing, and so on. Therefore, becoming aware of the ITIL benefits is a learning cycle since people learn if they see things happening.

6.6.3 Learning of ITIL

The last aspect related to the results of ITIL implementation is the learning of ITIL. Learning in this context is not just an attending to a course, but it is in a wider context that represents acquiring new knowledge or behaviours as well as enhancing present knowledge or behaviours. Therefore, it surrounds varied processes such as training, practicing, discussing, and experiencing. Drawing on the data analysis, ITIL practice enhances individual learning and performance of ITIL. Moreover, adequate ITIL learning institutionalises ITIL practices while the lack of ITIL learning would lead to failure ITIL implementations.

People's practice enhances their learning and performance as the practice involves repeating a specific task. Therefore, training alone is not sufficient for people to acquire knowledge. The following two quotations provide two different examples of how practice would support acquiring knowledge. In the first quotation, the Helpdesk Agent in Case Study A declared that he performed a task properly after he repeated it for five months. In the second quotation, the IT Helpdesk Manager in Case Study C talked about enhancing individual learning after practicing ITIL.

> *"There was a report that I tried to prepare... Preparing this report took five hours… However, after a period of four months of working on the system and based on the new experience I acquired, I mastered working on the system and found a way that took only ten minutes to produce this report."* (Case Study A, Helpdesk Agent)

> *"Sometimes, maybe ITIL would not be able to solve the problems immediately, but it sent a message to people that you should organise your work. So, maybe this step was needed to know exactly what ITIL is…what the process is, what the processes are that we should follow, and what the policies are. Conversely, this may make people open-minded.*" (Case Study C, IT Helpdesk Manager)

According to the Helpdesk Agent in Case Study A in the first quotation, he spent five hours to prepare a repeat from a system. As he repeated the task, he learnt more and gained new experience. After four months, he became able to produce the report within ten minutes. In the second quotation, the IT Helpdesk Manager in Case Study C described that people were not able to learn ITIL well immediately. However, with gradual practice they enhanced their learning of ITIL, its terms and its benefits. In sum, people learn ITIL well by practice, but that learning took time.

Moreover, OL of ITIL institutionalises ITIL practices where the work do not depend on a specific person because ITIL become part of daily work. For instance, the Helpdesk Unit Leader in Case Study A described in the following excerpt how the helpdesk worked according to ITIL, although almost all employees who implemented ITIL left the helpdesk.

> *"The number of employees increased gradually until they reached thirteen employees. Currently, one of the six people that I was assigned with is still working with me in the unit. The rest of them were transferred to the second level of the support in other units, or left the company.*" (Case Study A, Helpdesk Unit Leader)

According to the Helpdesk Unit Leader in Case Study A, the number of the helpdesk employees increased gradually, but most of the employees who initially worked according to ITIL were transferred to other units or left the organisation. Only one of them was still working in helpdesk while the new helpdesk employees are working properly according to ITIL. Therefore, ITIL was institutionalised or in other words, became part of the organisation as a result of OL.

On the other hand, lack of real learning of ITIL would lead to the failure of ITIL implementations. In Case Study B, which was a failed ITIL implementation, people did not feel real learning. For example, in the following two quotations, the Contractor Project Manager and the Independent External ITIL Consultant in Case Study B claimed that people did not understand ITIL that negatively affected the ITIL implementation.

> *"There was no real understanding of ITIL neither from their side as a whole entity nor from the implementer company side. I mean they were like two blinds guiding each other."* (Case Study B, Contractor Project Manager)

> *"there was misunderstanding and when I sided with people they did not have buy-in.*" (Case Study B, Independent External ITIL Consultant)

According to the Contractor Project Manager in Case Study B, both the organisation employees and the implementer (i.e. the subcontractor) company employees did not understand ITIL well. To clarify the situation, he used the following metaphor "*they were like two blinds guide each other"*. Similarly, the Independent External ITIL Consultant in Case Study B affirmed the absence of learning that affected people interest of the project. Accordingly, the lack of ITIL learning would result unsuccessful ITIL implementation or would weaken ITIL implementation.

In conclusion, learning of ITIL is not just attending courses but also daily practicing. Therefore, it is a long journey that diffuses gradually within organisations. Accordingly, ITIL learning requires time. However, this learning would lead to successful ITIL implementation by institutionalising ITIL. In contrast, the lack of ITIL learning would lead to failed ITIL implementation. Therefore, learning is an ITIL CSFs.

6.7 The Learning Nature

The analysis of the case studies revealed several aspects of learning and its importance for implementing ITIL successfully as described above through the present chapter. Learning in this context is not just attending a course because it represents acquiring new knowledge or behaviours as well as enhancing present knowledge or behaviours. Therefore, it surrounds varied processes such as training, practicing, discussing, and experiencing. Therefore, it is worthwhile to summarise and describe the nature of the discussed learning from several sides. These sides include its features, sources and benefits.

First, learning possesses several features because it is a continuous process that is not limited only to acquiring knowledge. Training would not be sufficient to understand ITIL concepts well as it is alone does not provide people practical knowledge. Without practice, people do not attain proper knowledge. Therefore, it is not only a training but it is also a participation with others. Moreover, learning composes of acquiring new skills. Accordingly, it needs time for sufficient real practice and involvement. Thus, learning would grow gradually. In sum, proper ITIL learning is not just information acquisition in short period as it is actually a long process that needs time to practice.

Second, there are several sources for learning. As mentioned above, the people practice and their broad involvement of ITIL implementation enhance their learning while the disengagement of people would be a sign of learning shortage. Moreover, communication would facilitate learning. Communication would take several images such as persuasion which is a way to affect others to do something through argument that would be a result of learning. In other words, once people learn, they would become persuaded and so they would change their behaviours. Another means of

communication is the reports of performance that would enhance learning and encourage individuals to adjust their behaviours to achieve required targets. Awareness as a means of communication would also support learning that facilitates ITIL implementations while the shortage of ITIL awareness would impact negatively learning of ITIL In addition, learning could be resulted from external sources such as external consultants. Moreover, adopting and customising appropriate technology would also facilitate gradually learning of ITIL. The rewarding also facilitate learning within organisations. People can be involved in repetitive behaviours and actions because of an extrinsic motivation or, otherwise stated, because they were rewarded. Usually, people would emulate rewarded people and follow their behaviours and actions. In addition, the gradual ITIL implementation strategy involved some kind of learning while the rapid implementation would hinder learning. Another source of learning is the realisation of ITIL benefits that would prompt learning. Moreover, the realisation of benefits is part of a learning cycle that comprise understanding, practicing, and recognising benefits that enhances understanding and practicing, and so on. Therefore, becoming aware of the ITIL benefits is a learning cycle since people learn if they see things happening. In sum, there are several actions and means that can be considered as learning sources,

Finally, there are several results of learning during ITIL implementations. People's tendency to show resistance to ITIL implementations would vary among employees depending on their learning. People lack of sufficient ITIL learning would lead them to resist ITIL while people have sufficient learning do not show obvious resistance. Therefore, learning would reduce or eliminate resistance. Therefore, learning would lead to institutionalise ITIL practices within organisations. This asserts that individual learning is an important factor for successful ITIL implementations. In sum, learning support successful ITIL implementations.

In conclusion, learning of ITIL is not just attending courses but it is also a daily practice. Therefore, it is a long journey that diffuses gradually within organisations. Accordingly, ITIL learning requires time. However, this learning would lead to successful ITIL implementation by institutionalising ITIL. In contrast, the lack of ITIL learning would lead to failed ITIL implementation. In sum, adequate ITIL learning

institutionalises ITIL practices while the lack of ITIL learning would lead to failed ITIL implementations. Therefore, learning is a key ITIL CSF.

6.8 Conclusion

The current chapter presents the findings of the Framework analysis of the ITIL case studies. Moreover, Table 6-1 provides cross-analysis of the case studies. The above findings can be summarised and assimilated into six major findings. First, most of ITIL CSFs would apparently affect ITIL adoptions in the case studies. However, some CSFs such as using external consultants were contextual CSFs that would affect ITIL implementations but not in all instances. Second, rewarding people and continuous learning would be novel ITIL CSFs. Third, organisational learning would represent a supreme CSF that other CSFs would lead to. Fourth, most of ITIL CSFs would correlate several other CSFs. Fifth, the importance of some ITIL CSFs would vary over time so they are dynamic CSFs. Sixth, time would be a dimension that influences ITIL CSFs because it would affect their importance and facilitate learning. The following paragraphs elaborate each of these major findings briefly.

First, most of literature ITIL CSFs, which were identified previously in Chapter 3, were apparent in the case studies as explained above across the present chapter such as management support, training, board involvement, realisation of benefits, champion, implementation strategy, real need realisation of ITIL, qualified people and project management. However, in contrast with literature, the factor of external consultants was not an ITIL CSF in one of the case studies that depended completely on internal human resources. Nevertheless, it was a CSF in another case study. Therefore, as discussed in Subsection 6.2.3, using external consultants is not a steady ITIL CSF. Accordingly, some factors are contextual CSFs that would pertain some cases and not be applicable always for all cases. In sum, a contextual CSF is a factor that would be a CSF in some cases, but it is not a CSF in other cases.

Second, the analysis of the case studies suggested two new ITIL CSFs: rewarding people and individual learning. According to Subsection 6.3.4, the findings of the case

studies contained that rewarding and appreciating people at different moments and by different means would contribute toward ITIL success. Therefore, people appreciation in ITIL implementation projects would be an ITIL CSF. Moreover, as discussed in Subsection 6.6.3, the findings proposed that individual learning within organisational

S.	Aspect	Case Study A	Case Study B	Case Study C
1	ITIL Decision	CEO	CIO	IT director
2	Real Need of ITIL	apparent	apparent	apparent
3	Top Management Role	influential - affected ITIL decision and implementation strategy	neutral while fully authorised IT management	blessed the decision while fully authorised IT management
4	Top Management Support	increased	neutral	neutral
5	IT Management Support	increased even with new manager	interrupted then stopped with new manager	decreased
6	Implementation Strategy	gradual implementation	gradual implementation	rapid implementation
7	Implementation Speed	slow	interrupted	quick
8	Training	continuous at the orientation period	one time before long period of the implementation	immediately before the implementation
9	Awareness	wide	non-existent	narrow
10	Involvement of People	broad	absent	limited
11	Dedicated People for Implementation	yes – created section	no	No
12	Dedicated People for Processes	helpdesk people became core of incident management process	the contractor shall provide employees & technical support people were possible candidates	helpdesk people became core of incident management process
13	Process Adaption	existent	non-existent	existent
14	Continuous Improvement	apparent	non-existent	not apparent
15	Performance Management	continuous	absent	weak
16	ITSM Software	several systems selected gradually as needed	one system that never run because of technical and managerial problems	one system selected quickly that larger than needed

Table 66-1 Cross-Analysis of the Case Studies (continued overleaf)

S.	Aspect	Case Study A	Case Study B	Case Study C
17	Project Management	good	weak	good
18	Communication	very high (e.g. persuasion)	absent	inadequate
19	Realisation of Benefits	wide	no	partial
20	Appreciation of People	apparent	non-existent	non-existent
21	Champion	multiple	one	one
22	Qualified People	increased	non-existent	increased slowly
23	External Consultant	no	yes –multiple for short periods	yes for short period
24	External parties	one party for systems	seven parties including subcontractors	two parties
25	Case selection criteria	- success of implementing ITIL - long experience with ITIL - independent of external consultants	- failure of implementing ITIL - existence of external consultant	success of some processes and failure of other processes
26	Major Theme	gradual progress	pause and change	promptness

Table 6-1 continuation: Cross-Analysis of the Case Studies

contexts would be one of the most influential factors for successful ITIL implementation. While learning support ITIL implementation success, the lack of learning would lead to failure. Therefore, the capacity of an organisation to learn determines its success to implement ITIL. Therefore, learning would be proposed as an important ITIL CSF.

Third, most of ITIL CSFs facilitate or associate OL. This emphasises that learning, as mentioned above, is one of the most influential factors of successful ITIL implementations. For example, management support correlates learning as explained in Subsections 6.2.1 and 6.2.2. Moreover, people's broad involvement and external consultants would affect and be affected by learning as discussed Subsections 6.2.3, 6.2.4 and 6.3.2. Furthermore, drawing on Subsections 6.2.4, 6.4.1, 6.4.2, 6.4.4, 6.5.1, 6.5.2 and 6.6.2, several ITIL CSFs such as training, communication, awareness, performance management, ITSM tool and realisation of benefits enhance or support OL. Moreover, Subsection 6.3.1 shows that ITIL implementation strategy would affect directly or indirectly individual learning about ITIL. Additionally, learning would reinforce continuous improvement as discussed in Subsection 6.3.3. Finally, Table 6-1 shows that the capacity of organisations to learn was a critical issue for successful ITIL implementations. Therefore, the success and failure of ITIL implementations in organisations depend on their abilities to learn. In sum, proper organisational learning would represent the foremost success factor of ITIL implementations that can be called the supreme CSF of ITIL implementations where a supreme CSF is a CSF that most of other CSFs would result. In other words, it is a genuine influential factor that entails several other CSFs.

Fourth, that analysis revealed that most of ITIL CSFs of the case studies would correlate many other ITIL CSFs. The relations between the CSFs vary. For example, some CSFs would support or affect others CSFs while the adjustment of some CSFs would influence other CSFs. For example, as explained in Subsections 6.2.1 and 6.2.2, management support CSF would impact several ITIL CSFs such as realisation of benefits, real need realisation of ITIL, champion and implementation strategy. Additionally, ITIL CSFs of qualified people, external consultants, broad involvement, project management and realisation of benefits would affect each other as presented in

Subsection 6.2.3. According to Subsection 6.2.4, several ITIL CSFs would associate other ITIL CSFs such as qualified people, champion, and realisation of benefits; training and awareness; and training, broad involvement and real need realisation of ITIL. Moreover, implementation strategy would associate several ITIL CSFs such as management support, involvement of people, training, external consultant, awareness and realisation of benefits as discussed Subsection 6.3.1. In addition, Subsection 6.3.2 shows that people's involvement would correlate communication and qualified people. Additionally, qualified people would support continuous improvement as explained in Subsection 6.3.3 while appreciation would facilitate broad involvement according to Subsection 6.3.4. Another example is awareness that would correlate several other ITIL implementations such as real need realisation of ITIL, broad involvement and realisation of benefits as discussed in Subsections 6.4.2 and 6.6.2. Finally, Subsection 6.4.4 shows that performance management would affect or be affected by broad involvement, management support, communication and ITSM software. Figure 6-1 illustrates that there are some interrelations between ITIL CSFs as well as that learning is a supreme CSF that other CSFs would support.

Fifth, some ITIL CSFs would be dynamic where a dynamic CSF is a CSF that its effect and importance vary over time. Therefore, some ITIL CSFs would not be important at all stages and times. For example, as explained in Subsection 6.2.2, management support importance for ITIL implementation would vary over time. Moreover, while ITIL training at the early stages of ITIL implementations was very critical, it was not so important later as presented in Subsection 6.2.4. Therefore, time would affect some ITIL CSFs.

Sixth, consistent with the previous finding, time would influence ITIL CSFs. Time did not only change the importance of some CSFs, but it also allowed people to learn more. Learning is not only the acquisition of information through training, but it also involves practicing, persuading and realising benefits that required time as explained in Subsections 6.2.1, 6.2.3, 6.2.4, 6.4.3 and 6.6.3. In other words, time represents "the degree of experience with the ITIL project" (Iden and Eikebrokk, 2014, p. 302).

Figure 6-1 The Interrelation among ITIL CSFs

In summary, the findings of the Framework analysis involve that some ITIL CSFs are contextual or dynamic while OL would be an ITIL supreme CSF. Moreover, most of ITIL CSFs would correlate other CSFs. Finally, time would be a dimension that influence ITIL CSFs. Accordingly, these findings raise interrogations about the contextual ITIL CSFs, dynamic ITIL CSFs, interrelations between ITIL CSFs from the perspectives of time and learning. Therefore, I decided to apply analysis triangulation by reanalysing data using event narrative analysis method as it considers the time dimension and suits to reveal learning aspects (Webster and Mertova, 2007). The next chapter present the findings of analysing the case studies using the event narrative method.

CHAPTER 7: FINDINGS OF EVENT NARRATIVE ANALYSIS: ITIL SUCCESS ROADMAP

7.1 Introduction

The Framework analysis of the ITIL implementation case studies has revealed several important aspects of the success and failure of ITIL implementations, as presented in the previous chapter. Many of the Framework analysis findings merits further exploration such as the time role, dynamic CSFs and learning, dynamic ITIL CSFs and interrelations among ITIL CSFs. Accordingly, I applied analysis triangulation by reanalysing the case studies using event narrative method to explore the learning role and time impact on contextual ITIL CSFs, dynamic ITIL CSFs and the interrelations among CSFs. The rationale underlying the adoption of event narrative analysis is that it reflects time factor, considers event sequences and provides holistic longitudinal perspective. Moreover, event narrative analysis holds valuable potential for research of learning (Webster and Mertova, 2007). In sum, while the Framework analysis method concentrates on thematic perspectives, event narrative analysis would provide a holistic view of ITIL implementations with considering event sequences, time effects and longitudinal aspects so it would reveal additional aspects of the interrelations among ITIL CSFs and their natures.

The major objective of analysing the events and their sequences of ITIL implementation case studies was to understand the effects of the events on learning and to investigate the associations of the events with ITIL CSFs. Listing the events of ITIL implementations led to segregate them into four phases: decision, preparation, practice and result phases. First, the decision phase of an ITIL implementation represents the pre-implementation stage. It contains all events of the implementation that lead to adopting ITIL until the formal decision to implement ITIL. Therefore, it would hold events to investigate or to discuss ITIL need, ITIL business case or ITIL alternatives. Second, the preparation phase of an ITIL implementation comprises all events related to

ITIL implementation after the formal decision until the real start to work according to ITIL processes. Some examples of preparation phase events would be designing ITIL processes and attending training courses. Third, the practice phase of an ITIL implementation includes the events of ITIL implementation since applying ITIL processes. Finally, the result phase of an ITIL implementation contains the events of ITIL implementation since the results of applying ITIL processes emerge.

Accordingly, the findings of analysing ITIL implementation case studies using event narrative method are segregated into the following four sections where each section present the findings related to one ITIL implementation phase. Then, an additional section concludes the findings as a last section of the chapter. In a similar way of the previous chapter to present the findings, the current chapter adopts the writing style of Holliday (2007) in which each paragraph encompasses three elements: argument, data, and discursive commentaries.

7.2 Decision Phase

The decision phase of ITIL implementations comprises the events before the formal decision to implement ITIL. In other words, it involves pre-implementation events that lead to launch ITIL initiatives such as events of comparing ITIL with other possible alternatives and selecting ITIL. Moreover, the major outcome of the decision phase is the management decision on ITIL implementation. In the case studies, choosing ITIL involved and required learning. More specifically, the selection of ITIL in Case Study A and Case Study B was a learning journey that took some time as nobody in these two organisations was aware of ITIL at that moment. By contrast, in Case Study C, two employees had a previous experience of ITIL so ITIL project started quickly.

7.2.1 Case Study A

In Case Study A, the willingness of the CEO of to promote the IT operation was a key directive for enhancing IT operation management and learning about ITIL. Another directive was the feeling of the dysfunction of some IT services. As he desired to enhance the IT operation, he alerted the IT operation department to improve its services in order to overcome some raised IT troubles. To fulfil the CEO’s request of improving

the IT operation services and increase the customer satisfaction, the IT operation department searched for possible solutions to enhance the IT operation that led finally to the adoption of ITIL. Accordingly, the IT Operation Manager and his team went through a learning process about ITIL. In the following excerpt, the Service Management Unit Leader in Case Study A described how the CEO looked for improving the IT services within the organisation and how his team proposed ITIL implementation.

> *"Actually, we started based on our CEO's request. The story of ITIL implementation starts upon a request from our CEO to IT operation manager to find a solution to the IT operation fundamental problems. After we had investigated different solutions and benchmarks, we proposed ITIL. Then, our CEO asked us to build a business case for ITIL implementation. We gave a presentation to show ITIL ROI, vision, the benefits such as improvement of services and staff performance, cost estimate, references, and success stories."* (Case Study A, Service Management Unit Leader)

This statement of the Service Management Unit Leader clearly shows that how the CEO's role was the most crucial to search for possible solutions to address the problems and dysfunction of their work. Therefore, the CEO's concern to improve the IT services within organisation determined the exploration of different solutions and benchmarks that finally led to start ITIL implementation project. In other words, if the CEO would not have taken actions toward the issues concerning the IT services, most likely ITIL would have been never adopted. Therefore, the CEO held an essential role in the implementation of ITIL within organisation. Then, the IT operation department investigated different standards of IT operation and compared these standards. At that stage, IT operation team learnt about the benefits of ITIL and proposed it as a solution for enhancing customer satisfaction and improving IT department services. After choosing ITIL as an adequate solution for their problem, there was a lengthy discussion between the executive management and the operation management, which included presentations about ITIL benefits, success stories of ITIL implementations, methods to implement ITIL and its return on investment. Through looking for possible solutions, the IT Operation Manager and his team became aware that ITIL could be implemented to improve the IT operation department's services and customer satisfaction as well. In sum, during seeking for possible solutions and discussion, the IT operation team learnt about ITIL and realised their organisation's real need of ITIL to solve the issues they

encountered. Therefore, they became confident about its benefits and accordingly they chose it. Accordingly, it seems that real need realisation of ITIL associated the decision phase of ITIL implementation in Case Study A.

Moreover, besides his observation and alert to improve the IT services within the organisation, the CEO in Case Study A offered his minimum support in order to allocate the necessary resources for the ITIL project inauguration. At this initial stage, it would be satisfactory to have the minimum support of the CEO to start the ITIL implementation project; to allocate the necessary financial and human resources; and to approve the high-level implementation plan. As the Service Management Unit Leader said,

> *"At the beginning, our CEO participated in preparing the high-level plan. One of the things that helped us a lot is the IT background of the CEO… I think applying ITIL in a different organisation would be harder"* (Case Study A, IT Operation Manager)

The statement of the Service Management Unit Leader emphasises the importance of a minimum support of the CEO for implementing ITIL in Case Study A. This approval was necessary to introduce the ITIL best practices into Case Study A and to allocate the necessary financial and human resources. Moreover, it shows the importance of the CEO's role as a decision maker. Therefore, management support was essential to commence ITIL implementation intuitive in Case Study A.

However, the decision of the CEO in Case Study A affected the ITIL implementation strategy. As he refused to implement ITIL using external consultants to cut the costs of outsourcing ITIL implementation, IT operation team suggested implementing ITIL based internal human resources. To achieve this purpose, the team proposed an initial roadmap suggesting implementing ITIL based on internal efforts after providing the operation team with the needed training. Thus, the final suggestion was to implement ITIL internally, even though this would take a longer time. The CEO took a crucial strategic decision to implement ITIL based on internal human resources as explained in the following quotation.

> *"The management team was aware. So, they were studying the alternative implementation options either internally or externally. They selected the internal implementation as it was cheaper, although its execution estimated time would be longer."* (Case Study A, Service Management Unit Leader)

The Service Management Unit Leader in Case Study A emphasised that the CEO had an essential role in the development and implementation of ITIL as he authorised the new proposal of implementing ITIL by utilising internal resources to minimise costs. The CEO wanted to see tangible outputs and real practical benefits of ITIL. He looked for tangible outcomes of ITIL and his actions dramatically affected the manner in which ITIL was implemented. In sum, the CEO had a great impact on ITIL implementation manner as he took a crucial strategic decision to implement ITIL based on internal human resources. This decision affected the strategies of the ITIL implementation. Therefore, implementation strategy as an ITIL CSF associated the ITIL implementation decision phase in Case Study A.

7.2.2 Case Study B

Similar to Case Study A, the decision to implement ITIL in Case Study B took time, involved learning about ITIL and came after the real need realisation of ITIL. Initially, the reason for implementing ITIL in Case Study B was a suggestion from an IT senior consultant who left the organisation. Preliminary, he was assigned to fulfil an official request from organisational development department to document IT policies and procedures. He did not know about ITIL at that time. However, during his assignment, he examined how others perform such duty that allowed him to know about ITIL. Accordingly, he suggested ITIL to his department, but he left soon after. He therefore handed over the outcomes to another IT consultant and provided him and the CIO a brief about ITIL. Then, the second IT consultant was also convinced of ITIL and so he espoused its adoption. Accordingly, as he explained in the following first quotation, the CIO agreed to implement ITIL. Moreover, in the following second quotation, the CIO explained why he took ITIL implementation decision.

> *"I searched and read about ITIL as it impressed me. Then, I recommend it to our CIO. During my online search about ITIL people in this country, I found a British ITIL expert who wrote several articles on this subject. I mailed him and he visited me severally where we discussed ITIL implementation. Then, he presented his proposal for ITIL consultation. I informed the CIO who suggested that we ask him to train several new employees in the department. He trained about fifteen employees. After a while, the CIO agreed to prepare an RFP of ITIL implementation"* (Case Study B, IT Consultant)

> *"As the responsible man in this organisation, I would like to make a successful decision and to avoid failure. There are many successful ideas, but it is impossible to implement them without the necessary tools. I always consider an*

> *idea, a project or business as a son who needs a father behind him, especially in the childhood period of the project, program, or procedure. After it grows, it either becomes part of the culture or it dies"* (Case Study B, Chief Information Officer)

According to the IT Consultant in Case Study B in the first quotation, the decision to implement ITIL was preceded by seeking information about ITIL, discussion, the involvement of external expert to provide initial training to accrue basic knowledge about ITIL. As the IT consultant was enthusiastic to implement ITIL, he got approval from the CIO to get an internal training to check its importance. However, most of the training attendees were new employees who were not influential people so there was no clear evidence about training impact. Moreover, in the second quotation, the CIO explained that he only agreed to implement ITIL when he felt that ITIL would be useful and successful with the existence of the IT Consultant. Therefore, consistent with the findings of Case Study A, it seems that the decision to implement ITIL in Case Study B depended on realising real need of ITIL. However, the CIO's decision in Case Study B was, as explained in the first quotation, to prepare an RFP of ITIL implementation depending fully on external consultants in contrast with Case Study A. In both cases, setting ITIL implementation strategy was part of ITIL decision process.

7.2.3 Case Study C

In Case Study C, the previous experience of some employees accelerated the decision to implement ITIL. This contrasts Case Study A and Case Study B in which the employees lacked prior knowledge of ITIL at the stage of discussing its real need. More specifically, in Case Study C, an IT employee who had an ITIL foundation certificate suggested ITIL implementation to the IT Director. Based on their previous ITIL experience, the IT Director, who later became the CEO, decided to implement ITIL with an aim to enhance the IT operation. In this context, the Chief Executive Officer explained in the following excerpt the reasons of talking ITIL implementation decision.

> *"The challenges that the IT department faced were mainly related to changes and that was the main reason for applying ITIL. The problem of a change is that it would a risk as it may lead to system shutdown or cause problems related to the satisfaction of users. Hence, we decided to adopt ITIL."* (Case Study C, Chief Executive Officer)

Therefore, following the identification of the real need of ITIL, especially in managing changes, the CEO agreed to implement ITIL and assigned the employee with previous

ITIL experience as the ITIL implementation project manager. While the previous learning supported the decision to implement ITIL, the real need realisation of ITIL correlated with the decision. Moreover, the CEO took the decision to implement ITIL based on his responsibility of managing IT. However, the ITIL implementation strategy in Case Study C was 'let us do it'. Therefore, the management role affected ITIL implementation decision in Case Study C.

7.2.4 Summary

It seems that in all three case studies the real need realisation of ITIL resulted from learning and influenced the decision to implement ITIL. In other words, there were sufficient learning and ITIL need realising that allowed the organisations to launch ITIL projects. Moreover, the management was influential on ITIL implementation decision in all case studies. Consequently, the decisions to implement ITIL in the three case studies relied on management and involved setting ITIL implementation strategies. In addition, it seems that three ITIL CSFs associate the decision phase of ITIL implementation: real need realisation of ITIL, management support and implementation strategy.

7.3 Preparation Phase

The second phase of ITIL implementations is the preparation phase. This phase entails the events of ITIL implementations from the formal decision to implement ITIL to the moment of people starting work according to ITIL processes. These events would involve ITIL training, installing ITSM software and designing ITIL processes. According to the analysis of the case studies, while the organisations in Case Study A and Case Study C were able to learn during the preparation phase and to pass to the next phase, it seems that the organisation in Case Study B suspended in this phase and was unable to proceed forward.

7.3.1 Case Study A

The preparation phase of the ITIL implementation in Case Study A mainly involved forming the ITIL implementation team, ITIL extensive training of this team, ITIL foundation training of IT personnel, preparing ITSM software and conducting

awareness campaign of ITIL. However, drawing on data, it seems that people in Case Study A learnt at this stage essentially because of training and awareness.

In Case Study A, ITIL training events provided initial knowledge to the trainees. The training followed the executive management's instructions to the IT operation department to pursue ITIL initiative based on internal resources. Therefore, the IT operation manager nominated the ITIL implementation team. To fulfil its duty, the team got comprehensive and advanced ITIL training which can be considered the first practical action to implement ITIL as referred to by the Service Management Unit Leader in the following excerpt.

> *"Our manager asked us to implement ITIL. However, we lacked the necessary experience. So, we got advanced ITIL training before applying ITIL. It was not easy to apply the processes"* (Case Study A, Service Management Unit Leader)

As the Service Management Unit Leader mentioned, the training was essential prior to the adoption of the ITIL processes as the implementation team lacked ITIL experience. The training allowed the team to gradually implement ITIL. Moreover, it was the initial main source of knowledge acquisition for the implementation team during the early stages.

Additionally, extensive training for many employees in Case Study A was essential to implement ITIL, build internal capability and acquire knowledge of ITIL. This training was essential because the CEO's strategy was the utilisation of internal human resources rather than hiring external consultancy organisations. The following excerpt describes the training events.

> *"We carried out training before applying ITIL for the operation department team. Some employees from other departments also attended the training. We conducted a two years' orientation that included group training"* (Case Study A, IT Operation Manager)

Employees from different departments within the organisation in Case Study A participated in extensive training as explained by the IT Operation Manager in the above excerpt. The extensive training, which facilitated learning during the preparation phase, extended over the orientation period.

Additionally, awareness events in Case Study A supported ITIL implementation and facilitated learning as it represented a means for managing people resistance and

enhancing collective involvement. In other words, it encouraged and guided people to apply ITIL. In the following quotations, Service Management Senior Expert and Service Management Unit Leader, who were responsible for ITIL implementation in Case Study A, described some awareness events.

> *"Awareness of ITIL is important. It is impossible to force ITIL without proper awareness … To The role of awareness was to ensure that the employees apply ITIL effectively."* (Case Study A, Service Management Senior Expert)

> *"It is important to do awareness activities. At the beginning, we hanged posters on walls to inform people about the project"* (Case Study A, Service Management Unit Leader)

Based on these excerpts, the awareness campaigns allowed people in Case Study A to participate and hence to learn more about the ITIL project. Moreover, awareness had a positive influence on the ITIL adoption. Drawing on data, the awareness activities in this case study spread over the orientation period, which lasted for two years. It exhausted extensive efforts but allowed the employees to learn better about the importance of designing IT operation processes and the significance of ITIL.

In conclusion, learning progressed across the preparation phase of ITIL implementation in Case Study A. Moreover, it associated mainly the events of the three ITIL CSFs: training, conducting awareness and preparing ITSM software.

7.3.2 Case Study B

In Case Study B, the events of the preparation phase of ITIL implementation spread over a year. While there were several attempts to move forward to the practice phase, all attempts failed. It seems that the obstacles to learning in this phase caused the termination of the ITIL implementation project.

Drawing on collected data, the organisation in Case Study B relied completely on another organisation (i.e. through external consultants) to implement ITIL and bring required knowledge. The phase started by an event to prepare an RFP that containing different direct and indirect ITIL implementation requirements such as supplying server, delivering IP telephony, installing ITSM software, designing ITIL processes and outsourcing service desk agents. The result of biding was to award the project to lowest bidder who had previous relations with the organisation in supplying IT equipment. At the awarding moment, the contractor had a partnership with an ITIL consult firm who

was supposed to implement ITIL. However, after starting the project the partnership between contractor and the ITIL consultancy firm was cancelled. Therefore, instead of being the main learning source, the contractor without the partnership was incapable of providing required services. The Independent External ITIL Consultant in Case Study B described his opinion about the contractor in the following excerpt.

> *"The organisation took the right way. The management said that we have a lack in this area. So what did they do? They sought for a contractor to help them. However, the selected contractor was not worthy of the responsibility. I mean, the organisation required someone who could help to solve its problems. A sick person cannot treat herself, even though she knows her illness. The organisation diagnosed the issue, addressed the requirements and found that it needed to implement ITIL. However, it awarded wrong contractor."* (Case Study B, Independent External ITIL Consultant)

According to the Independent External ITIL Consultant, the organisation in Case Study B understood its lack of knowledge of ITIL so it looked for an external party to fill this gap. However, it selected inappropriate contractor who failed to meet the organisation's expectations of bringing required knowledge. The subsequent events provided further evidence of this finding. For example, the contractor delayed starting the project because of the partnership cancellation with the ITIL consultancy firm. Accordingly, the contractor signed an agreement with a subcontractor devoid of the knowledge of the contracting organisation. The subcontractor visited the organisation intermittently and lately submitted a document as a design of ITIL processes. In this context, the IT Consultant in Case Study B described the outcomes of the subcontractor in the following quotation.

> *"Then, a subcontractor appeared and provided an implementation document to us. However, while I scrutinised the document, I discovered that a consultant in Burkina Faso prepared the document, but I did not tell them. When I asked them to discuss issues of ITIL implementation, they postpone the request. At the end, I refused the work and became sceptical of their capabilities and advices"* (Case Study B, IT Consultant)

This quotation tells that the subcontractor was actually unqualified to implement ITIL as it depended on a remote freelancer to design ITIL processes so the subcontractor was could not discuss the provided document. Moreover, the subsequent events confirmed that there were several other attempts by the subcontract to satisfy the IT Consultant, but they did not change the situation. This was an indication that the subcontractor was

unqualified to implement ITIL. These events also demonstrated a lack of personnel awareness of ITIL as nobody in the organisation participated in designing ITIL processes. For example, in one of the attempts of the subcontractor to achieve something, the subcontractor hired a consultant for a short period. However, the consultant concentrated on covering contractual terms, although he noticed the deficiency of people's awareness as he explained in the following excerpt.

> *"We met the IT operation staff several times and in each meeting, we explained to them the objectives and the benefits they would gain. Only one team, the software development, was interested in the subject in order to preserve the source codes because the team had been struggling with issues related to source codes. However, the rest of the departments considered the subject as nice to have. They lacked sufficient commitment from their side. We also lacked adequate time to meet the managers to gain their commitment so they could enforce the rest of the teams. This would require more official sessions. The only public awareness session was at the end to present the result using a PowerPoint presentation. It was just a conclusion"* (Case Study B, Subcontractor ITIL Consultant)

Therefore, according to the Subcontractor ITIL Consultant in Case Study B, there was poor awareness. He noticed the awareness gaps, but he did communicate them as he concentrated to complete the required work. Eventually, he only provided one awareness session to deliver the results as agreed with the main contractor. Therefore, it seems that there was a lack of learning in the organisation as most internal people was away of the project.

Moreover, when the contractor strived to install ITSM software through experts, it failed to run for various reasons. The IT Consultant in Case Study B talked about some troubles faced by the contractor during ITSM software installation in the following quotation.

> *"The contractor brought a subcontractor to setup CA system in a room dedicated for agents. However, the room lacked suitable preparation such as the connectivity to the network and phone lines"* (Case Study B, IT Consultant)

According to this quotation of the IT Consultant in Case Study B, the infrastructure was not ready to run the ITSM system, namely CA. Although, the system was lately installed on the server, it did not run. Therefore, internal staff did not benefit from it. This was another reason for postponing ITIL practice. In sum, the ITSM software in Case Study B did not facilitate learning at the preparation phase contributing to ITIL implementation failure.

Additionally, there were many change events that hindered learning. For example, the event of the IT department movement to a new building delayed the project to prepare the infrastructure. Therefore, this event preoccupied the contractor with the order to prepare the service desk room. Another example was the event of the CIO's long sick leave. He was very supportive of ITIL implementation project, but his absence affected the project progress. According to the following quotation by the IT consultant, who was not satisfied of the project, the project had paused during the absent period of the CIO.

> *"IT departments were moved to another building where they did not reserve a place for the helpdesk and did not utilise previous equipment. Thus, the project practically stopped… the implementation was postponed because of the movement from old building to another one and the absence of the CEO for a long period of sick leave"* (Case Study B, IT Consultant)

According to this quotation, several events hindered the project such as movement to new building and the CIO's absence. Moreover, these events had a negative impact on the ITIL implementation and OL. After his returning, the CIO suggested that the contractor hires a specific ITIL expert to mitigate the situation and complete the project. The contractor agreed to hire that expert once a week to support the project and accordingly called the expert as he explained in the following quotation.

> *"…they called me and requested me personally to become a part time consultant for the project because it was stuck."* (Case Study B, Independent External ITIL Consultant)

Therefore, once the expert joined the project, he planned to close the project and advised on how to run the service desk using the incident management process. However, the project experienced another major setback when the CIO was changed suddenly. This further unexpected event negatively influenced the project as described by the Contractor Project Manager in the following excerpt.

> *"When the management changed, the new CIO had little interest in the project, to the point that ITIL and the helpdesk weren't included in new his plan. He wasn't convinced"* (Case Study B, Contractor Project Manager)

According to the Contractor Project Manager in Case Study B, the new CIO had no idea about ITIL and had his own priorities. Therefore, he decided to stop the project. In sum, several events objected learning and weakened the ITIL implementation in Case Study B resulting in the failure.

In summary, three major factors impeded ITIL implementation in Case Study B at the preparation phase. First, while the expected role of the contractor was to bring ITIL knowledge into the organisation and to facilitate learning, it was evident that the contractor was unqualified to implement ITIL. Second, the personnel were isolated resulting in poor people's awareness and absence of ITIL implementation enthusiasm. Third, the organisation was not able to work on ITSM software. Those three factors influenced negatively ITIL learning and implementation. In addition, they encountered several other events that led to the cancellation of the project.

7.3.3 Case Study C

The preparation phase of ITIL implementation in Case Study C was short. However, it contained several events that enhanced the learning evolution. These events included training, hiring consultant, designing the processes and selecting ITSM system.

One of the events that influenced the personnel learning at ITIL implementation preparation phase in Case Study C was ITIL training of all IT employees that provided with them initial information about ITIL. The IT Director decided to provide ITIL training to all IT employees so they can understand ITIL terms. Moreover, they also entered the foundation examination after the training to fulfil the CIO order and they all got ITIL foundation certification. The following two quotations described that people training was first practical action to implement ITIL in Case Study C.

> *"In the beginning, they sent everyone to the training. I went before them so I had better understanding as I received the training from a British expert in HP so he had a practical experience. All IT employees had ITIL training."* (Case Study C, IT Director)

> *"We got an ITIL foundation course to be taken by all of the IT employees. They had to take ITIL foundation course. So, they had divided it into two sessions. All of the IT employees from each section took the ITIL course. We also asked them to earn the ITIL foundation certification, and so they did"* (Case Study C, ITIL Project Manager)

According to the first quotation by the IT Director who was the Application Development Manager at the beginning of ITIL implementation, all IT employees got ITIL foundation training. In addition, he indicated that the trainer had excellent experience that influenced the quality of training. In addition, in the second quotation,

ITIL Project Manager in Case Study C stated that all IT employees earned ITIL foundation certificate.

Another event that supported learning of ITIL implementation was related to external consultants. The organisation in Case Study C signed with a contractor to support internal team and provide ITIL consultations. This indicates that there was a need for an external knowledge source as internal IT people lacked such knowledge. The Chief Executive Officer in Case Study C explicitly stated in the following quotation that he planned to transfer knowledge from the consultant to internal people.

> *"Our main concern with the consultant as I told him is that 'your main goal is not to apply ITIL but to transfer the knowledge so our team members can apply it and manage everything'... We brought two consultants from South Africa. They were frankly good and also our team learnt from them*" (Case Study C, Chief Executive Officer)

According to the Chief Executive Officer in Case Study C, he was eager to transfer knowledge to internal people. Practically, his wish was embodied in the participation of IT team in designing the processes that increased people's awareness of ITIL processes. Initially, the objective of the ITIL Project Manager was that the process owners, who were among IT staff, design the processes. However, they could not since they did not have sufficient knowledge and experiences. Accordingly, the external consultants were requested to suggest initial designs for the ITIL processes while the process owners were demanded to review the suggested processes with the external consultants. The following two quotations describes the scene from the perspective of ITIL Project Manager and IT Helpdesk Agent who was one of the process owners.

> *"The consultants mentored the employees twice every three weeks. They sat with everyone."* (Case Study C, ITIL Project Manager)

> *"There was a company who helped us to implement ITIL. We started together and the consultant was sitting with each one of us separately to help us in process writing. We were sending him the processes and he was following with each one of us, on what we wrote and what we missed"* (Case Study C, IT Helpdesk Agent)

Drawing on the above first quotation of the IT Helpdesk Agent in Case Study C, the external consultants supported internal people to design the ITIL processes. Also in the second quotation, the IT Helpdesk Agent in Case Study C explained how he and other process owners received support from the consultancy firm. Accordingly, it seems that

the awareness and knowledge of IT internal people increased because of their participation with the external consultants. In sum, knowledge was acquired from external parties

Finally, the selection and preparation of ITSM software events also affected the learning in the preparation phase of ITIL implementation in Case Study A. The IT Director and ITIL Project Manager selected an ITSM system with an aim to start ITIL practice according to the designed processes. In the following excerpt, the ITIL Project Manager in Case Study C described the necessity of such system and how they selected it.

> *"We found that we needed a tool. Thus, in the second stage, we requested for a tool that can help us in applying ITIL. Next, we wrote an RFP for a tool and defined our needs from the tool such that we needed all of these processes to be automated. We tried more than one system, and then we selected the system that gave us all of what we needed with an appropriate price. And here was the actual start of applying ITIL"* (Case Study C, ITIL Project Manager)

Accordingly, the ITIL Project Manager in Case Study C considered using ITIL software or tool as a way to start applying IT processes. Therefore, preparation of ITSM software would support the progress to the next phases.

To summarise, the major events that supported ITIL implementation in Case Study B at the preparation phase were related to training, external consultants, process design and selected ITSM system. First, training provided people with initial learning of ITIL. Second, the involvement of external consultants facilitated individual learning. Third, the personnel involvement in designing ITIL processes enhanced people's awareness. Finally, the selection and preparation of ITSM system allowed the ITIL implementation to proceed.

7.3.4 Summary

To conclude the findings related to the preparation phase, there were mainly four influential ITIL CSFs that facilitated learning. These CSFs contained training, awareness, external consultants and ITSM software. In light of these ITIL CSFs, the following paragraphs compare between Case Study A as a successful ITIL implementation instance, Case Study B as a failed ITIL implementation instance and Case Study C as a partially successful ITIL implementation instance.

First, training was the initial source of acquiring knowledge about ITIL in Case Study A as there were no external consultants. The ITIL training in Case Study A allowed ITIL implementation team and most of the IT people to acquire initial knowledge about ITIL that would allow starting the implementation. While ITIL implementation teams got advanced training, other IT people got foundation training. In contrast, Case Study B missed extensive training at the preparation phase, even though the decision phase included a short training course. However, it seems that the course was too early before the preparation phase and its attendances were inappropriate people. Therefore, it would not facilitate proper learning. This is in contrast with Case Study A and Case Study C. In Case Study C, all IT people got a training course and soon started to design ITIL processes. In Case Study A, people training extended held several times.

Second, Case Study A comprised extensive ITIL awareness for people that mitigated people resistances and encouraged their participation. In contrast, people in Case Study B were almost isolated from ITIL implementation and people's awareness was absent. The awareness in Case Study C was in between the two other case studies as the awareness existed but to limited extent.

Third, while external consultants were important for the learning progress in Case Study C where external consultants brought knowledge to internal people, Case Study A was successful without external consultants. It is noteworthy that learning in Case Study A occurred through different means other than external consultants. In contrast with these two cases, Case Study B utilised an external supplier to get support of ITIL. However, the supplier had a negative impact on the ITIL implementation project. The supplier was not a specialist in ITIL consultancy hence he could not implement ITIL or facilitate its learning.

Finally, the fourth factor was the preparation of ITSM software. Both Case Study A and Case Study C succeeded at the preparation phase to setup ITSM software. In contrast, Case Study B tried to prepare its ITSM software, but it failed.

In sum, the success of the preparation phase associated four ITIL CSFs: training, awareness, external consultants and ITSM software. However, to facilitate learning during this phase, the four CSFs are not necessary to co-occur.

7.4 Practice Phase

The practice phase of ITIL implementations represents the third phase. It incorporates ITIL implementation events since people start working according to ITIL processes. Some example of these events are applying targeted ITIL processes and using ITSM software. The outcomes of this phase are the results of ITIL implementations such as the benefits of ITIL, people resistance and appreciation of people. This section discusses the events that facilitated learning in the practice phase of ITIL implementations in just Case Study A and Case Study C. As explained above in Subsection 7.3.2, Case Study B failed to pass from preparation phase to practice phase. Accordingly, there were no relevant events in Case Study B to be discussed in current section.

7.4.1 Case Study A

Drawing on the data, the major events that would support learning in Case Study A during practice phase were related to the involvement and communication of people, IT management and champions. In addition, these events included ITIL adaption and ITSM software usage.

People's involvement during the practice phase of ITIL implementation in Case Study A entitled participation of personnel that required time. However, the participation facilitated individual learning. For example, in the following quotation, the Helpdesk Agent recited a trouble event that became a learning instance.

> *"I came to work on a Thursday morning, one of the services was down. It failed for 5 hours. I called the person in charge l, but he did not answer. Then I called the secondary and he also didn't answer, so I called the team leader until. Then, I called the Operation Manager. After his intervention the person in charge came, and solved the problem after 7 hours downtime. Then G.J. from application department suggested a script, which could restart the service within 2 minutes. So, we put a policy to use this script to handle such troubles after 5 pm. After that, on call request went through after restarting the service more than one time while it was still down"* (Case Study A, Helpdesk Agent)

According to the Helpdesk Agent in Case Study A, he came on a Thursday, which was a weekend at the story time, to the organisation. He faced a technical issue and he tried to contact the responsible people. Since he could not reached them, he escalated the matter until it reached the operation manager. After this instance, the personnel adapted

their work by introducing a new script and work policy to handle any similar case in future. This occurrence during the ITIL implementation practice phase in Case Study A can be considered a practical learning event through people's involvement. This involvement of different individuals from several departments in Case Study A was essential to implement ITIL successfully. Accordingly, the wide involvement of individuals resulted in a better learning of ITIL.

In addition to people's wide involvement in the practice phase of ITIL implementation in Case Study A, people communication supported learning of ITIL. Several events implied the active role of communication. For example, in the following statement, the Helpdesk Agent in Case Study A described an instance of a formal meeting.

> *"We used to meet monthly our main* supplier *who provides us data according to an SLA signed between us. In the meeting we discussed the problems we faced and their solutions. We also reviewed the events of the previous month."* (Case Study A, Helpdesk Agent)

According to this excerpt, monthly meetings with the main supplier were held to discuss issues and solutions according to a signed SLA. Moreover, these meetings included analysing the events of previous month to assess progress. While these meetings solved many problems faced ITIL, they also supported ITIL implementation in Case Study A. They also facilitated practical ITIL learning.

Moreover, the involvement and support of the IT Operation Manager in Case Study A at the practice phase was essential to facilitate ITIL implementation. In addition, his positive attitude contributed to the promotion of ITIL. Therefore, his role was essential as illustrated in the following quotation by the Service Management Unit Leader in Case Study A.

> *"There was great support from the operation management; from both S. G. who was the previous IT operation manager, and from B. A., the current manager who was previously the deputy of IT operation manager. Both provided great support. So, the operation management support was really high"* (Case Study A, Service Management Unit Leader)

In this quotation, the Service Management Unit Leader in Case Study A argued that the support of both the current and the prior operation managers was extraordinary. Consequently, the support offered by IT operation management for ITIL implementation was substantial. Such a support facilitated ITIL learning at the practice

phase especially at the beginning considering that nobody in the organisation had previous experience of ITIL. Additionally, it looks like that the IT Operation Manager and some of his team members became ITIL champions after they were familiarised with ITIL through different learning events. The team developed positive attitudes towards ITIL benefits leading to high enthusiasm and support. In sum, the IT Operation Manager's strong support on a daily basis as a champion was a result of new learning. It also facilitated other team members' learning.

In addition, the adaption and customisation of ITIL to the real needs simplified ITIL adoption in Case Study A. In the following excerpt, the Service Management Senior Expert in Case Study A considered that the customisation of ITIL was the first important factor of ITIL implementation.

> *"The first factor is the customisation and mapping of ITIL. We added whatever was appropriate for us and ignored whatever was improper to suit ITIL to our company"* (Case Study A, Service Management Senior Expert)

Therefore, the customisation was an essential aspect of the ITIL implementation in Case Study A, as revealed by the Service Management Senior Expert in Case Study A. This customisation involved the continual adaptation and improvement of ITIL processes to suit the characteristics of the organisation.

Finally, customising technology, as a companion to process adaptation, supported also ITIL implementation. For instance, a Helpdesk Agent in Case Study A recounted the important role of technology customisation to the actual need in the following quotation.

> *"One of things that we faced difficulty with was the collection of escalated tickets in HP Openview, but A.J. from service management unit created a report of the escalated tickets up to level six after identifying the period and the unit, then we settled a way to get escalated tickets according to what A.J. did. To do the monitoring, we just opened the system and selected the relevant unit."* (Case Study A, Helpdesk agent)

In this quote, the Helpdesk Agent described the needs to customise a report of the escalated tickets. In this manner, although HP Openview as an ITIL system was useful, it did not provide some necessary reports such as the escalated tickets. Thus, the service management unit designed later a suitable report that supported learning and contributed

to simplifying ITIL management. This event showed the important role of ITSM software during the practice phase to facilitate learning.

In conclusion, several events facilitated learning in Case Study A during the practice phase of the ITIL implementation. These events associated people's broad involvement, adaption of ITIL, usage of ITSM software, support of IT management, champions and communication.

7.4.2 Case Study C

Case Study C represented a partially successful ITIL implementation instance. While incident management and request fulfilment processes were implemented successfully, all other targeted processes, such as change management, release management, service level management, and problem management, failed. Drawing on the analysis of the case study practice phase, the ITIL learning at this phase faced some obstacles that probably led to the partially successful implementation.

Before the practice phase in Case Study C, there was enthusiasm to implement many ITIL processes. The decision was to implement several processes concurrently including incident management, change management, problem management, service level management, request fulfilment, release management, configuration management and IT service continuity management processes. This decision contradicted the advice of the External ITIL Consultant in Case Study C to implement the processes gradually as he explained in the following except.

> *"I asked them to follow phased approach, but they went through implementing several processes and they did not carry on"* (Case Study C, External ITIL Consultant)

Although the External ITIL Consultant advised to implement the processes gradually, IT people tried to implement many processes together as they were very enthusiastic of ITIL during initial stages.

However, in the practice phase, the interest of implementing most of most processes declined and at the end they failed. In this context, the IT Helpdesk Agent in Case Study C talked about the status of implementing some ITIL processes in the following quotation.

> *"When we started, there was a lot of enthusiasm for problem, incident, release and configuration, but that didn't last for long time. Only incident continued with us. The problem worked a bit, but it wasn't completed. Change request worked just fine at the beginning but… The trouble of change request was that we consider it as an obstruction of the work so it wasn't applied correctly*" (Case Study C, IT Helpdesk Agent)

According to the IT Helpdesk Agent in Case Study C, the enthusiasm for implementing many ITIL processes such as problem, incident, release and configuration did not last for a long period. He stated that the change management process was perceived negatively as an obstacle to the achievement. This view contradicted the initial reason for starting ITIL implementation in Case Study C. The initial intention was to handle properly change requests. More precisely, it seems that the practice of change management under pressure led to changes of perceptions and poor learning. This was explained in detail by the ITIL Project Manager in Case Study C in the following excerpt.

> *"Change is also important, but the changes we received were fast. So the first thing was that the changes were fast. The second thing was that the business was in a hurry. I would not even wait for the committee to hold a meeting then it agreed to the change. After that, the change that reached the committee was previously executed and just came in a way to ensure that everything is documented and known. There was low support from the management to prevent any changes in the infrastructure without an approval"* (Case Study C, ITIL Project Manager)

The ITIL Project Manager who was also the process owner of the change management process stated in the above quotation that he received many change requests quickly while business people looked for quick responses. The IT personnel did not work according to the change management process by waiting to hold the committee of CAB. Instead, they decided to reply and take the needed actions for change requests quickly. Therefore, the change requests reached the CAB but after they were resolved. The personnel gradually ignored CAB meetings and change management process. These different reasons derailed the change management process and led to poor learning of ITIL. It also affected the personnel perceptions of the change management process as an obstacle to the achievement. In addition, at the end of the above quotation, the ITIL Project Manager declared that the management support declined which led to people ignorance of the change management process. Consistent with the ITIL Project

Manager's opinion, the IT Helpdesk Manager also stated that the support of IT management diminished in the following quotation.

> *"The support has been diminishing. In the beginning, they were asking us to apply the processes and we had to apply them… But now, no one cares about that"* (Case Study C, IT Helpdesk Manager)

According to the IT Helpdesk Manager in Case Study C, the management support was initially strong, but it then declined. Therefore, the lack of management support in this stage with previous reasons contributed in the failure of change management process.

Moreover, the practice phase lacked proper ITIL adaption. Applying ITIL processes without customisation hindered the implementation as explained by the IT Helpdesk Manager Case Study C in the following quotation.

> *"They implemented ITIL as it was written in the books, which to me is the biggest mistake. I have the feeling that they shouldn't have implemented it in this way. Instead, they should have checked the current situation and designed the processes accordingly. I mean, they should have tried to organise it more, instead of just complicating it. The reality is that they complicated things more, so no one is using such process"* (Case Study C, IT Helpdesk Manager)

Drawing on his quotation, the adoption of ITIL processes in Case Study C depended fully on ITIL books without considering the context of the organisation. According to IT Helpdesk Manager, such adoption complicated the processes. In other words, there was an idealism ambition of ITIL adoption that led to implement ITIL processes without any customisation.

The above issues at the practice phase of ITIL implementation in Case Study C indicated poor learning. For example, in the following excerpt, the IT Helpdesk Agent in Case Study C talked in detail about how he was confused about problem management process that indicated a shortage of proper learning of ITIL, although he was the process owner.

> *"I thought that I was, as a problem manager, responsible for solving the problems. But I was wrong... So I thought that the one who manages the process is responsible for problem solving. So, it became a load. I mean, you don't want an incident to become a problem because you are the one who should solve it… I mean, I was lost. I used to assign problems. So, I assigned them for myself*" (Case Study C, IT Helpdesk Agent)

In this quotation, the IT Helpdesk Agent in Case Study C explained the impact of the misunderstanding of the problem management process and how that hindered the

implementation of this process. As he thought that he would be responsible for any problem so he assigned all problems to himself and suffered from excess workload. Accordingly, he wished that no incident converted to problem. In sum, instead of being a champion of a process that he was responsible for its success, he opposed it as a result of poor learning that led to a failed process implementation.

Interestingly, in Case Study C, in contrast with the change management process and problem management process, incident management and request fulfilment processes were implemented successfully. It seems that the learning of incident management and request fulfilment processes progressed in practice phase. Several events implied the learning progress of incident management process such as the events of IT Helpdesk Manager to encourage people to work according to incident management process. The role of IT Helpdesk Manager as an incident management process owner was also influential. Drawing on the data, he could be considered a champion who strongly supported incident management process. For example, in the following quotation, he explained how he succeeded in enforcing this process among helpdesk team employees.

> *"It was kind of messy at the beginning because the users did not open tickets and they called us by phone. I talked with the team members and asked them not to accept any requests over the phone. Instead, I told them to open a ticket, and if the user wasn't able to do it, then teach him how to do it. However, some employees complained that they had to explain the process to the same user twice. So, I made it clear to them that they should keep explaining it even if they had to do it ten times for the same user until the user really cares! So, at the end, he won't call the service desk before he opened a ticket. Then, people became more familiar with opening tickets through the ITSM"* (Case Study C, IT Helpdesk Manager)

According to the IT Helpdesk Manager Case Study C, he insisted that his team should open tickets according to incident management process. As he explained, helpdesk team employees did not apply this process well at the beginning. Therefore, he tried his best to guide them. In this way, he was able to enforce them gradually to work according to ITIL incident management process. This shows that people did not learn ITIL well immediately. However, with practice they enhanced their learning of ITIL. Therefore, people learnt ITIL well by practice. Accordingly, the helpdesk team went through a learning journey that involved several factors such as communication and people's involvement.

Another factor that was effective with incident management process at practice phase was the ITSM system. The selected system in Case Study C was suitable with incident management process in contrast with other processes according to the IT Helpdesk Agent in the following quotation.

> *"The system didn't help us as required. I mean, we expected a lot from it. But it was good in incident, not in other processes. It was very big and could be suitable for a huge telecom company. But it was very big for our organisation, if we had smaller and simpler system, I thought it will work with us, but to be honest this system tired us from all aspects"* (Case Study C, IT Helpdesk Agent)

Drawing on the above quotation of the IT Helpdesk Agent in Case Study C, the ITSM software was huge and was not suitable for all processes except the incident management process. While people found this system complicated and difficult to use during ITIL implementation practice phase, the system suited adopting incident management process.

In conclusion, it seems that poor learning at practice phase of ITIL implementation in Case Study C led to unsuccessful implementation of most targeted processes. However, incident management and request fulfilment processes were implemented successfully while several factors facilitated learning of these processes at the practice phase, although management support was not evident. The influential factors mainly were broad involvement, usage of ITSM software, champion and communication.

7.4.3 Summary

While the implementation of ITIL processes in Case Study A was sequential, the implementation of ITIL processes in Case Study C was concurrent as the objective was to implement many ITIL processes together. The associated factors with the practice phase in Case Study A were people's broad involvement, adaption of ITIL, usage of ITSM software, support of IT management, champions and communication. Accordingly, these factors facilitated learning at the practice phase. However, in Case Study C, most processes failed except incident management and request fulfilment processes. Accordingly, it is worthwhile to summarise the findings of Case Study C in light of the associated factors of Case Study A. Drawing on the analysis reported in the present section, people in Case Study C misunderstood many processes such as change management and problem management processes. Moreover, the implementation at the practice phase lacked broad involvement, IT management support, champions and

adaption of processes. At the end, the results were poor knowledge from external parties, insufficient internal learning of ITIL and failed implementation of such processes. In contrast, few processes such as incident management process survived at the practice phase. It was successfully implemented as it associated champion, communication, broad involvement and ITSM software usage. This is in consistent with the findings of Case Study A. Overall, the practice phase associated several ITIL CSFs that supported learning progress. The essential CSFs at this phase were broad involvement, ITIL adaption, ITSM software, IT management support, champion and communication.

7.5 Result Phase

The last phase of ITIL implementations is the result phase. This phase contains ITIL implementation events following the emergence of the results of applying ITIL processes emerge. Some events in result phase include measuring performance and realising ITIL benefits. This section discusses the events that facilitated learning at the result phase of ITIL implementations in both Case Study A and Case Study C as there were no relevant events in Case Study B as previously explained.

7.5.1 Case Study A

There were different events at the ITIL implementation result phase in Case Study A that seems supporting learning. These events were related to the performance management, benefit realisation and people appreciation.

First, performance management events supported ITIL learning at the result phase of ITIL implementation in Case Study A. For example, people used reports to measure the performance of ITIL processes and KPIs. As performance reports clarified the situations, they would encourage people to adjust their behaviours and assist decision makers to take the appropriate decisions. Thus, they would be considered a source of learning. The following two quotations show the role of some reports in ITIL implementation in Case Study A.

> *"On each Wednesday, I am sending a report to each team leader which includes open tickets"* (Case Study A, Helpdesk Agent)

> *"A monthly report was issued to show the productivity and to review work monthly"* (Case Study A, Helpdesk Unit Leader)

The Helpdesk Agent in Case Study A mentioned in the first quotation that he sent a weekly report to the teams' leaders. That report showed the open tickets and allowed the leaders to follow up with their teams. In addition, in the second quotation, the Helpdesk Unit Leader in Case Study A talked about an analytical report measuring the monthly productivity of different teams related to several ITIL process. Thus, it allowed the management and the teams to review the work monthly and take appropriate actions to enhance the performance of the work if needed. In sum, such weekly and monthly reports represented a valuable source of learning because they allowed people to adjust their performance and to achieve their objectives.

Second, the events of benefit realisation at the result phase of ITIL implementation in Case Study A also supported ITIL learning. The discipline of people towards ITIL increased once they realised ITIL benefits. The following two excerpts of IT Operation Manager and Helpdesk Unit Leader shows examples of ITIL benefit realisation in Case Study A.

> *"Applying ITIL gives me full control, as there are clear processes, clear ways for update, notification, and CAB"* (Case Study A, IT Operation Manager)

> *"We got to record incidents, and there was a ticket system. If a trouble happens several times, a problem is opened. I feel that things have become clear and organised, and that enhances customer satisfaction"* (Case Study A, Helpdesk Unit Leader)

In the first excerpt, the IT Operation Manager in Case Study A explained the benefits of ITIL for his duties. His expression indicated high enthusiasm toward ITIL because of realising its benefits. In the second excerpt, the Helpdesk Unit Leader highlighted some ITIL benefits while he explained the helpdesk role. These two excerpts would interpret why people became passionate toward ITIL as a result of practical learning.

Finally, among the events of the ITIL implementation result phase in Case Study A that would support individual learning about ITIL were people appreciation and reward events. Appreciations at different moments and by different means as well as rewarding people contributed to personnel learning of ITIL. The appreciations and rewards provided people credit and enforced their behaviours. In Case Study A, ITIL practices

were enforced through appreciations and rewards of people. For example, the following excerpt describes the role of appreciations in ITIL implementation in Case Study A.

> *"Before applying change management, some appreciation and thanks were given to the employees of incident management and that gave credit for all departments and not just for us. All of these have contributed to obtaining the buy-in of people"* (Case Study A, Service Management Unit Leader)

In this quotation, the Service Management Unit Leader in Case Study A talked about an appreciation event for people who participated in implementing incident management process before applying change management process. According to him, the appreciation was provided to all employees participated in implementing incident management. In addition, instead of attributing the achievement to his unit, he gave credit to all involved departments to encourage them to participate in implementing change management process. According to him, this action contributed toward getting the buy-in of people and managing their resistance. Moreover, it was a learning moment that allowed them to start a new ITIL learning cycle through implementing change management process.

7.5.2 Case Study C

In Case Study C, only incident management and request fulfilment processes reached the result phase as explained in Subsection 7.4.2. The events in this phase, which supported learning, were related to two ITIL CSFs: performance management and benefit realisation.

In Case Study C, the events of performance management of incident management process supported learning and institutionalising of the process practices. For example, in the following quotation, the IT Helpdesk Manager urged that generating reports of the process performance and taking actions would support the process.

> *"I'm producing reports from the system to be able to follow up the team works. These reports include the incidents and service requests… These processes have been observed and monitored. Anything that is observed and monitored, that has somebody follows it up, will work out. However, if nobody follows up it, it would not work"* (Case Study C, IT Helpdesk Manager)

According to the IT Helpdesk Manager in Case Study C in this quotation, he managed his team performance regularly. He monitored incident management and request fulfilment processes through checking the reports of performance indicators. Moreover,

he explicitly stated that such follow up with the team was necessary to support the process and vice versa.

Additional events at the result phase that would support learning related to benefit realisation. The realisation of the process benefits indicates learning that encourage people to work according to the process. In the following excerpt, the ITIL Project Manager in Case Study C explained some benefits of incident management process.

> *"The first benefit was the follow up. Now you can know the incidents pending for a long time without any action… Secondly, it also provides performance indicators and reports that show your work size... You can know how many tickets you receive daily, the number of solved tickets, and the average duration of the solution... The process becomes much clearer, resulting a clear workflow and the ability to determine when you need to perform an escalation"* (Case Study C, ITIL Project Manager)

Therefore, the ITIL Project Manager noted that the benefits accruing from incident management process were obvious. Accordingly, he sensed that the process became much clearer. Overall, the results of incident management process indicated proper individual learning that led to successful practice and adoption.

7.5.3 Summary

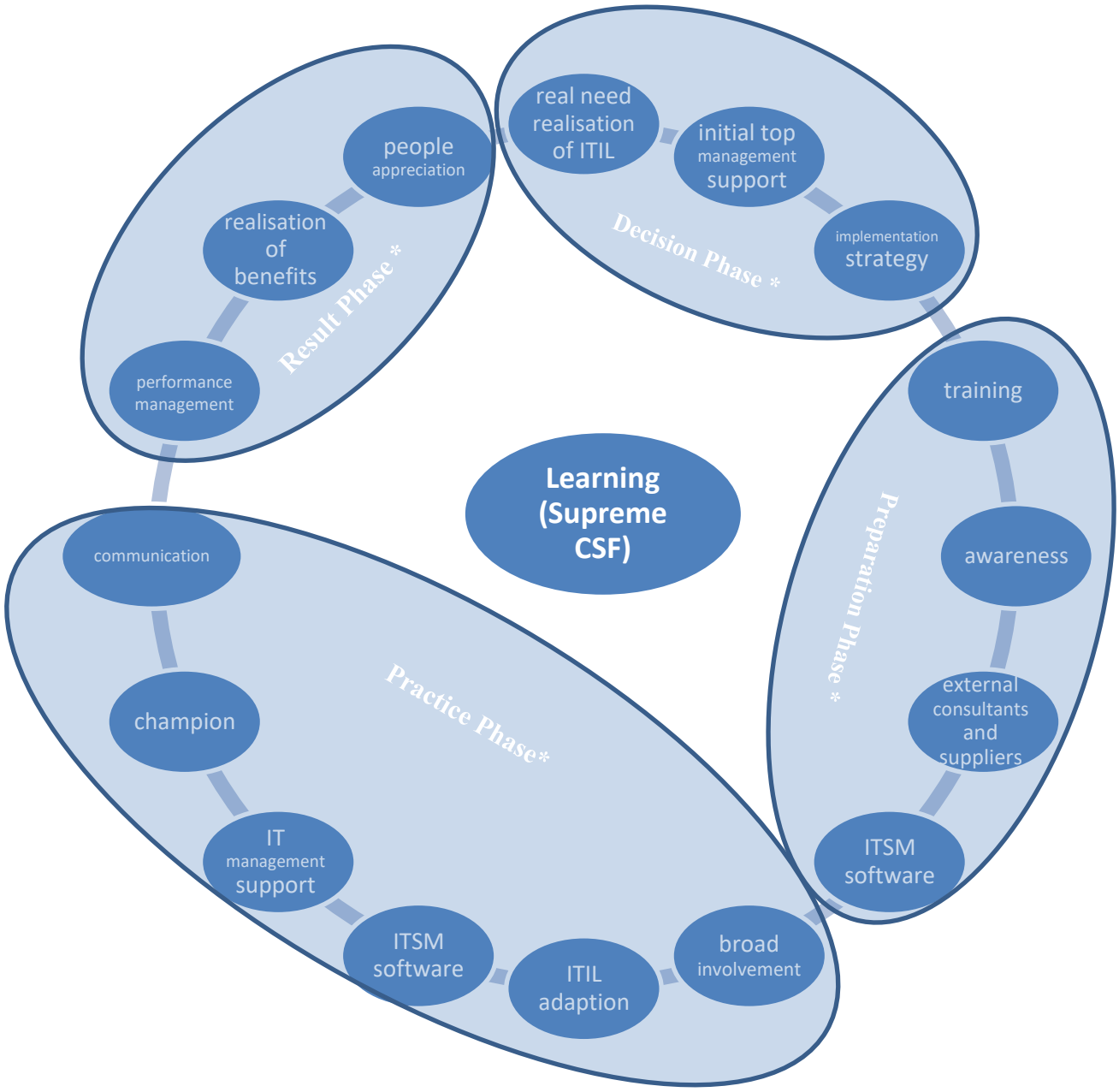
According to narrative analysis, the result phase of ITIL implementation of both Case Study A and Case Study C associated two factors: performance management and realisation of benefits. Case Study A also associated appreciation factor.

7.6 Conclusion

The chapter presents the results of analysing the case studies using event narrative analysis that relied on the findings of the Framework analysis presented in the previous chapter. While the findings of the Framework analysis emphasised the effective role of time on ITIL CSFs and highlighted the existence of interrelations among most of these CSFs, the event narrative analysis relied on these findings and resulted in that ITIL CSFs would be segregated based on time and their importance over several phases of ITIL implementations.

Based on the event narrative analysis findings, several ITIL CSFs were more apparent in each phase of the ITIL implementation four phases: decision, preparation, practice and result while some CSFs would extend across several phases. Section 7.2 indicates that three ITIL CSFs associated the decision phase of ITIL implementations. These ITIL CSFs are real need realisation of ITIL, initial top management support and implementation strategy. Moreover, as explained in Section 7.3, another three ITIL CSFs were more effective during the preparation phase of ITIL implementations. These CSFs include training; awareness; and external consultants and suppliers. According to Section 7.4, the practice phase of ITIL implementations correlated most of ITIL CSFs such as broad involvement, ITIL adaption, ITSM software, IT management support, champion and communication. Finally, the result phase of ITIL implementations held three evident ITIL CSFs: performance management, realisation of benefits and appreciation. Therefore, each ITIL implementation phase associated several ITIL CSFs. In sum, there are some connections between CSFs as some CSFs could affect others. Therefore, it would not be suitable to isolate each factor alone.

Accordingly, the interrelations between ITIL CSFs that were illustrated in Figure 6-1 could be extended to include these phases as shown in Figure 7-1 that represents a network of CSFs to portray the interrelations between ITIL CSFs across the ITIL implementation phases. The network of CSFs is resulted by adopting a holistic view of ITIL CSFs and their interrelations. Additionally, it shows the importance of learning as a supreme CSF that other CSFs would support as learning progresses in each phase and between phases. The network of CSFs would suit the implementation of one process of ITIL or several ITIL processes together.



*The phase titles have been derived from the data

Figure 7-1 Network of CSFs of ITIL Implementations

The network of CSFs indicates that an organisation implementing ITIL needs to concentrate on the progress of learning and to move from one phase to the next phase smoothly. The organisation should concentrate at each phase on its CSFs to move to the

next phase instead of tackling all CSFs concurrently. In addition, it is not necessary that all CSFs of each phase exist together if sufficient learning occurs. For example, while the preparation phase CSFs include the CSF of external consultants and suppliers, implementing ITIL in Case Study A was successful without using external consultants and suppliers. Accordingly, in Case Study A, the effective ITIL CSFs in preparation phase were only training and awareness that resulted in appropriate learning. Therefore, some organisations would choose to utilise internal people while others would use external consultants and others would try to accelerate ITIL implementation by hiring permanent ITIL experts. While each practice implies different requirements and investments, they share learning facilitation. Accordingly, it is not necessary to implement ITIL successfully to utilise all ITIL CSFs. However, it would be necessary to ensure smooth transitions between ITIL implementation phases through sufficient learning progress. Therefore, the combinations of success factors that can lead to successful ITIL implementations would vary. An ITIL implementation can be successful through different ways. In summary, there are several varied combinations of factors that would lead to successful ITIL implementations in various ways that prompts OL.

CHAPTER 8: DISCUSSION

8.1 Introduction

This chapter aims to discuss the theoretical and conceptual findings in light of related literature of ITSM, CSFs and OL. Moreover, it endeavours to synthesise the case studies' analysis findings reported in Chapter 6 and Chapter 7 with on the analysis of the literature ITIL CSFs in Chapter 3 and on the proposal of using 4i framework to interpret the success of ITIL implementations in Chapter 4. In addition to the present section, the chapter includes three more sections. The following section (i.e. second section) focuses on the proposed four concepts of CSFs. Then, the third section discusses the present research findings of ITIL CSFs in light of 4i framework. Finally, the last section concludes the chapter.

8.2 Emergent Concepts of Critical Success Factors

Four concepts in the area of CSFs have emerged during the analysis of the case studies. These concepts are contextual CSF, dynamic CSF, supreme CSF and network of CSFs. The aim of the current section is to discuss these concepts in light of literature. The discussion entails the concepts related to the literature of CSFs in general and to the literature of ITIL implementation CSFs in specific.

8.2.1 Contextual CSF

Drawing on the current research findings, a contextual CSF is a factor that is effective for some instances while it is ineffective for other instances. For example, using external consultants was a CSF for ITIL implementation in Case Study C, although it was absent in Case Study A where ITIL was implemented successfully by internal staff. The following paragraphs discuss contextual CSF concept in light of both CSF literature and ITIL implementation literature.

The concept of contextual CSF is in agreement with seminal CSF research. For example, Rockart (1979) stated that "CSFs differ from company to company and from manager to manager" (p. 86) because companies and managers vary in terms of their requirements, strategic objectives and management manners. Moreover, he divided the CSFs into four groups: industrial factors that are specific for an industry, strategic factors that are specific for an organisation strategy, environmental factors that are imposed from external environment, and temporal factors that arise from short-term situations. Therefore, it would be impossible to list specific ITIL CSFs for all organisations. This suggests that some ITIL CSFs vary according to organisational strategies and environments. Some ITIL CSFs, that are called contextual CSFs, are specific to some organisations. In addition, this provides some reasons behind the limited overlap between the reported ITIL CSFs in previous studies. Altogether, the contextual CSF concept is in line with the literature of CSFs.

On the other hand, in the literature of ITIL CSFs, very few related findings were noticed related to the concept of contextual CSF. For instance, Pedersen et al. (2010) stated that "there are some factors that apply in all situations (like management support and training), and others factors that are more or less critical depending on the specific circumstances" (p. 28). While they confirmed the existence of contextual CSF, they did not use the same term. Another instance, Salling Pedersen and Bjørn-Andersen (2011) used the terms of contingency factors and contextual factors interchangeably. However, they did not consider these factors as ITIL CSFs as they denoted by these terms the exogenous factors with possible influence on ITIL implementation success that management should consider before deciding to adopt ITIL. Some examples of these factors included industry, size, IT importance for organisations, IT maturity, ITIL version and business process management maturity. Therefore, they used the term of contingency factors for the context factors that would differ between organisations and would affect the success of ITIL implementations. Accordingly, they implied that some factors would influence ITIL implementation success, but these factors differ among organisations. Therefore, they supported the meaning of the proposed concept of contextual CSF. In summary, the literature of ITIL implementations confirms the contextual CSF concept.

To conclude, both CSF literature and ITIL implementation literature support that CSFs could be situational. Accordingly, they confirm the concept of contextual CSF that denotes a CSF for an ITIL implementation case is not a CSF for another ITIL implementation case.

8.2.2 Dynamic CSF

The major findings of the current research include highlighting the time role with regard to the importance of some ITIL CSFs. The importance of CSFs vary from time to time across different phases of the implementation such as training and management support. Accordingly, the present research has introduced the concept of dynamic CSF that denotes the factors which would be effective during sometimes in a case while they would not be so effective during other times in the same case. For instance, the analysis of the case studies highlighted the importance of ITIL training at the beginning of an ITIL implementation, but this importance diminished at the later stages of the implementation.

The literature of CSFs supports the concept of dynamic CSF. For example, as presented in the previous subsection, Rockart (1979) divided the CSFs into four groups: industrial, strategic, environmental and temporal CSFs. The temporal CSFs "are significant for the success of an organization for a particular period" (Rockart, 1979, p. 87). Then, he stated that “any organization's situation will change from time to time, and factors that are dealt with by executives as commonplace at one time may become CSFs at another time” (Rockart, 1979, p. 87). This indicates that CSFs would change from time to time. Additionally, researchers in different areas endorsed that CSFs could be dynamic. For instance, Cummings and Holmberg (2012) included dynamic considerations into the partner selection CSFs and accordingly presented a dynamic partner selection analytical tool based on dynamic CSFs. They also recommended the evaluation of the CSFs dynamically over time. In conclusion, the present research is consistent with seminal research and other studies of CSFs in considering time dimension in the analysis of CSFs.

In ITIL implementation literature, several researchers recognised that implementing ITIL would require long time. For example, Iden and Langeland (2010) stated that "a full adoption of ITIL takes years" (p. 103). Additionally, Salling Pedersen and Bjørn-

Andersen (2011) acknowledged that "adoption, implementation and institutionalization of a Best Practice like ITIL will obviously take time" (p. 602). Moreover, according to Iden and Eikebrokk (2014), "it takes time to fully adapt to ITIL and a service-oriented IT operation" (p. 302). However, almost all of the prior studies of ITIL CSFs investigated these CSFs in static analysis terms. In other words, they did not consider time to investigate CSFs of ITIL implementations. In a departure from this trend, the present research conceptually identified that ITIL CSFs would change over time and that organisations should consider those changes. Therefore, the present research added a dynamic element to ITIL CSFs by considering time dimension drawing on analysis findings. This consideration is important because as ITIL progresses and time passes, organisations learn more and success factors change over time. Based on this consideration, the present research proposed network of CSFs that will be discussed later. Nevertheless, some ITIL researchers confirmed limitedly the influence of time on ITIL CSFs such as Marrone and Kolbe (2011) who affirmed that “at the earlier levels, the business has yet to realize benefits and scepticism exists. Conversely, in the later stages of implementation, once the business has acknowledged benefits of the ITIL implementation, it is likely to support the further implementation of ITIL” (p. 15). Therefore, they emphasised the importance of realising ITIL benefits during ITIL implementations. Similarly, Iden and Eikebrokk (2015) concluded that only time as a contextual factor had significant impact on the realisation of ITIL benefits. This conclusion was arrived at after investigating several contextual influences that included sector, size, time, business condition and ITIL expectations. They also declared that as ITIL implementation time increases, the degree of realising ITIL benefits increases. Therefore, the only CSF that ITIL literature confirms that its importance would vary from time to time is the realisation of benefits.

Overall, the literature of CSFs explicitly supports the dynamic CSF concept that has been proposed by the present research to consider the importance change of some CSFs from time to time. Additionally, literature confirms the importance role of time during ITIL implementations. However, it lacks the investigations of the time impact on ITIL CSFs.

8.2.3 Supreme CSF

The present research also introduced the concept of supreme CSF. A supreme CSF is a factor that many other CSFs would lead to. Drawing on the data analysis, learning would be considered a supreme CSF for ITIL implementations. Several ITIL CSFs, such as training, broad involvement, benefit realisation, communication and people appreciation result in learning which supports the success of ITIL implementations.

In literature, I was unable to identify explicit perspectives for the supreme CSF concept. However, the literature contains some implications that support this concept such as the importance variance of ITIL CSFs and of the associations among some ITIL CSFs. The following two paragraphs discuss these implications.

First, some researchers explicitly stated that some ITIL CSFs would be more important than others or prioritised ITIL CSFs. For example, many researchers considered management support as the most important ITIL CSF (e.g. Ahmad et al., 2012; Cater-Steel, 2009; Cater-Steel, Toleman and Tan, 2006; Diirr and Santos, 2014; Huang et al., 2013; Iden and Eikebrokk, 2013; Iden and Langeland, 2010; Mehravani et al., 2011; Neničková, 2011; Nicho and Al Mourad, 2012; Pollard and Cater-Steel, 2009; Wu et al., 2011). In contrast, Iden and Eikebrokk (2015) argued that people's involvement would be more important than management support. Several researchers also upheld the prioritisation of ITIL CSFs. For instance, Cater-Steel and Tan (2005a, 2005b) ranked five ITIL success factors. Similarly, Iden and Langeland (2010) ranked twelve ITIL CSFs. Moreover, Wu et al. (2011) and Huang et al. (2013) estimated the significance of the CSFs of ITIL implementation. In addition, Diirr and Santos (2014) estimated the importance of ITIL CSFs based on their occurrences in literature and ordered them accordingly. Finally, Nicho and Al Mourad (2012) called for conducting research to prioritise ITIL CSFs to enhance the efficiency of ITIL implementations.

Second, several researchers explicitly affirmed that some ITIL CSFs would lead to or be part of other ITIL CSFs. For instance, while Pedersen et al. (2010) claimed that management support and champion would create ITIL-friendly culture, Diirr and Santos (2014) argued that building ITIL-friendly culture is a sub-factor of implementation strategy. Nicho and Al Mourad (2012) also recommended using automation tools to enhance communication between people accountable of ITIL processes across the

organisation. In addition, Pollard and Cater-Steel (2009) and Mehravani et al. (2011) argued that training and awareness would enhance communication between departments. Additionally, Iden and Eikebrokk (2015) considered organisational commitment as an ITIL CSF that contained the presence of sufficient resources and wide involvement of people. Diirr and Santos (2014) also combined allocation of internal resources, existence of external consultants and adequacy of tools into one CSF namely internal and external resources. Together these studies indicate that some ITIL CSFs would implicate, precede or lead to other ITIL CSFs.

In sum, to the best knowledge of the researcher, ITIL literature lacks an identical concept of supreme CSF. However, the literature provides evidence that supports this concept as several researchers argued that ITIL CSFs varied in their significance and other researchers concluded that some ITIL CSFs would lead to other ITIL CSFs.

8.2.4 Network of CSFs

The present research proposes the concept of network of CSFs by utilising the previously mentioned concepts (i.e. contextual CSF, dynamic CSF and supreme CSF) to portray possible interrelations among the success factors. Additionally, it highlights the role of implementation phases to reflect time element. Both the findings of the interrelations among CSFs and the implementation phases are in accordance with the literature.

First, the literature implies that there is some connections amongst the CSFs in varied situations. The following two paragraphs show how the literature of CSFs in general and the literature of ITIL CSFs in specific would support proposing interrelation amongst ITIL CSFs.

In the literature of CSFs, several researchers declared that there would be relations and interactions among CSFs in varied situations. For example, in the area of ERP implementations, King and Burgess (2006) proposed a model that described the relationships among the CSFs of implementing ERP systems. In addition, Ahmad and Pinedo Cuenca (2013) identified the CSFs of the ERP implementation in SMEs. Then, they analysed the interrelationships of these CSFs. Another example, Luthra, Garg and Haleem (2015) identified the CSFs of implementing green supply chain management.

Then they strived to understand the interdependence and interrelationship among the identified CSFs. Kansal (2007) also analysed the CSFs and their interrelationship in implementing enterprise systems that would be important to provide the necessary knowledge to manage contemporary organisations. As a last example, Chen, Zhang, Liu and Mo (2011) studied the interrelationships among the CSFs of construction projects. To conclude, there is abundance of studies in different areas related to the relationships among CSFs in varied contexts.

In addition, the literature of ITIL CSFs supported the existence of relationships between ITIL CSFs, although few studies investigated or emphasised these relationships. For example, Mehravani et al. (2011) reviewed ITIL literature, identified ITIL CSFs and endeavoured to investigate the relationship among the identified CSFs. Using TAM, they proposed connections among ITIL CSFs as well as between some CSFs and constructs of TAM. Accordingly, they proposed an ITIL adoption model that extended TAM. However, their research did not include empirical investigation that would support their arguments of the relations between CSFs and TAM variables. Moreover, they did not consider all of literature CSFs such as external consultants and realisation of benefits. Another example, Ahmad et al. (2013), who criticised using TAM because of its limitations, utilised UTAUT instead of TAM in Mehravani et al. (2011)'s ITIL adoption model. Therefore, Ahmad et al. (2013) linked ITIL CSFs to UTAUT model constructs to provide an adoption model for ITIL. However, they utilised the same connections among ITIL CSFs that proposed by Mehravani et al. (2011). Finally, Eikebrokk and Iden (2017) proposed a model of ITIL implementation projects that connects antecedents to ITIL implementation that are some ITIL CSFs; ITIL implementation progress; and ITIL implementation consequences. While this model implies that ITIL CSFs would relate, it explicitly supports the proposition of the network of CSFs to split ITIL implementation into phases. In conclusion, the previous studies confirmed the existence of the relations among ITIL CSFs, but they did not deeply investigate these relations and show how these CSFs can interact dynamically toward implementing ITIL successfully.

Second, the literature supports proposing ITIL implementation phases as several researchers recognised that ITIL projects comprised different phases or stages. For

instance, Iden (2009) stated that an ITIL project as a process change method consists of five phases: establish; document; analyse and design; implement; and operate. Moreover, during their exploration of the research of IT Governance project CSFs, Alreemy, Chang, Walters and Wills (2016) proposed that any project implementation consists of four stages in order to achieve successful implementation. These stages are adoption, pre-implementation, implementation and Post-implementation. Additionally, Mohammadi et al. (2015) concluded their investigation of ITIL CSFs by suggesting future research to relate CSFs to project implementation or IT service lifecycle phases. However, it seems that there is no previous study that investigated the associations of ITIL CSFs with ITIL implementation phases, although Nicho and Al Mourad (2012) claimed that Wang and Sereshki (2010) studied and classified ITIL CSFs based on four ITIL implementation stages: preparation, pre-implementation, implementation and post implementation. However, Wang and Sereshki (2010) did not classify ITIL CSFs based on these ITIL implementation stages. Instead, they classified several steps to implement ITIL successfully into the stages. To summarise, previous studies indicated that ITIL implementations contain several stages that would require varied arrangement. However, to the best knowledge of the researcher, the present research is unprecedented in investigating the associations of ITIL CSFs with ITIL implementation stages. In conclusion, drawing on the analysis findings, there are some connections among the CSFs of ITIL implementations and these factors cannot be isolated alone. Some CSFs affect other CSFs. Therefore, on the contrary to most of previous studies that ended by listing ITIL CSFs, the present study has linked most of these factors in the network of CSFs. The literature of CSFs and the literature of ITIL implementations support the concept of network of CSFs to portray the interrelationships among ITIL CSFs and implementation phases.

8.3 ITIL Implementation Critical Success Factors

In the present research, the case studies analysis revealed several important aspects of ITIL CSFs. For example, while the research findings confirmed most of previous studies, it also provided new insights of some CSFs such as management support and

identified new CSFs. The following discussion concentrates on synthesising the current research findings related to the network of CSFs with the literature.

Among the novel contributions of the present research is the concept of network of CSFs. As presented in Chapter 7, while there would be some interrelations among the CSFs of ITIL implementations, the network of CSFs allows portraying these interrelations. Network of CSFs is a result of using a holistic view of ITIL CSFs. It reflects the interrelations among CSFs as some CSFs could affect or be affected by other CSFs. It also depicts the importance of learning as a supreme CSF that other CSFs would support because learning has a significant role in implementing ITIL successfully according to the analysis of the literature ITIL CSFs in Chapter 3 and the analysis findings of ITIL implementation case studies in Chapter 6 and Chapter 7. Therefore, OL would provide a clue that connects most of ITIL CSFs. Moreover, the literature review of OL in Chapter 4 proposed 4i framework (Crossan et al., 1999) to interpret theoretically the success of ITIL implementations and to provide practical advices to implement ITIL successfully. Therefore, to understand how ITIL would be implemented successfully, it is important to understand how to acquire and utilise learning as "merely listing the critical success factors and implementation stages will not ensure the learning to occur" (Ke et al., 2003, p. 1133). Accordingly, the present section aims to discuss and synthesise the findings related to the network of CSFs, which encloses ITIL CSFs, with the literature of 4i framework through the investigation of the associations of 4i framework processes with ITIL CSFs in the network of CSFs that are summarised in Subsection 4.5.7 and Table 4-1.

To explain how different ITIL CSFs support learning, that would result in successful ITIL implementations, it is worthwhile to discuss the associations of ITIL CSFs with the processes of 4i framework. This explains why ITIL implementations pass or fail to pass 4i framework learning levels.

As shown in Figure 7-1, network of CSFs of ITIL implementations consists of four phases: decision, preparation, practice and result. Therefore, the following subsections discuss the ITIL CSFs of each phase consecutively through the investigation of the associations of the CSFs with 4i framework processes. This discussion draws on the present research findings, the literature of ITIL CSFs and the literature of OL.

8.3.1 ITIL Implementation CSFs at Decision Phase

The first phase of the network of CSFs of ITIL implementations is the decision phase. The ITIL CSFs related to this phase are real need realisation of ITIL, initial top management support and implementation strategy as discussed in Section 7.2.

The first ITIL CSF of the decision phase is real need realisation of ITIL. The present research findings showed that all of the three case studies initiated because of the realisation of ITIL real need as presented in Section 7.2. However, in Case Study A, the attention to the user opinions and the possible solutions led to choosing ITIL. In Case Study B, there was external information attention to experts. Similarly, both Iden (2009) and Pedersen et al. (2010) stated that the external pressures of customers prompt the recognition of the needs to improve current practices. The recognition of the need for improvement justifies the decisions to implement ITIL. Accordingly, real need realisation of ITIL CSF entails the process of attending as a conscious process focusing on and attending to external environmental changes, information, or situations such as user opinions. The attending process also interacts with intuition and generates new learning (Kleysen and Dyck, 2001; Zietsma et al., 2002). In contrast, Case Study C indicates that the realisation of real need of ITIL resulted from the previous experience and need reorganisation. The previous individual learning provided insights and resulted new ideas. In the same way, Iden (2009) highlighted the importance of recognising the improvement need by the management and partially by the employees. Accordingly, realising the real need of ITIL associates the intuiting process that is a preconscious process denoting the identification of the models or probabilities from previous experience (Crossan et al., 1999). In sum, the ITIL CSF of real need realisation of ITIL associates OL processes at individual level such as intuiting and attending.

The second ITIL CSF of the decision phase of the network of CSFs is the initial top management support. The present research confirms previous research that recognised the importance of management support for ITIL implementations. Many researchers considered management support as the most effective factor for successful ITIL implementations (e.g. Ahmad et al., 2012; Cater-Steel, Toleman and Tan, 2006; Diirr and Santos, 2014; Huang et al., 2013; Iden and Eikebrokk, 2013; Mehravani et al., 2011; Neničková, 2011; Nicho and Al Mourad, 2012; Wu et al., 2011). Nevertheless,

they did not explicitly differentiate between the required support before the decision to implement ITIL from top management and after the decision from IT management. According to the findings in Section 7.2, initial management support was required to launch the ITIL projects. For example, the support of the CEO in Case Study A was required to initiate the ITIL implementation project. Based on his intuition that indicates the utilisation of personal experiences to recognise possible patterns and to have new insights (Crossan et al., 1999), he recognised the importance of enhancing IT operation management, which would allow the business to expand. His attention to the feedback of some customers, who were unsatisfied with some IT services, encouraged him to take consequent actions. This signified the attending process by attending to external information and situations of customer opinions to generate new learning (Kleysen and Dyck, 2001; Zietsma et al., 2002). Overall, the support of top management at the decision phase associates both intuiting and attending OL processes at individual level.

Third, implementation strategy is another ITIL CSF of decision phase of the network of CSFs. The implementation strategy affects the activities of ITIL implementations and influences their success (Diirr and Santos, 2014; Pedersen et al., 2010). Drawing on the findings in Section 7.2, the selection of ITIL implementation strategy was a result of conversation and discussion. For example, it took time for conversions in Case Study A before taking the decision on the implementation strategy. The decision was to implement ITIL gradually, process by process, using internal human resources. Another example was in Case Study C where the decision on ITIL implementation strategy entailed several ITIL processes together in contrast with Case Study A. However, setting the ITIL implementation strategy went through conversations in both case studies. Therefore, implementation strategy associates mainly interpreting process (Crossan et al., 1999) and conversation process (Castaneda and Rios, 2007) because it requires insight explanation, thought exchange and learning development through interaction between individuals. In sum, implementation strategy associates both the interpreting process and the conversation process.

In conclusion, two ITIL CSFs of decision phase (i.e. real need realisation of ITIL and initial top management support) associate individual level of 4i framework. Moreover,

the third ITIL CSF of decision phase (i.e. implementation strategy) associates individual to group OL level.

8.3.2 ITIL Implementation CSFs at Preparation Phase

The second phase of the network of CSFs of ITIL implementations is the preparation phase. The effective ITIL CSFs at the preparation phase as presented in Section 7.3 include training; awareness; and external consultants and suppliers.

First, training would be one of the effective ITIL CSFs at the preparation phase of network of CSFs. Drawing on the current research findings as presented in Section 7.3, training was a very important practise at the initial stages of all of the three case studies. Likewise, previous researchers recognised that ITIL implementations required broad training (Ahmad et al., 2012; Cater-Steel, Toleman and Tan, 2006; Hochstein, Tamm and Brenner, 2005). According to Cater-Steel and Tan (2005a), IT people during ITIL implementations needed to attend ITIL extensive training. Iden (2009) noted that some customer representatives attended an ITIL course; and Pollard and Cater-Steel (2009) recommended the training for managers and users. All employees need general training in primary topics to have sufficient knowledge of what ITIL means (Iden and Langeland, 2010; Mehravani et al., 2011). The training allows employees to communicate effectively about ITIL processes, reduces resistance and increases cooperation (Ahmad et al., 2012). Finally, Training is an obvious source of learning. It enhances the quality of IT people (Ahmad et al., 2013). On the other hand, training facilitates individual learning. More specifically, it involves the attending process because it implies the attendance to external information to bring new knowledge (Kleysen and Dyck, 2001; Zietsma et al., 2002). Additionally, it associates discipline as a political process because it allows shaping of the individual understanding (Lawrence et al., 2005). In summary, training as an ITIL CSF associates two 4i framework processes at the individual level: attending and discipline. This supports the finding of the present research that comprehensive training suits initial stages of ITIL implementation and its significance decreases over time. Training is a dynamic CSF as its importance varies with the progress of learning within organisations.

The second ITIL CSF at the preparation stage of network of CSFs is awareness. As explained in Section 7.3, awareness is an ITIL CSF that plays important roles for the

successful ITIL implementations. For instance, awareness participates in managing people resistance against ITIL processes and in getting people involved. Similarly, previous studies recognised the important role of awareness in implementing ITIL successfully. Awareness also enhances individual learning such as explaining ITIL concepts and processes to others (Ahmad et al., 2012; Pollard and Cater-Steel, 2009). Moreover, it allows eliminating resistances, promoting new ideas, building support, and facilitating understanding (Hochstein, Tamm and Brenner, 2005; Neničková, 2011). Accordingly, based on the 4i framework literature, awareness would be an activity of the interpreting process (Crossan et al., 1999). In addition, awareness supports the activities of some 4i framework political processes such as influence process (Lawrence et al., 2005) and championship process (Kleysen and Dyck, 2001). Therefore, awareness associates interpreting, championship and influence processes. All of these processes bridge individual and group levels of 4i framework.

The third ITIL CSF at the preparation stage is external consultants and suppliers. Using external consultants would facilitate learning during ITIL implementations as discussed in Section 7.3. For example, in Case Study C, the external consultants assisted internal people to implement ITIL. Moreover, the involvement of external consultants would allow internal people to learn. Likewise, many researchers considered using external consultants as an ITIL CSF because external consultants would act various important roles during ITIL implementations (Ahmad et al., 2013; Iden and Eikebrokk, 2013; Pollard and Cater-Steel, 2009). According to Mehravani et al. (2011), external consultants supported several implementations. Therefore, their participation in a new ITIL implementation would facilitate learning and bring practical experience. Accordingly, the CSF of external consultants would mainly associate some processes bridging both individual to group learning levels and group to organisation learning levels. On the one hand, using external consultants associates conversation and social modelling processes, which bridge individual to group learning levels. The participation of external consultants usually involves conversations, which as a conscious individual to group learning process allows exchanging thought and explaining learning (Castaneda and Rios, 2007). In addition, the participation of external consultants would also facilitate social modelling learning process (Castaneda and Rios, 2007) as internal people observe external consultants. On the other hand, using external consultants

associates coalition-building process, which bridges group to organisation learning levels (Kleysen and Dyck, 2001) because external consultants and internal people require taking collective actions to facilitate learning.

Additionally, the findings of the present research contain another perspective of considering external consultants as a CSF for ITIL implementations. In contrast with previous studies, the present study implies that the usage of external consultants is not always a CSF of ITIL implementations. For example, ITIL implementation in Case Study A depended only on internal human resources to implement ITIL because the CEO decided to avoid external consultants. Therefore, the factor of external ITIL consultants was not a CSF for Case Study A. These findings of Case Study A as a successful case without the involvement of external consultants challenged the findings of Pedersen et al. (2010) and Pollard and Cater-Steel (2009) who considered the use of consultants as a CSF for ITIL implementations. These two diverse perspectives can be combined by a comprehensive view. It seems that the effective issue is the organisational learning whether they implement ITIL dependent on or independent on external consultants. Thus, neither the use of only internal efforts nor the use of external consultants can be considered a common CSF, but the learning growth is the key. However, the absence and the existence of external consultants imply different learning approaches. If an organisation aims to implement ITIL, it will need ITIL knowledgeable people who can bring the required knowledge. Therefore, the use of external consultant can be considered a contextual CSF because it is specific for some cases. However, if organisations hire external consultants to implement ITIL, it is important to ensure that there is effective knowledge transfer to the staff from the consultants to ensure the sustainability (Cater-Steel, 2009; Ahmad et al., 2012). Organisations should be careful to get the best form the consultants as "consulting rarely results in learning for the client organization. While the consultants' clients may come to understand particular issues, they rarely develop significant new capabilities for understanding similar issues in the future. In fact, making their clients highly proficient in new skills and capabilities is often contrary to consultants' goals" (Kim and Senge, 1994, p. 278). While using external consultants, it is important to ensure that external consultants can bring knowledge and accelerate learning. One of the reasons for failed ITIL implementation in Case Study B was that external consultants could not bring sufficient knowledge to

internal people. In brief, the CSF of external consultants is a contextual CSF that would be effective in some cases.

In summary, the ITIL CSFs of the decision phase vary in their support to OL. While training CSF facilitates learning at individual level, awareness CSF bridges individual and group levels. The CSF of external consultants also bridges individual to group learning and group to organisation learning.

8.3.3 ITIL Implementation CSFs at Practice Phase

The ITIL CSFs of practice phase of network of CSFs are broad involvement, ITIL adaption, ITSM software, IT management support, champion and communication.

First, broad involvement is an ITIL CSF in the network of CSFs at the practice phase. The findings of the case studies reveal the importance of involving different personnel including management, IT operation, ITIL implementation, and other people as explained in Section 7.4. Additionally, the findings imply that people's involvement is an important learning source and a means to get their buy-in. Similarly, previous studies emphasised the importance role of broad involvement of people. For example, people's involvement creates an ownership of the employees (Iden, 2009). In addition, it is important to engage people in different roles and who may be affected by ITIL implementations (Cater-Steel, Toleman and Tan, 2006; Tan et al., 2007). Such involvement facilitates learning among staff (Pedersen et al., 2010). On the other side from the perspective of OL, broad involvement would associate processes bridging the group and organisation levels of 4i framework. These processes include integrating and coalition-building. Broad involvement implies creating common understanding and actions among the personnel through mutual tuning that represents the integrating process (Crossan et al., 1999). Broad involvement also associates coalition-building that denotes taking collective actions based on new ideas (Kleysen and Dyck, 2001).

Second, ITIL adaption to the real needs of organisations is another ITIL CSF in the network of CSFs at the practice phase. Drawing on the findings of the present research at Section 7.4, ITIL adaption simplifies its implementation through customising ITIL processes to suit the organisational characteristics and by excluding inappropriate details from the implemented processes. In a similar vein, previous researchers

recommended adapting ITIL processes and guidelines to suit organisations implementing ITIL (Hochstein, Tamm and Brenner, 2005; Nicho and Al Mourad, 2012; Pedersen et al., 2010). However, ITIL adaption associates the integrating process of 4i framework as this process implies mutual adjustment Crossan et al. (1999). Therefore, ITIL adaption supports learning progress from group level to organisation level.

The third ITIL CSF at the practice phase is ITSM software. Drawing on the findings at Section 7.4, an important role of ITSM software in ITIL implementation is to contribute to the enforcement of ITIL practices. Moreover, while technology enforces people on some ITIL practices, it provides them with some learning opportunities. Therefore, ITSM software plays an essential role of enhancing ITIL practices. However, it is also important to customise technology to suit ITIL implementation. Finally, adopting technology to assist ITIL implementation provides chances for learning. Many previous researchers of ITIL implementations found that ITSM software affected ITIL implementations. However, they differed in the significance role of ITSM software. For example, Pollard and Cater-Steel (2009), and Neničková (2011) considered ITSM tools as a standalone ITIL CSF. Other researchers such as Diirr and Santos (2014) agree on the importance of ITSM tools. However, they considered it under another CSF. In all cases, they agree that ITSM software has influence during ITIL implementations. Accordingly, from OL perspective, ITSM software facilitates learning through force and institutionalising processes of 4i framework. As ITSM software involves the restriction of the options available to individuals, it would enable the integration of new ITIL concepts into collective group-level actions. Accordingly, using ITSM software represents force learning process that bridges group to organisation learning levels (Lawrence et al., 2005). In addition, ITSM software supports organisation learning level through institutionalising process because using ITSM software embeds individual learning and team learning into organisations (Crossan et al., 1999).

Fourth, IT management support is an ITIL CSF at the practice phase of the network of CSFs. Drawing on the findings, the required management support during the practice of ITIL differed from the management support at initial stages of ITIL implementation. Therefore, the required support of the management and its kind vary. While it is sufficient to get minimal support from top management at the beginning of

ITIL implementations that allows launching the implementation projects, it is important to have strong and continuous support of the IT management during practice phase. The strong support of IT management during ITIL adoption allows establishing ITIL while lack of IT management support leads to failed ITIL implementations as show in Section 7.4. The positive attitude of IT managers toward ITIL contributed to ITIL promotion so they played essential roles in successful ITIL implementations. While the literature of ITIL emphasised the importance of management support for ITIL implementation (e.g. Ahmad et al., 2012; Cater-Steel, Toleman and Tan, 2006; Cater-Steel, 2009; Diirr and Santos, 2014; Huang et al., 2013; Iden and Eikebrokk, 2013; Iden and Langeland, 2010; Mehravani et al., 2011; Neničková, 2011; Nicho and Al Mourad, 2012; Wu et al., 2011), it did not explicitly distinguish between required support at initial stages and later stages in contrast with the present research findings. As IT management support at practice phase plays an important role to manage people resistance, it would associate the domination process that supports learning at organisation level through overcoming any resistance to changes (Lawrence et al., 2005).

The fifth ITIL CSF at the practice phase of network of CSFs is champion. According to the findings of the case studies shown in Section 7.4, people would become ITIL champions if they believe in ITIL. They gradually form a positive attitude and opinion about the benefits of implementing ITIL. As they become familiarised with ITIL and develop strong beliefs in its benefits, they become truly enthusiastic champions. Many researchers considered ITIL champions as an ITIL CSF (Ahmad et al., 2013; Iden and Eikebrokk, 2013; Tan et al., 2007; Tan et al., 2009). ITIL champions can play different roles like process owners, senior managers or project managers (Mehravani et al., 2011; Tan et al., 2007). From the perspective of OL, champion would associate several processes bridging the individual and group levels of 4i framework and its extensions including championship, influence and experimenting. According to Kleysen and Dyck (2001), the championship process influences people's cognitive maps through persuasive conversations regarding the advantages of new ideas. The influence process overcomes uncertainty of the interpretation of ideas through several means including champions (Lawrence et al., 2005). Finally, the experimenting process implies performing actions and experiments (Zietsma et al., 2002) while one of the roles of

champions is to encourage others to do experiments. In conclusion, champion ITIL CSF associates several processes bridging the individual and group levels of 4i framework.

Sixth, ITIL CSF at the practice phase is communication. Communication, in the context of addressed ITIL CSFs, entails interdepartmental cooperation, effective communication, information distribution and people conversations. Drawing on the present research findings as show in Section 7.4, assigning formal contact people simplified the communication and assisted ITIL implementation. Persuasion would occur by changing individual thinking ways through communication that would lead to change people's behaviour. Similarly, previous researchers claimed that communication would assist ITIL implementations (Cater-Steel, Toleman and Tan, 2006; Iden and Eikebrokk, 2013; Iden and Langeland, 2010; Nicho and Al Mourad, 2012). From the perspective of OL, communication facilitates learning. More specifically, it associates interpreting, conversation and influence processes. Communication associates interpreting process because it entails explaining ideas to others through words (Crossan et al., 1999). Additionally, the conversation process involves exchanging thought through communication (Castaneda and Rios, 2007). Finally, communication also associates influence process, which encompasses negotiation and persuasion to overcome the imprecision of the interpretation (Lawrence et al., 2005). In summary, communication associates several processes bridging the individual and group levels of 4i framework.

In conclusion, ITIL CSFs of the practice phase can be segregated into four parts depending on their support for learning at different levels. First, champion and communication are ITIL CSFs of practice phase that bridge the individual and group levels. Second, other CSFs of the practice phase facilitates learning between the group and organisation levels that include broad involvement and ITIL adaption. Third, IT management support as a CSF of practice phase supports learning at organisation level. Finally, ITSM software CSF facilitates learning between individual to group levels and also at organisation level.

8.3.4 ITIL Implementation CSFs at Result Phase

The ITIL CSFs of the result phase of network of CSFs are performance management, realisation of benefits, and people appreciation.

First, performance management as an ITIL CSF of the result phase of network of CSFs entails the measurement of ITIL processes' performance and the generation of new knowledge. According to the findings of the case studies in Section 7.5, performance management activities such as setting objectives, measuring the performance, and producing reports contribute highly to successful ITIL implementations. Moreover, connecting the people performance measurement with the objectives of ITIL implementations is an effective practice. Similarly, several previous researchers considered performance management or one of its activities, such as publishing trend analysis reports and reviewing of ITIL implementation performance, an ITIL CSF (Ahmad et al., 2013; Mehravani et al., 2011; Neničková, 2011; Nicho and Al Mourad, 2012). From the perspective of OL, performance management would assist to embed individual learning and team learning into organisations. Therefore, it is related to institutionalising process that as a conscious process supports OL at organisation level (Crossan et al., 1999).

The second ITIL CSF of the result phase is the realisation of benefits. As discussed in Section 7.5, the findings of the case studies show that the realisation of benefits allows overcoming any resistance and to change people's attitude towards ITIL gradually. Enhancing employees' awareness of ITIL implementation advantages reduces their resistance to change. Moreover, with recognising ITIL benefits, the confidence of management and people increases. In the same vein, Hochstein, Tamm and Brenner (2005) and Wu et al. (2011) advised organisations to create and show ITIL quick wins to gain people acceptance. Moreover, showing ITIL benefits justifies its investments and allows gaining continual management support (Tan et al., 2007). Accordingly, realising ITIL benefits represents an ITIL CSF (Neničková, 2011; Tan et al., 2009). From the perspective of OL, the realisation of benefits would represent learning at individual level. Specifically, the realisation of benefits associates intuiting and discipline processes. Intuiting as a preconscious learning process at individual level allows people to recognise patterns based on their personal experience stream (Crossan et al., 1999). The realisation of benefits also associates discipline process that shapes people's understanding and enhances their learning (Lawrence et al., 2005). In sum, the realisation of benefits as an ITIL CSF supports OL at individual level.

The third ITIL CSF of the result phase of network of CSFs is people appreciation. Drawing on the present research findings in Section 7.5, people appreciation is an important factor. It can entails several approaches and means to reward and appreciate people such as giving credit for participation, expressing gratitude, sending people for training, and sharing any winning of ITIL implementations with all IT and business people. Moreover, people appreciation handles the resistance as it enforces people's behaviours and contributes towards ITIL success. Moreover, it allows people to learn ITIL practices better. However, to the best knowledge of the researcher, none of the previous studies of ITIL CSFs explicitly considered appreciation as a CSF for ITIL implementations. Nevertheless, appreciating and rewarding people would be considered a practice of change management. In this context, many researchers emphasised the role of change management practices (Ahmad et al., 2013; Cater-Steel, 2009; Diirr and Santos, 2014; Mehravani et al., 2011; Pedersen et al., 2010; Pollard and Cater-Steel, 2009; Tan et al., 2007). According to OL literature, people appreciation enhances learning because individuals learn better when they are rewarded. Therefore, appreciation associates motivation process which is a conscious practice to transform personal learning to actions using incentives such as rewards (Castaneda and Rios, 2007). People appreciation is therefore an ITIL CSF that facilitates individual level learning through several 4i framework processes.

To sum up, performance management as an ITIL CSFs of the result phase facilitates learning at organisation level. In contrast, others ITIL CSFs of the result phase, that includes realisation of benefits and people appreciation, facilitate learning at individual level.

8.3.5 The Model of Implementing ITIL Successfully (MIIS)

The previous four subsections discuss and analyse the ITIL CSFs of different phases of network of CSFs in light of the processes of 4i framework and its extensions. As a summary, Table 8-1 highlights the associations of the ITIL CSFs in the network of CSFs with 4i framework processes.

S.	phases of network of CSFs	ITIL CSFs	4i framework processes	learning level
1	**Decision**	real need realisation of ITIL	intuiting and attending	individual
2		initial top management support	intuiting and attending	individual
3		implementation strategy	interpreting and conversation	individual to group
4	**Preparation**	Training	attending and discipline	individual
5		awareness	interpreting, championship, conversation and influence	individual to group
6		external consultants and suppliers	conversation social modelling + coalition-building	individual to group + group to organisation
7	**Practice**	broad involvement	integrating coalition-building	group to organisation
8		ITIL adaption	Integrating	group to organisation
9		ITSM software	force + Institutionalising	group to organisation + organisation
10		IT management support	Domination	organisation
11		champion	championship, influence, experimenting	individual to group
12		communication	interpreting, conversation and influence	individual to group
13	**Result**	performance management	Institutionalising	organisation
14		realisation of benefits	intuiting discipline	individual
15		people appreciation	motivation	individual

Table 8-1 The Associations of ITIL CSFs with 4i Framework Processes

In summary, five ITIL CSFs associate the individual level processes of 4i framework and its extensions. These CSFs are real need realisation of ITIL, top management support, training, realisation of benefits and people appreciation. Moreover, among ITIL CSFs, implementation strategy, awareness, external consultants, communication and champion associate the processes bridging the individual and group levels of 4i framework and its extensions. In addition, four ITIL CSFs, that include external consultants, broad involvement, ITIL adaption and ITSM software, associate the

processes bridging the group and organisation levels of 4i framework and its extensions. Finally, three ITIL CSFs associate the processes of 4i framework and its extensions at organisation level. These CSFs are ITSM software, IT management support, performance management, and ITSM software.

Therefore, using these associations, it would be possible to extend the network of CSFs of ITIL implementations shown in Figure 7-1 using 4i framework shown in Figure 4-2. On the one hand, as discussed in Section 4.4.2, the four processes of 4i framework support OL at different levels where intuiting process supports learning at individual level; interpreting process bridges learning from individual to group levels; integrating process bridges learning from group to organisation levels; and institutionalising process supports learning at organisation level. On the other hand, each ITIL CSFs in the network of CSFs associates one or more OL processes and facilitates learning at different levels as shown in Table 8-1. Accordingly, 4i framework would be extended based on the association of ITIL CSFs in the network of CSFs with the processes of 4i framework. The result is shown in Figure 8-1 that provides the Model of Implementing ITIL Successfully (MIIS). This model provides a holistic perspective to explain the success and failure of ITIL implementations based on 4i framework as a theoretical basis through extending the network of CSFs and associating ITIL CSFS with OL processes. Moreover, it incorporates the four phases of implementing ITIL (i.e. decision, preparation, practice and result) to show how organisations can learn ITIL at these phases across the 4i framework processes as certain ITIL CSFs facilitate learning at each process. Accordingly, the model implies that ITIL can be implemented successfully once ITIL passes all processes of 4i framework or in other words once ITIL is institutionalised and sufficient ITIL CSFs exist. Accordingly, MIIS implies that the combination of ITIL CSFs to facilitate learning would vary across different organisations. The indication of ITIL success is the progress of learning through OL processes regardless of existed ITIL CSFs. This explains why some organisation, for example, would succeed in implementing ITIL without external consultants. In addition, MIIS implies iterations between different levels. Therefore, there would be several ways to implementing ITIL successfully. Additionally, MIIS shows that the importance of CSFs varies over time because different CSFs are needed to pass each 4i framework

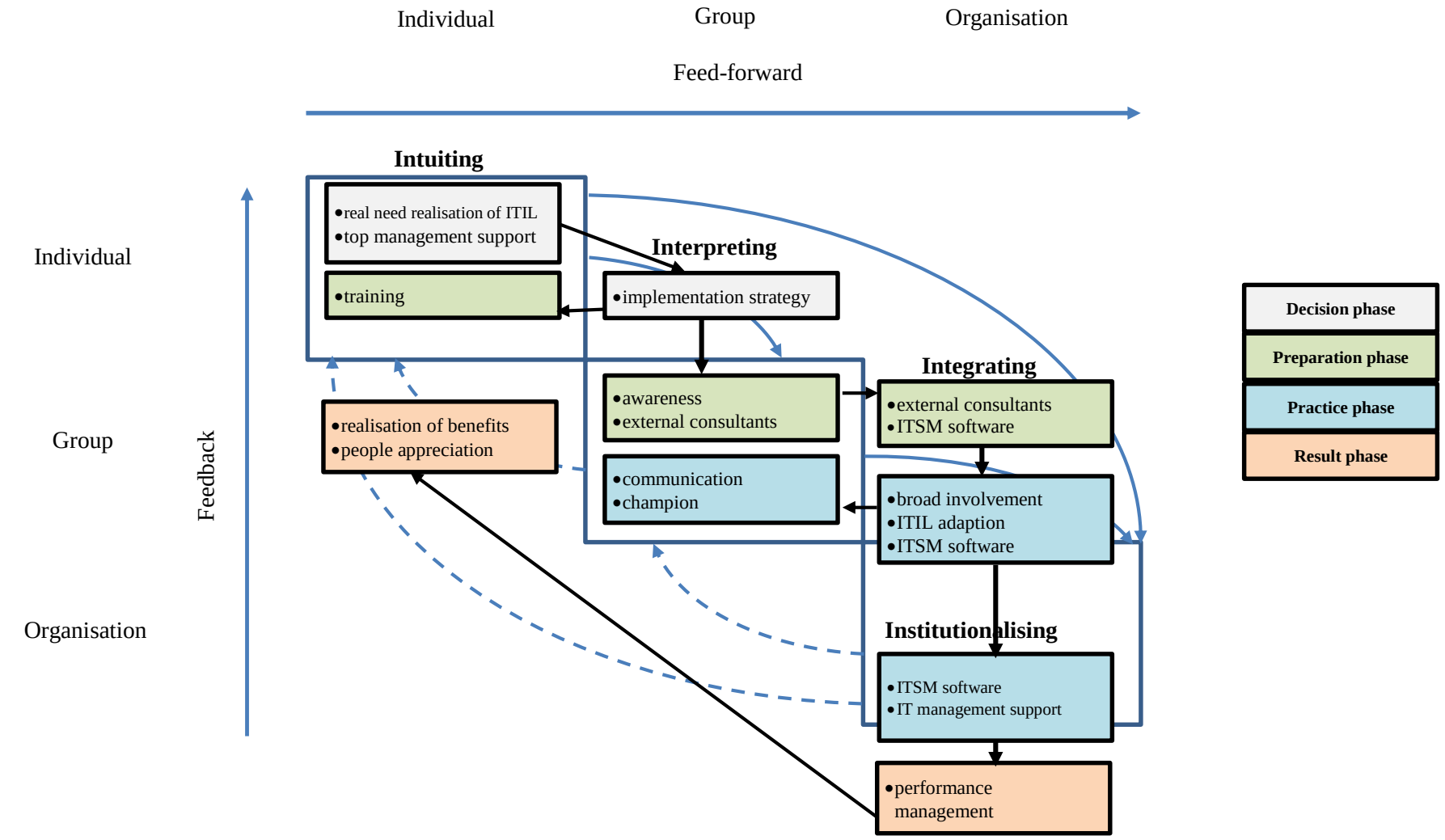


Figure 8-1 Model of Implementing ITIL Successfully (MIIS) as an Extension of 4i Framework

process. Therefore, the existence of all ITIL CSFs simultaneously is not necessary during each phase of ITIL implementations. On the other side, the failure of ITIL to pass any OL process would lead to ITIL implementation failure because of the lack of sufficient ITIL CSFs. Consequently, the existence of an ITIL CSF cannot always warrant successful ITIL implementations because a CSF alone may not facilitate learning. In summary, MIIS allows explaining theoretically why ITIL would be implemented successfully or unsuccessfully based on 4i framework.

8.4 Conclusion

In conclusion, the above discussion and synthesis of the present research findings with the literature of ITIL implementations, CSFs and OL have led to significant results.

To implement ITIL successfully, it is not sufficient to propose a list of ITIL CSFs for several reasons. Some ITIL CSFs appear to be contextual CSFs that are only effective in some cases. In addition, many ITIL CSFs are dynamic CSFs that would be more effective at certain phases or times of ITIL implementation projects. Additionally, evidence suggests that there are interrelations among ITIL CSFs that can be represented by a network of CSFs to describe the dynamics of ITIL CSFs over different implementation phases. The synthesis of these findings with OL literature suggests extending the network of CSFs through associating ITIL CSFS with 4i framework processes to result in MIIS shown in Figure 8-1. This model portrays how organisations would learn ITIL through the levels of individual, group, and organisation. Organisations assimilate ITIL mainly across four feed-forward learning processes: intuiting, interpreting, integrating, and institutionalising where certain ITIL CSFs facilitate learning in each process. Accordingly, if ITIL is institutionalised, it is implemented successfully. Additionally, MIIS is a result of identifying OL as a major theme of implementing ITIL successfully. In contrast, most of the previous studies of ITIL CSFs research listed ITIL CSFs as isolated factors, although some of these studies recognised that some factors would affect others. Therefore, these studies did not expose the aspects of how to adopt ITIL successfully because knowing ITIL CSFs would not be sufficient to implement ITIL successfully despite their useful insights.

However, MIIS overcomes this limitation by providing a holistic perspective instead of just listing the ITIL CSFs.

In summary, the last three chapters have addressed the second research question as they have strived to interpret the success and failure of ITIL implementation. Chapter 6 provides news insights for ITIL implementation success and failure through presenting the Framework analysis findings such as the time effects on dynamic CSFs, the learning role as a supreme CSF to implement ITIL successfully, and the interrelations among ITIL CSFs. Therefore, time and learning are clues for understanding the interrelations of ITIL CSFs. This suggests conducting event narrative analysis that considers time and learning aspects. Accordingly, Chapter 7 presents the findings of the event narrative analysis that includes an initial roadmap to implement ITIL successfully. These findings include the network of CSFs that segregates ITIL CSFS over ITIL implementation phases. Finally, Chapter 8 discusses the findings of Chapter 6 and Chapter 7 in light of the literature. The discussion leads to MIIS which is an extension of 4i framework using the network of CSFs and ITIL CSFs. This model describes how ITIL implementations can be implemented successfully and interprets why some ITIL implementations fail. The next chapter concludes the thesis.

CHAPTER 9: CONCLUSIONS

9.1 Introduction

Chapter 9 is the last chapter that contains six sections including this introduction section. In the second section, I summarise the research. In the third section, I address the research questions. Additionally, I summarise the possible theoretical contributions of the research to the field in the fourth section. Furthermore, I discuss the research limitations in section five. Finally, I conclude the thesis in section six by presenting some practical implications for professionals wishing to implement ITIL and other research implications for researchers interested in new directions of related future research.

9.2 Research Summary

The main aim of the study was to understand why some organisations implementing ITIL achieve successful results while others fail. The study also aimed to interpret various factors for the success and failure of ITIL implementations. Despite the abundance of studies examining ITIL success, most of these studies tended to concentrate on ITIL CSFs without probing into theorising the multitude of factors leading to successful ITIL implementations. Such studies were concluded by providing extended lists of CSFs. In current study, however, the domineering task was to research for a possibility to understand and further to theorise successful ITIL implementations. To this end, the study proposes 4i framework as a theoretical basis for understanding the success and failure of ITIL implementations and offering estimated practical insights for ITIL professionals.

To achieve this aim, the study investigated three case studies of ITIL implementations: successful, partially successful and failed implementations. By applying analysis triangulation using both Framework analysis method and event narrative analysis

method, the study has revealed emergent aspects of success and failure of ITIL implementations. Moreover, instead of merely concentrating on the concept of CSFs to understand how ITIL could be implemented successfully, the present research adopted 4i framework that offered new insights not only for ITSM area but also for the theory of CSFs.

One of the key findings of the present study indicates that the learning aspect of organisations is a crucial factor for successful ITIL implementations because learning involves the majority of the other success factors. Based on the findings of the study, the capacity of an organisation to learn during its ITIL implementation would determine its success or failure. While the sufficient capacity of learning of any ITIL process would support its successful implementation, the deficient capacity of learning would lead to failed implementation. Therefore, the study proposes OL theory as a possible theoretical framework to understand the success and failure of ITIL implementations.

Moreover, the study indicates that there are some interrelations among ITIL CSFs as shown in Figure 6-1. The analysis of the three case studies has revealed that the CSFs of ITIL implementations would vary from time to time. This may explain the inconsistency of ITIL CSFs in ITIL research literature. By expanding Figure 6-1 based on the importance of CSFs over time and ITIL implementation phases, Figure 7-1 presents the network of CSFs of ITIL implementations.

Finally, the study introduces the Model of Implementing ITIL Successfully (MIIS) in Figure 8-1. In addition to the fact that MIIS model expands 4i framework, it also incorporates the network of CSFs in Figure 7-1. Therefore, it does not only explain how ITIL can be implemented successfully but also offers an estimated approach for implementing ITIL based on a theoretical basis. In summary, the study moves beyond debates of listing ITIL CSFs to investigating the dynamicity and interrelationships among ITIL CSFs and theorising ITIL successful implementation factors.

9.3 Addressing the Research Questions

The entire study endeavours to address the research questions. This section describes briefly how and where in the thesis, these questions are addressed. It also provides key findings related to the questions, which were as mentioned in Chapter 1:

> Question 1: How can the success and failure of ITIL implementations be theoretically interpreted?
>
> Question 2: Why do some organisations succeed in implementing ITIL while others fail?

To address the first research question, in Chapters 2, 3 and 4, I have reviewed the literature of ITIL implementations, analysed the identified ITIL CSFs and reviewed the related literature of OL. Following this critical review, I have proposed 4i framework as a theoretical basis to interpret ITIL implementation success and failure. In the subsequent chapters, I have addressed the second research question. More specifically, in Chapter 5, I have explained the research design to address the question utilising three purposely selected case studies. In Chapters 6 and 7, I have reported the analysis triangulation findings of the three case studies using Framework analysis and event narrative analysis methods consecutively. Finally, in Chapter 8, I have discussed the findings in light of the literature and proposed MIIS model, which correlates 4i framework processes and ITIL CSFs to implement ITIL successfully. The following couple of paragraphs provide concise explanation to address the research questions.

On the one hand, a possible explanation to address in brief the first research question is that the success and failure of ITIL implementations could draw on both theories of CSFs and OL. It seems that OL is an influential factor for implementing ITIL successfully. Most ITIL CSFs facilitate or contribute to OL and vice versa. Accordingly, learning is a supreme CSF that can be deemed as a cornerstone for successful ITIL implementations. This explains the fact that the capacity of an organisation to learn during its ITIL implementation would determine its success or failure. If an organisation has the capacity to learn an ITIL process, it will most probably succeed in the process implementation. On the other hand, if an organisation capacity of learning is inadequate, it would eventually fail. In other words, the lack of

OL during an ITIL implementation would lead to its failure. In the organisational context, learning is not only attempted through carrying on some activities such as training programmes, but it also comprises other crucial aspects including active participation as a kind of learning by doing, interaction among groups and ultimately the institutionalisation of learning among organisational systems. Therefore, implementing ITIL is a strategic decision and a long journey that would take years (Iden and Langeland, 2010) for organisations to learn well. During ITIL implementation, it would be necessary to ensure that organisations learn more while time passes and to encourage activities that facilitate learning of ITIL implementations.

On the other hand, a possible explanation to address in brief the second research question is that the importance of most ITIL CSFs varies over time while there are some interrelations among several ITIL CSFs. In other words, some ITIL CSFs would affect other ITIL CSFs. The MIIS model extends 4i framework with ITIL CSFs and incorporates four phases of ITIL implementations: decision, preparation, practice and result as shown in Figure 8-1. Therefore, it includes a comprehensive vision to interpret the success and failure of ITIL implementations. Specifically, an ITIL implementation is successful if it passes through all 4i framework processes, namely intuiting, interpreting, integrating and institutionalising. Therefore, unless ITIL becomes institutionalised, it does not reach success and it could halt or fail. Moreover, MIIS implies that the importance of ITIL CSFs to facilitate learning would vary from time to time as it shows that the effective CSFs also vary among OL processes. Therefore, most ITIL CSFs enhance the capacity of organisations to learn but in different phases. Moreover, some ITIL CSFs differ throughout the implementation phases. For example, while the decision phase of an ITIL implementation necessitates initial top management support to launch the implementation, the practice phase would require daily basis strong IT management support. Additionally, to facilitate learning and pass to next phase, each phase necessitates several ITIL CSFs as the MIIS model shows. However, it is not important to have all ITIL CSFs of a phase in all ITIL implementations. In other words, the combination of necessary CSFs to pass a phase varies among different ITIL implementations. Therefore, there are several paths to implementing ITIL successfully as these paths promote learning.

9.4 Theoretical Contributions

This section highlights the major theoretical contributions of the present research related to ITSM, CSFs and research context.

9.4.1 Contributions of IT Service Management

There are several theoretical contributions of the present research related to ITSM field. These theoretical contributions include identifying the substantial underlying factor of ITIL implementations and introducing the MIIS model in order to understand how ITIL CSFs can contribute in implementing ITIL successfully. These two key contributions respond to the question of why ITIL would succeed or fail. The study also provides several other contributions such as the identification of additional CSFs of ITIL implementations and provides new insight of several CSFs that were identified previously. The following paragraphs detail these contributions.

First, rather than merely listing the CSFs of ITIL implementations, the present study has probed further by proposing OL as an underlying success factor of ITIL implementations. This leads to suggest OL theory as a theoretical basis that can explain the success and failure aspects of ITIL implementations.

To probe further, the study has also proposed the MIIS model as a result of combining the analysis of the previous ITIL CSFs' studies in Chapter 3; the results of reviewing the OL literature in Chapter 4; and the findings of the three case studies in Chapters 6 and 7. While most of the previous studies put efforts in classifying and reclassifying ITIL CSFs, the present study encapsulates these factors theoretically within 4i framework that results in the MIIS model shown in Figure 8-1. This model endeavours to explain how ITIL can be implemented successfully based on 4i framework.

Finally, the research offers also new insights of ITIL CSFs. For example, to the best knowledge of the researcher, no previous research considered rewarding people as an ITIL CSF. Based on the present research findings, rewarding and appreciating people positively influence ITIL implementations. Moreover, drawing on the previous research highlighting the significance of management support to implement ITIL, the study

provides more detail accounts based on the management role (i.e. executive management and IT management). Additionally, the present study concludes that ITIL training is more suitable for the personnel at the beginning of ITIL implementations while new employees require just on-job orientation training. Moreover, the study highlights the role of time element as the importance of several ITIL CSFs vary from time to time. Finally, the study concludes that most ITIL CSFs would correlate other ITIL CSFs.

9.4.2 Contributions of Critical Success Factors

Drawing on the research findings and discussions, the study provides four conceptual contributions related to CSFs: contextual CSF, dynamic CSF, supreme CSF and network of CSFs. These contributions are explained below.

First, a contextual CSF represents a CSF for particular cases of ITIL implementations. In other words, each ITIL implementation case has its own circumstances. Therefore, listing general factors leading to successful implementation would be unsuitable. For example, utilising ITIL external consultants would be a CSF of implement ITIL for some organisations. However, other organisations would implement ITIL successfully by just utilising internal human resources (without hiring external consultants). In conclusion, not all CSFs are applicable for all ITIL implementations.

Second, a dynamic CSF is a factor that its importance changes over time. In other words, it is a CSF of an ITIL implementation at a time but not a CSF of the same ITIL implementation at another time. Therefore, ITIL CSFs vary over time such as ITIL training and awareness that are very important at early stages of ITIL implementations, but their importance decreases during advanced stages. It is not sufficient to list CSFs of ITIL implementations and to provide explanations of their importance, but it is important also to describe the dynamicity of these factors.

Third, the current research introduced also the concept of supreme CSF. A supreme CSF stands for a genuine influential CSF that other CSFs would support as it most probably entails those CSFs. Therefore, it represents the foremost success factor. For example, in ITIL implementations, learning can be considered a supreme CSF because most of other factors, such as management support, champion, broad involvement,

communication, implementation strategy, appreciation, awareness, ITSM software and realisation of benefit would lead to and support learning. In other words, learning would represent a cornerstone for successful ITIL implementations as the capacity of an organisation to learn during its ITIL implementation would affect its success or failure. If the organisation has a learning capacity of an ITIL process, it would implement the process successfully. However, if its learning capacity is insufficient, it would not succeed. On the other side, the lack of OL during an ITIL implementation would lead to failed implementation. In the organisational context, learning does not only compose activities such as training programmes, but it also comprises other crucial aspects including active participations like learning by doing, interaction among groups and ultimately the institutionalisation of learning among organisational systems. The concept of supreme CSF indicates that some CSFs would implicate, precede or lead other CSFs. Accordingly, Some CSFs would be more important than others CSFs and CSFs would vary in their significance.

Fourth, in addition to these concepts, the study introduces the concept of network of CSFs. While most previous studies of ITIL CSFs provide extended lists of CSFs, the current study claims that there are interrelations among the CSFs of ITIL implementations. The network of CSFs supports the other proposed concepts of contextual CSF by combining several CSFs together, dynamic CSF by dividing the CSFs into stages and supreme CSF by separating the influential CSFs.

9.4.3 Contextual Contributions

In addition to the above contributions, the present study provides a contextual contribution. The study is the first research of ITIL success and failure in Saudi Arabia. This contribution allows the study to provide new useful insights for ITIL implementations. Moreover, it would in future encourage other researchers to conduct more ITIL research in Saudi Arabia where there are many firms attempting to implement ITIL.

9.5 Research Limitations

Any research would face some limitations and this study is no exception. The current section acknowledges the possible limitations of the study that include non-using of longitudinal case studies, the research context limitation, the size of the organisations, and the focus of the interviews.

First, a potential limitation was that the case studies were not handled in a longitudinal manner to obtain more rounding and inclusive data during several stages of ITIL implementations. Longitudinal case studies would suit studying closely the progresses of ITIL implementations. However, the research practices have fortunately tackled this limitation at early stages. For example, one of these practices was to select the case studies that had a long experience with ITIL. Another practice was to use in-depth interviews that allowed collecting rich data. A third practice was the deep analysis triangulation of the case studies using Framework analysis method and event narrative analysis method that also addressed the limitation as the analysis uncovered longitudinal aspects of the case studies. On the other hand, using longitudinal case studies would not suit the research objectives because it would be difficult to apply the purposively selection criterion of the case studies that led to select three heterogeneous case studies in the present research: successful, failed and partially successful case study. If a researcher wants to apply this criterion using longitudinal case studies, she will need to conduct several case studies as she cannot know in advance whether an ITIL implementation would be successful, failed or partially successful.

Second, the research context was limited to Saudi Arabia and so it cannot be generalised to other contexts. However, as discussed previously, Saudi Arabia's organisations were purposefully selected because I was able to access these organisations easily and because there was no previous ITIL research in Saudi Arabia. Therefore, this was a chance to provide new insights in this area in a new context. Additionally, the present research did not intend to generalise the findings but to provide a model that can be used to interpret the success and failure of ITIL implementations. "Although the scope for generalisation is an important criterion by which the utility or quality of a research

study is judged, there may also be value in individual studies which cannot be generalised" (Lewis and Ritchie, 2003, p. 266).

Third limitation is the size of the studied organisations. These organisations varied in their sizes. While the organisation of Case Study B was large organisation in term of the employee number, both organisations of Case Studies A and C were small. While the organisation size was not considered in the selection criteria of the case studies, it would be worth in future research to investigate the generalisation of the findings in different organisation size.

Finally, the focus of the interviews was limited as the focus was on interviewees from service side. However, the research objective was not concentrate on customers because they were not the decision maker or the workers of implementing ITIL. Additionally, the research applied method triangulation as it also used documents as another data source to understand the longitudinal aspects of the case studies. Therefore, collected data of the interviews and documents were sufficient to lead to new insights.

9.6 Implications for Professionals and Researchers

At the near end of the research, it is worthwhile to mention drawing on the research findings some important practical implications for managers, ITIL teams and ITIL owners. It is also worthwhile to provide future research implications for researchers.

9.6.1 Implications for Managers

Implementing ITIL is not a short project. It involves continuous improvement of IT operation management processes; and hence it is a strategic decision that requires time and resources. Therefore, it is recommended that the managers should be aware of the obligations of ITIL implementation decisions to ensure their long commitment for the sake of ITIL success.

Based on the findings, OL is a crucial factor for ITIL implementation success. Therefore, management personnel should facilitate their organisations to learn ITIL. To support OL, managers have several options that would vary in cost and time. For

example, they can hire ITIL consultancy firms, build gradually the capability of internal human resources, or hire full time personnel who have practical experiences of ITIL.

Whatever method managers choose, they need to ensure that learning takes place smoothly. Other than training, organisational learning takes several different forms including awareness, communication, involvement and gradual implementation among others. There is no one fixed prescription for successful ITIL implementations. However, despite the selected ways and activities to implement ITIL, it is crucial for managers to appoint dedicated employees for ITIL implementations (i.e. implementation teams), to build their capabilities, and to provide them sufficient knowledge. Because of their significant roles in implementing ITIL, the next subsection provides some implications to implementation teams.

9.6.2 Implications for ITIL Implementation Teams

ITIL implementation teams are really a cornerstone of successful ITIL implementations. They would play important roles in facilitating OL of ITIL and supporting required change to institutionalise ITIL if they are carefully selected and received necessary support.

Before they advise to initiate ITIL projects, ITIL implementation teams need to be sure that initial sufficient management support exists. Unless they get such support, they would not encourage implementing ITIL. Moreover, during ITIL implementations, they are required to show quick wins that would increase the management support.

Drawing on the findings, the role of ITIL implementation teams is central, as they would be learning facilitators. To facilitate learning, they need to exhibit achieved ITIL benefits and values for management and IT people. In addition, they should share wins with personnel and appreciate their efforts. Such practices would lead to manage the expectations of different stakeholders, increase management support and allow people continuous participations. In other words, success would be utilised to create future success.

Additionally, ITIL implementation teams are also recommended to customise ITIL to the real need of their organisations. The context and requirements vary among different organisations. Therefore, understanding and considering specific contextual

circumstances and uniqueness of organisations would positively influence their ITIL implementations.

Finally, and most importantly, ITIL implementation teams are recommended to utilise the MIIS model that implies practicable guidelines to facilitate learning of ITIL and accordingly to implement ITIL successfully. In addition, this model supports ITIL implementation teams to review archived and targeted ITIL CSFs periodically as the importance of several CSFs would vary across different implementation phases. As this theoretical model proposes practical recommendations to implement ITIL, it fills some gaps between theory and practice. Moreover, it would enhance ITIL implementation teams' understanding of the progression of learning during ITSM transformations.

9.6.3 Implications for ITIL Owners

Currently, AXELOS owns ITIL and manages ITIL development (AXELOS, 2016). ITIL books provide rich information about the best practices for managing ITSM including ITIL processes. However, they do not explain how to implement these processes and they do not provide detailed information on the requirements and obligations of implementing ITIL. The consideration of adding such information would assist any organisation aiming to implement ITIL. Drawing on the present research findings, MIIS is a holistic model that would provide prerequisites, guidance and roadmap of successful ITIL implementations.

Another important area that requires more consideration in ITIL books is the human element. People extremely influence ITIL implementations as shown in the analysis findings. Moreover, they represent a cornerstone of MIIS. Hence, it would be valuable to consider adding some topics related to human issues such as people's important soft skills and required capabilities to ITIL books that would positively affect ITIL implementations.

9.6.4 Implications for Researchers

The present study has provided significant contributions in the areas of ITIL successful implementations, CSFs and OL. However, the findings of the present research offer insights for future research such as replicating the research in other contexts, employing

longitudinal case studies, investigating the network of CSFs in other fields and examining the MIIS model empirically.

First, the present research has studied the success and failure of ITIL implementations based on three case studies. However, all of those case studies were in Saudi Arabia. Therefore, it is worthwhile to conduct further research by replicating the present research in various contexts. This allows understanding whether the present research findings would be generalised in other contexts or would be only appropriate for the present research context. Researchers would even further conduct a cultural comparison of ITIL implementations across different countries. Such suggestions would advance forward research in this emerging area.

Second, the present research findings indicate that time is an effective factor of ITIL implementations and that some ITIL CSFs are dynamic CSFs as they are important at a time while they are less influential in other times. Moreover, the nature of ITIL implementations implies long-term endeavours. Therefore, it would be worthwhile to conduct longitudinal ITIL case studies that would investigate the progress of ITIL implementations over time using the present study as a reference point.

Third, among the novel contributions of the present research are the concepts of supreme CSF and network of CSFs. Therefore, it is important to explore these two concepts in different research contexts.

Finally, another principal contribution of the present research is the model of MIIS. This model provides a holistic view of how ITIL can be implemented successfully. For future research, it is recommended to conduct empirical studies in different contexts to validate MIIS model.

9.7 Conclusion

The study extended the research of ITIL CSFs in two aspects. First, instead of listing the CSFs, it provided different view of the CSFs through introducing four conceptual terms of CSFs: contextual CSF, dynamic CSF, supreme CSF and network of CSFs. Second, it

highlighted theoretically the essential role of organisational learning in successful ITIL implementations by considering learning a supreme CSF of adopting ITIL.

Moreover, the study proposed the Model of Implementing ITIL Successfully (MIIS) that incorporated ITIL CSFs into 4i organisational learning framework to provide new insights of the success and failure of ITIL implementations. This model provides suggested practices of implementing ITIL to professionals and offer new research directions to researchers.

APPENDIX A: ITIL CSFS IN PREVIOUS STUDIES

The current appendix lists the CSFs of ITIL implementations in previous studies ordered chronologically. Then, it also lists CSFs in ITIL official books.

A.1 ITIL CSFs in Previous Research

A.1.1 Hochstein, Tamm and Brenner (2005)

1. demonstrating the benefits of ITIL project by achieving and showing quick wins in order to mitigate the reluctance of accepting new processes by communicating results
2. making every effort for continuous improvement as a means to the success sustainability
3. acquiring senior management support to utilise needed pressure towards change
4. creating virtual teams for ITIL processes to develop these processes simultaneously with existing activities
5. conducting wide personnel training and development to ensure the development of the involved team
6. running marketing campaigns to enhance understanding and raise acceptance by conducting such internal communication activities

A.1.2 Cater-Steel and Tan (2005a, 2005b)

1. senior management Commitment to ensure allocation of resources and to overcome expected resistance
2. ITIL Champion to promote ITIL and encourage others to adopt it
3. the Ability of IT staff to adapt to change
4. the skills and competence of IT staff allocated to ITIL
5. ITIL training for IT staff

A.1.3 Cater-Steel, Toleman and Tan (2006)

Cater-Steel, Toleman and Tan (2006) confirmed the findings of Hochstein, Tamm and Brenner (2005).

A.1.4 Tan, Cater-Steel, Toleman and Seaniger (2007)

1. Building successful vendor relationships to utilise vendor expertise, outsource some of the activities and tool requirements to vendors, and transfer technology to internal staff.
2. Centralising of IT services as the ITIL service desk function represents the single point of contact between the service provider and the users.
3. Getting the commitment of senior management.
4. Communicating tangible and intangible benefits of ITIL implementation.
5. Employing change management to transform the culture from technology-oriented focus to service-oriented focus.
6. Identifying and supporting change champions.
7. Engaging customer representatives from the business to ensure the alignment with corporate strategy.

A.1.5 Cater-Steel (2009)

1. senior management support to allocate sufficient resources and authority
2. the threat or opportunity to outsource IT services
3. the integration of processes to overcome process silos and to provide end-to-end service
4. the participation of business stakeholders in process redesign as well as individual communication with key stakeholders and group activities (e.g. workshops and newsletters) with all stakeholders
5. culture change of IT staff from technology to service excellence with understanding the contribution value of IT to the business and customers
6. the redesign of processes before the investment of tools

A.1.6 Iden (2009)

1. the recognition of improvement needs that is a kind of external pressures to do something
2. the openness of employees by keeping them informed during the project using different means such as internal meetings and seminars
3. training of employees and providing them the needed expertise from different sources including external consultants
4. the participation and involvement of the employees in designing and implementing ITIL processes
5. a standard flexible methodology for project management
6. produce deliverables at group meetings only to give project members a sense of ownership of project results
7. put short project timeline to stay focused

A.1.7 Pollard and Cater-Steel (2009)

1. getting top management support
2. training and conducting awareness activities
3. ensuring interdepartmental communication and collaboration
4. creating an ITIL-friendly culture
5. giving priority to the processes
6. applying customer-focused metrics
7. using external consultants
8. selecting an ITSM software carefully

A.1.8 Tan, Cater-Steel and Toleman (2009)

1. the commitment and support of senior management
2. a project champion
3. change in corporate culture to transform the organisational culture to a service-oriented focus
4. relationship with vendors to facilitate technology transfer to in-house staff
5. realisation of benefits as a valuable tool for tracking and communicating tangible and intangible project benefits to the project stakeholders
6. effective project governance and execution process

A.1.9 Iden and Langeland (2010)

1. managers at all levels must have an ownership to the ITIL introduction
2. senior management must formally decide the introduction of ITIL
3. identify and involve key personnel, and let them participate in the design and improvement of processes
4. senior management must have knowledge about and understanding of what process orientation means
5. start with and prioritise a few ITIL processes where there are greatest opportunities for success
6. information, characterised by openness, must be given up front to personnel and customers about what ITIL means, why ITIL is being introduced and what it will entail
7. general competence in process thinking, ITSM and ITIL must be provided for all concerned
8. a modular ITSM system is needed and must be applied for all processes
9. plan for and communicate positive project results early and along the way
10. a specific training programme for the ITIL introduction of the various processes must be provided

11. implement a standard system for measuring, analysing, and reporting on service level
12. be conscious about the fact that introducing ITIL means changing organisational culture

A.1.10 Pedersen, Kræmmergaard, Lynge, and Schou (2010)

1. strategic alignment and customer focus to ensure that the project makes sense from a business perspective
2. a contingency based implementation process to adapt goals, process, resources etc. to the organisation situations
3. a risk driven implementation process to deal systematically with implementation risks
4. an incremental implementation process to deal with the challenges in small steps and to utilise learnt lessons
5. an ITIL implementation package that contains ITIL education, adapted ITIL processes, process metrics, a high degree of tool-support, organisation of work, and training of the new processes
6. learning and knowledge management practices such as utilising knowledge existing in the organisation, obtaining knowledge out of the organisation, and allowing employees to learn by doing
7. change management practices including: management support, communication, stakeholder involvement, the presentation of quick wins, and the existence of champions

A.1.11 Mehravani, Hajiheydari and Haghighinasab (2011)

1. top management support
2. communication and cooperation
3. training and competence of involved stakeholder in ITIL project
4. change management and organisational culture
5. project management and governance
6. ITIL process implementation and applied technology
7. monitoring and evaluation

A.1.12 Neničková (2011)

The external CSFs are:

1. process related:
   1.1. right tools and techniques for process implementation and maintenance
   1.2. alignment of IT and business
   1.3. performance tracking and measurement
2. people related:

2.1. leadership
2.2. roles and responsibilities establishment
2.3. commitment and participation
2.4. awareness and understanding

The internal CSFs are:

3. process related:
   3.1. optimising competitive advantage of ICT department
   3.2. optimising ICT services portfolio alignment
   3.3. optimising ICT costs alignment
   3.4. optimising ICT services delivery
   3.5. optimising benefits realisation
4. people related:
   4.1. optimising IT functions

A.1.13 Salling Pedersen and Bjørn-Andersen (2011)

The CSFs of operational level are:

1. Showing of "quick wins"
2. Aiming at measurable project goals
3. Form virtual teams to develop processes in "existing areas"
4. Processes must be definite and clear in scope
5. Processes must have unambiguous interfaces
6. Processes must be standardised and reasonable
7. Create common language
8. Abandoning too detailed process descriptions
9. Winning "hearts and minds" through enrolment
10. Enrol employee into an actor and network to promote the interest of ITIL
11. Clear responsibilities have to be defined
12. Keep processes simple and efficient
13. Minimise paperwork
14. Open information what does ITIL means, why and what will it entail
15. Start with a few ITIL processes with great opportunity for success
16. Using consensus to reach agreement on processes and adjust over time
17. Minimise time required in meetings
18. Prepare workforce for external assessment
19. Establish objective, consistently and reliably absence of process maturity

20. Establish objective maturity assessment of chosen processes
21. Deal with resistance to introduction of new approach

The CSFs of managerial level are:

1. Commitment from senior management
2. Champion to advocate and promote ITIL
3. Not let toll decisions and implementation delay the progress
4. Senior management must formally decide the ITIL introduction
5. Sufficient budget for implementation
6. Ability of IT staff to adapt to change
7. Quality of IT staff allocated to ITIL
8. Plan a reinforce project objectives
9. Striving for continuous improvement to guarantee sustainability
10. Obtaining support of management to exert pressure
11. Support from senior management to provide resources
12. Support from senior management to enforce compliance to processes
13. Effective engagement of affected personnel
14. Business staff/customers must be involved in process design
15. Change in culture of IT staff towards focus on service excellence
16. Project champion from senior management
17. Change in corporate culture by appointing senior staff as process owners
18. Use incremental and facilitative approach to overcome resistance to cultural change
19. Focus on benefits realisation plan
20. Project governance and execution
21. Staff awareness
22. Interdepartmental communication and collaboration
23. ITIL friendly culture
24. Planned and risk driven approach
25. High quality ITIL implementation
26. Learning and knowledge management
27. Change management
28. Network with other managers from other organisations
29. Processes must be selected what to improve
30. Training in process thinking, ITSM and ITIL must be provided
31. Implement broad-based training
32. Enforce personal development

33. Marketing campaigns
34. Improvements based on assessment results
35. Management must promote the activities
36. Both business and IT people need to understand ITIL concept
37. Senior management must understand the benefits of process orientation
38. Set wide range of KPI to follow process improvements
39. Not concentrate too much on performance
40. Not being too ambitious
41. Not being able to maintain momentum
42. Provide training on ITIL

The CSFs of strategic level are:

1. Develop corporate mindset
2. Be aware that introducing ITIL means changing organisational culture
3. Strategic alignment and customer focus
4. Process as a priority

The CSFs of organisational level are:

1. Implementation scope must fit nature of organisation
2. Implementation scope must fit the critical processes
3. Large organisation: Serious management and formalised approach necessary
4. SME: More ad-hoc team and management dependent implementation approach
5. A contingency based approach
6. Consultancy assistance can be needed to speed up learning process
7. Relationship with multiple vendors to get expertise
8. Business and IT people must work hand-in-hand
9. Comprehensive implementation approach vs. guideline approach to ITIL
10. Appropriated time to understand the standard
11. High quality project team important for success
12. ITIL training for IT staff
13. ITIL training for business people
14. IT must fulfil business needs through SLAs/workshops with business people
15. Customer focused metrics
16. Use of consultants
17. Let key personnel participate in process design and improvement
18. ITIL cannot be called “Best Practice” –must be used as a “Common practice”

19. Large organisations are more likely to implement ITIL
20. Budget/turnover does effect ITIL implementation rate
21. ITIL adoption is not associated with COBIT adoption
22. Public organisations not more likely to implement ITIL than private
23. Implement appropriate processes slowly and adjust over time
24. Organisation must grow and mature over time
25. Interdepartmental communication and collaboration
26. Audit and assess the maturity development
27. Education key-point (most responsible people must have highest education)
28. ITIL satisfaction decreases as implementation progress
29. Striving for continuous improvement to guarantee sustainability

The CSFs of infrastructure level are:

1. Simple tool supported processes better accepted by employees
2. Promote computer-based processed
3. Promote automated tracking and reporting
4. Careful software selection
5. Modular ITSM system must be provided for all processes
6. Before buying IT tools deep feasibility/function analysis must be made
7. Timing and careful selection of an ITSM toolset

A.1.14 Wu, Huang and Chen (2011) & Huang, Wu and Chen (2013)

1. Change management:
   1.1. Senior management commitment
   1.2. Creating a culture for communication and retaining effective communication
   1.3. Senior management able to enforce performance management thoroughly
2. Continuous process management:
   2.1. Setting clear goals for continual process improvement
   2.2. Setting feasible performance index for measuring the effectiveness of processes
   2.3. Designing good integration among processes
3. Technology management:
   3.1. Functionalities of the ITSM tool satisfy the requirements
   3.2. Building an adequate CMDB which can provide timely and accurate information to support each process
   3.3. Rapid implementation of IT requirements
4. Strategic planning:

4.1. Aligning ITSM strategic target with enterprise strategic target
4.2. Designing quick wins to show the usefulness of ITSM
4.3. Addressing the value and effectiveness of ITSM by stages
4.4. Making the customer service field the first priority for improvement

5. Project management:
5.1. Sufficient budget and resource
5.2. Stakeholders understand the project context comprehensively
5.3. Provision of essential documentation and information to all key players during the implementation

A.1.15 Ahmad, AlHilali, Qutaifan and Amer (2012), Ahmad, Amer, Qutaifan and Alhilali (2013) and Ahmad and Shamsudin (2013)

1. Top management support
1.1. Management support
2. Change management and organisational culture
2.1. Change management
2.2. Ability of IT staff to adapt to change
3. Monitoring and evaluation
3.1. Monitoring and evaluation of ITIL implementation
4. Communication and cooperation
4.1. Interdepartmental collaboration
4.2. Realisation plan
5. Project management and governance
5.1. Project management and continuous service improvement program
5.2. Goal setting through process maturity framework
5.3. Project champion
5.4. Customer orientation
5.5. Feasibility study before the actual implementation
6. Training and competence of involved stakeholder in ITIL project
6.1. ITIL Training, Awareness and Knowledge management
6.2. Quality of IT staff allocated for ITIL
7. ITIL process implementation and applied technology
7.1. Implementation strategy and design
7.2. Continuous reporting and auditing through a quality management framework
7.3. Process priority
7.4. Tool selection

7.5. Use of consultants and consultant selection

A.1.16 Nicho and Al Mourad (2012)

The CSFs of structures are:

1. Management
    1.1. Team name

The CSFs of processes are:

2. Measurement Monitoring
    2.1. Categorising incidents
    2.2. Overall statistical analysis
    2.3. IT service desk statistics
    2.4. Define goals at all levels
    2.5. Real time reporting
    2.6. Trend analysis reports
    2.7. Decomposing goals
3. Tools
    3.1. Communication tool
4. Training
    4.1. Train the trainees
5. Project management
    5.1. PM certification
    5.2. lTG approach for ITIL
    5.3. Parallel activity
    5.4. Time frame
6. ITIL processes
    6.1. Implementation approach
    6.2. CMDB
    6.3. Specification consistency
    6.4. Templates
    6.5. Service desk concept
    6.6. Service contact
    6.7. Reactive to proactive
    6.8. Service improvement plan
    6.9. PDCA

The CSFs of Relational mechanisms are:

7. Information & communication
    7.1. Knowledge base
    7.2. Documents
    7.3. Transparency
    7.4. Communication Criteria
    7.5. Selective communication
    7.6. Meetings
    7.7. Feedback on ITIL
    7.8. Identify Process owner
    7.9. Communicating SLAs
8. Organisational culture
    8.1. Holistic View
    8.2. Service Strategy
    8.3. Strategic alignment
    8.4. Align ITIL to Standards
    8.5. Goal alignment
    8.6. Problem solving
9. Customer relations
    9.1. Service Desk
    9.2. Consolidated service

A.1.17 Iden and Eikebrokk (2013)

1. top management support
2. a project champion
3. staff expertise
4. broad involvement
5. ongoing information
6. ITSM-aligned culture
7. willingness to change
8. external consultant
9. ITSM software
10. firm size

A.1.18 Diirr and Santos (2014)

1. Greatest importance CSF:
    1.1. implementation strategy for the improvement project
2. High importance CSFs:
    2.1. processes
    2.2. support, commitment and involvement
3. Medium importance CSFs:
    3.1. skills of involved people in the project
    3.2. structure and culture within the organisation
4. Low importance CSFs:
    4.1. internal and external resources
    4.2. collaboration, communication and conciliation of involved people
    4.3. strategies for the advertisement of the project and the publication of its results

A.1.19 Iden and Eikebrokk (2015)

1. senior management involvement
2. organisational commitment that denotes allocating sufficient resources, creating acceptance, involving people in the improvement activities, and conducting marketing campaigns
3. group efficacy that entails training people, providing them sufficient knowledge and ensuring that they have needed knowledge and skills of ITIL, process and change management

A.1.20 Mohammadi, Ravasan and Hamidi (2015)

1. Organisational
    1.1. Change-friendly culture
    1.2. Project governance
    1.3. Achieving agreement among different stakeholders
    1.4. IT and business alignment
2. Human Resources
    2.1. Staff awareness
    2.2. Staff training
    2.3. Involving employees in the project
3. Project Management
    3.1. Proper vendors
    3.2. Proper consultants
    3.3. Good relationships with project consultant

3.4. Proper project management
3.5. Good project team

4. Managerial
   4.1. Top management support
   4.2. Management belief in project outcomes
   4.3. Optimised budget allocation
5. Processes
   5.1. Continuous performance assessment
   5.2. Continuous monitoring and evaluation of processes
   5.3. Process as a priority
   5.4. Customer focused metrics
   5.5. An integrated process and service based approach

A.1.21 Jäntti (2016)

1. Motivating employees why the process is important
2. Short general overview on ISO/IEC 20000 and ITIL
3. Showing the scope of the concepts in the organisation
4. Training employees to identify ITSM concepts in real life
5. Publish roles and responsible people
6. Launch the functions (e.g. CAB) related to the process
7. Set schedule, goals and monitoring for processes
8. ITSM theories and frameworks hidden in background
9. Improvement areas were identified from daily work
10. Process management goals mapped to organisational goals
11. Consistent HRM in the background of ITSM
12. Change implementation in understandable pieces
13. Setting metrics and dashboards

A.2 ITIL CSFs in ITIL Industry

A.2.1 Service Strategy Stage

Cannon (2011) provided the following CSFs of service strategy stage:

1. Experienced, skilled and trained staff with the strategic vision and decision-making skills needed for success
2. Adequate support including funding from the business which must recognise the potential value ITSM can offer
3. Appropriate and effective support tools to allow the processes to be quickly and successfully implemented and operated in a cost-effective way.

A.2.2 Service Design Stage

In service design official book, Hunnebeck (2011) did not provide CSFs for service design stage. However, he mentioned that it is important to agree of CSFs during the design stage.

A.2.3 Service Transition Stage

Rance (2011) listed the following service transition stage CSFs:

1. Understanding and managing the different stakeholder perspectives that underpin effective risk management within an organisation; and establishing and maintaining stakeholder 'buy-in' and commitment
2. Having clearly defined relationships and interfaces with programme and project management
3. Maintaining the contacts and managing all the relationships during service transition
4. Integrating with the other service lifecycle stages, processes and disciplines that impact service transition
5. Understanding the inherent dependencies among the legacy systems, new technology and human elements that result in unknown dependencies and are risky to change
6. Automating processes to eliminate errors and reduce the cycle time
7. Creating and maintaining new and updated knowledge in a form that people can find and use
8. Developing good-quality systems, tools, processes and procedures required to manage a service transition practice
9. Good service management; and IT infrastructure tools and technology
10. Being able to appreciate and exploit the cultural and political environment

11. Being able to understand the service and technical configurations; and their dependencies
12. Developing a thorough grasp of the hard factors (processes and procedures) and soft factors (skills and competencies) required to manage a service transition practice
13. Developing a workforce with the necessary knowledge and skills, appropriate training and right service culture
14. Defining clear accountabilities, roles and responsibilities
15. Establishing a culture that enables knowledge to be shared freely and willingly
16. Demonstrating improved cycle time to deliver change and less variation in time, cost and quality predictions during and after transition
17. Demonstrating improved customer and user satisfaction ratings during service transition
18. Demonstrating that the benefits of establishing and improving the service transition practice and processes outweigh the costs across the organisation and services
19. Being able to communicate the organisation attitude to risk management more effectively during service transition activities
20. Building a thorough understanding of risks that impacted or may impact successful service transition of services in the service portfolio.

A.2.4 Service Operation Stage

Moreover, Steinberg (2011) explained the following CSFs of service operation stage:

1. Management support
2. Business support
3. Champions
4. Staffing and retention
5. Service management training
6. Suitable tools
7. Validity of testing
8. Measurement and reporting

A.2.5 Continual Service Improvement Stage

Finally, Lloyd (2011) provided the following CSFs of CSI stage:

1. Appointing a CSI manager
2. Adopting CSI within the organisation
3. Management commitment that implies ongoing, visible participation in CSI activities such as creating vision for CSI, communicating vision, direction setting and decision-making, when appropriate

4. Defining clear criteria for prioritising improvement projects
5. Adopting the service lifecycle approach
6. Having sufficient and ongoing funding for CSI activities
7. Resource allocation that means people dedicated to the improvement effort not as just another add-on to their already long list of tasks to perform
8. Technology supporting the CSI activities
9. Adopting processes by embracing service management processes instead of adapting it to suit their own personal needs and agenda.

APPENDIX B: SAMPLE OF THE GRID OF LITERATURE ITIL CSFs

S	Research	S.CSF	CSF	unified CSF	class1	class2	class3	class4	class5
1	Hochstein, Tamm, and Brenner (2005)	1	demonstrating the benefits (showing "quick wins")	benefit realisation	benefit realisation	communication			
2	Hochstein, Tamm, and Brenner (2005)	2	making every effort for continuous improvement	continuous improvement	creating an ITIL-friendly culture	performance management			
3	Hochstein, Tamm, and Brenner (2005)	3	acquiring senior management support	management support	management support				
4	Hochstein, Tamm, and Brenner (2005)	4	creating virtual teams for ITIL processes	virtual teams	project management	communication			
5	Hochstein, Tamm, and Brenner (2005)	5	conducting wide personnel training	training	training				
6	Hochstein, Tamm, and Brenner (2005)	6	running marketing campaigns	marketing campaigns	awareness	communication	creating an ITIL-friendly culture		
7	Cater-Steel and Tan (2005)	1	senior management commitment	management support	management support				
8	Cater-Steel and Tan (2005)	2	ITIL champion	champion	champion				
9	Cater-Steel and Tan (2005)	3	the ability of IT staff to adapt to change	ability of IT staff to adapt to change	creating an ITIL-friendly culture				
10	Cater-Steel and Tan (2005)	4	the skills and competence of IT staff allocated to ITIL	qualified people	qualified people				
11	Cater-Steel and Tan (2005)	5	ITIL training for IT staff	training	training				
12	Tan, Cater-Steel, Toleman, and Seaniger (2007)	1	building successful vendor relationships	utilising suppliers	external consultants and suppliers				
13	Tan, Cater-Steel, Toleman, and Seaniger (2007)	2	centralising of IT services	centralising of IT services	creating an ITIL-friendly culture				
14	Tan, Cater-Steel, Toleman, and Seaniger (2007)	3	getting the commitment of senior management	management support	management support				
15	Tan, Cater-Steel, Toleman, and Seaniger (2007)	4	communicating tangible and intangible benefits	benefit realisation	benefit realisation	communication			
16	Tan, Cater-Steel, Toleman, and Seaniger (2007)	5	employing change management	change management practices	creating an ITIL-friendly culture				
17	Tan, Cater-Steel, Toleman, and Seaniger (2007)	6	identifying and supporting change champions	champion	champion				
18	Tan, Cater-Steel, Toleman, and Seaniger (2007)	7	engaging customer representatives from the business	business representatives	broad involvement				
19	Cater-Steel (2009)	1	senior management support	management support	management support				
20	Cater-Steel (2009)	2	outsource IT services	utilising suppliers	implementation strategy and adaption	external consultants and suppliers			
21	Cater-Steel (2009)	3	the integration of processes	integration of processes	creating an ITIL-friendly culture				
22	Cater-Steel (2009)	4	the participation of business stakeholders in process rec	business representatives	broad involvement				
23	Cater-Steel (2009)	5	culture change of IT staff from technology to service	culture change	creating an ITIL-friendly culture	creating an ITIL-friendly culture			
24	Cater-Steel (2009)	6	the redesign of processes	redesign of processes	implementation strategy and adaption				
25	Pollard and Cater-Steel (2009)	1	getting top management support	management support	management support				
26	Pollard and Cater-Steel (2009)	2	training and conducting awareness activities	training and awareness	training	awareness			
27	Pollard and Cater-Steel (2009)	3	ensuring interdepartmental communication and collabor	communication and collaboration	communication				
28	Pollard and Cater-Steel (2009)	4	creating an ITIL-friendly culture	culture change	creating an ITIL-friendly culture				
29	Pollard and Cater-Steel (2009)	5	giving priority to the processes	prioritise processes	implementation strategy and adaption				
30	Pollard and Cater-Steel (2009)	6	applying customer-focused metrics	customer focus	performance management				
31	Pollard and Cater-Steel (2009)	7	using external consultants	using external consultants	external consultants and suppliers				
32	Pollard and Cater-Steel (2009)	8	selecting an ITSM software	ITSM software	ITSM software				
33	Tan, Cater-Steel and Toleman (2009)	1	commitment and support of senior management	management support	management support				
34	Tan, Cater-Steel and Toleman (2009)	2	project champion	champion	champion				
35	Tan, Cater-Steel and Toleman (2009)	3	change in corporate culture	culture change	creating an ITIL-friendly culture	creating an ITIL-friendly culture			
36	Tan, Cater-Steel and Toleman (2009)	4	relationship with vendors	utilising suppliers	external consultants and suppliers				
37	Tan, Cater-Steel and Toleman (2009)	5	realisation of benefits	benefit realisation	benefit realisation	communication			
38	Tan, Cater-Steel and Toleman (2009)	6	effective project governance and execution process	project management	project management				
39	Iden (2009)	1	the recognition of improvement needs	the recognition of improvement needs	real need of ITIL				
40	Iden (2009)	2	keeping employees informed using different means suc	awareness	awareness	communication			

APPENDIX C: SEMI-STRUCTURED INTERVIEW PROTOCOL

NAME of INTERVIEWEE: _____

ORGANISATION: _____

DATE: _____

A. ORGANISATION

Overview

* Organisation name

* Branch

* Turnover/budget $

* # of employees)

A.1 Number of computer screens/PCs

A.2 When did you start implementing ITIL?

Competitive Challenges

A.3 What challenges were being faced by the organisation at the time it was decided to implement ITIL?

A.4 What challenges were being faced by the IT area at the time?

A.5 What triggered the ITIL introduction?

B. ITIL PROJECT

Purposes and decision

B.1 What version of ITIL did you implement?

B.2 Who made the decision to introduce ITIL?

B.3 What were the motives for the decision?

B.4 What were the objectives for introducing ITIL?

Implementation

B.5 Who initiated the project? Was there senior management support/commitment?

B.6 How was the project team comprised?

B.7 How long did the project last? How many man-days were required?

B.8 Describe the roadmap for implementation (e.g. training, single or multiple ITIL processes, reviews).

B.9 What steps were carried out in implementing the ITIL process?

B.10 To what extent ITIL publications were used as an aid?

B.11 Were external consultants or vendors involved? To what extent? Successfully?

Critical successful factors

B.12 From your view, what are the critical successful factors of such projects and why? (try to have them identify the top 5 factors)

C. CURRENT SITUATION

Results

C.1 Were the ITIL project objectives achieved?

C.2 What was the impact on the involved employees? (different tasks?)

C.3 What is the value of ascertained benefits (e.g., reduction in costs, shortening of processing time)?

Future Plans

C.4 What other developments are planned in regards to IT service management?

C.5 What is considered the most important future requirement?

D. KNOWLEDGE

D.1 What experiences and knowledge you gained from the implementation of the ITIL project and the conversion of the ITIL processes?

APPENDIX D: TOPIC GUIDE FOR IN-DEPTH INTERVIEWS

SUCCESS AND FAILURE OF ITIL IMPLEMENTATIONS

OBJECTIVES

1. to explore ITIL implementations in detail
2. to understand how ITIL implemented
3. to determine the consequences of implementing ITIL
4. to identify factors of success or failure of ITIL implementations

INTRODUCTION

- introduce researcher, DMU and research context
- informed consent
- timing

PERSONAL INFORMATION

- name
- role
- the daily duties
- responsibility of ITIL

1. BEFORE ITIL IMPLEMENTATION

   acquire background information about the organisation status before ITIL implementation

   status of organisation

   reasons of ITIL (why?)

how organisation know about ITIL (source of idea)

who decide to implement

2. ITIL IMPLEMENTATION

   explore key activities of ITIL implementation

   who are responsible for implementing ITIL

   what organisation do to implement

   implemented ITIL processes

   what succeed and what fail

   obstacles

   how they were handled

3. RESULTS OF ITIL IMPLEMENTATION

   identify the outcomes of ITIL

   effects of ITIL

CLOSURE

- What would make implementation better
- Learnt lessons
- Any other additional information

APPENDIX E: EXAMPLE OF TRANSLATED INTERVIEW

Interview Serial: B.4

Interviewee Name: A. B.

Interviewee Job Title: Independent External ITIL Consultant

Q-B.4.1: What was your role in this ITIL project?

A-B.4.1: I played two different roles. First, I was a potential service provider of IT service management area. I visited the organisation several times and discussed with them about ITIL importance and benefits. Then, it initiated an RFP to implement ITIL. We bid our proposal, but they selected another contractor. So, I neglected the organisation because they elect another company. Second, after a long time, they called me and requested me personally to become a part time consultant for the project because it was stuck. The consultation is different from providing service. The second time, I came as a consultant. I mean the first time the organisation took the idea and applied it alone. I am talking from my viewpoint. I explained to them and they became convinced. They tried to do it by themselves and took another contractor. So, we did not participate in the phase of building the service desk and the implementation. They were stuck so they requested our services. Since the idea was from us, they came back to us to help them. This is just part of the history.

Q-B.4.2: Why did you participate?

A-B.4.2: I was working in a cooperation offering the best practices of IT service management. So, it was a business opportunity for us. We looked to it from that perspective. It was a work chance for us… a chance to provide services for this organisation. So, as I would like to offer it our services in the area of IT service management consultation and training ... and all of these subjects. As I told you, our role was a service provider of ITIL training, consultation and services.

Q-B.4.3: When you became a consultant for the project, what was your evaluation of the project, its implementation efforts, documentations and people?

A-B.4.3: For me, when I look to it, the project, the implementation, the project management was weak. The level of expertise and level of knowledge of the implementer was very low. There was no people's buy-in. So, the resistance was high and the change management was very low. The environment was… There was an objective, but it was not clear how to achieve it through

the scope of the project. This is what I saw. The second major trouble was that the scope was not clear and there were several subcontractors. So, there was no ownership even from the contractor viewpoint. The prime vendor did not understand the subject so he gave it to subcontractors and they did not have a clear vision between them. There was a conflict between the vendor and subcontractors. The internal ownership of the project was not clear. Once I returned, I felt that they became on track because they called a consultant. I mean they knew these problems and that why they called a consultant. The problem was addressed so we started from there.

Q-B.4.4: What was your evaluation of the project documentations at that time?

A-B.4.4: It was really very weak. It depended on... even those who wrote it had a low experience. It was mainly cut and paste. Its contents were not consistent. There was no much integrity because it was collected from different resources from here and there and they tried to apply it whether it works or not.

Q-B.4.5: What was your evaluation of the project implementation efforts?

A-B.4.5: There were efforts from every party but even... if the efforts are without knowledge and vision, it will not make any sense. Even if there were efforts... of course, there were efforts even if I did not participate... but at certain point, they are stuck. It was over! The organisation could not continue if there were no people to rescue or to provide the vision. So, the efforts were available, but there was no vision of how to close the project or how to implement.

Q-B.4.6: What is your evaluation of people and contractor with respect to their expertise and understanding?

A-B.4.6: There were several parties. To me, the prime contractor was active and wanted to successfully conclude the project. But, since he had subcontractors, he did not know what to do. At the end, he offered me a compensation to finish the project. It was not his area. It was not his field. So, he brought subcontractors. From business point view, he needed to close the project; however, the subcontractors, though I think they did their best, could not do so. Another problem of the project was that the project included both implementation and consultation at the same time. The person who performed consultation did not have experience of the implementation and the tools that were used by the person of the vendor. So, those talked about virtual and those about tools. They didn’t map the heart of implementation of the first stage requirements to the tools either hardware or software. The lack of experience of the subcontractor did not give the path to implement the tool which was CA service desk. So, there was no single ownership and vision of how to implement. We can return to the evaluation in general. It was honestly defensive and there was no clear teamwork. I mean each one worked to defend himself not to do teamwork so I told you that there was a lack of project management. And the reason for this was that there were no clear objectives of the contractors of how to achieve the requirements. This is my opinion and some people may not agree with it.

Q-B.4.7: OK! What is your evaluation of people in the organisation?

A-B.4.7: The project ownership was just assigned when I came and so they asked me help. Therefore, there was ownership. There was what we call ah... there was no clear vision of how to close the project, but they are looking to finalise it. In addition, there was misunderstanding and when I sided with people they did not have buy-in. The ownership is something and the buy-in is something else. I mean IT team. OK! The project was to me like islands. People did not know what was going on and they did not know the expectation of the project. There was internally no communication and awareness for such a project while the success of the project depended significantly on the technical team who are the main users. I met people, but I did not see anybody who came and asked me about the project. Why? It is obvious that there was a disconnection. There is also another issue from my viewpoint. The governmental organisation structure affects by its nature such type of projects. I am not sure what you can call it. It is... let us not call it careless. Each employee is asking himself: "So what? Why should I invest my time in such a project? What are the benefits for me?" These questions were not answered. It was not clear how each one, I mean the stockholders, would get benefits from the project. In general, what will they get? It was not clear. Even when I met them, they asked me some questions, which were very far from the project. Do you note! That is fine. I mean it was not obvious... what should I say it was not their headache how the project can be success. They were not care except the IT consultant. Even the CIO, it was not his real concern. This was what I felt.

Q-B.4.8: What were the problems, which faced the project when you joined?

A-B.4.8: I mentioned them a while ago. On high level, first you have lack of ownership in all levels... I do not mean only the organisation but also the contractor and subcontractors. Second, lack of project management. Third, lack of knowledge and experience. The organisation took the right way. The management said that we have a lack in this area. So what did they do? They sought for a contractor to help them. However, the selected contractor was not worthy of the responsibility. I mean, the organisation required someone who could help to solve its problems. A sick person cannot treat herself, even though she knows her illness. The organisation diagnosed the issue, addressed the requirements and found that it needed to implement ITIL. However, it awarded wrong contractor. Now the second issue it looks that... I don’t know how it was awarded, but it looks from my viewpoint that the evaluation process was not performed in a proper way. So, they picked the wrong contractor. If there was a clear evaluation process and internal people with good experience in the area, they would know capable vendors. There was a problem in the contract awarding process and especially in the evaluation. In other words, they addressed the weakness of the selected contractor not even in the middle but before the closure. So, at the beginning the project was managed by project management team who did not have knowledge about the scope. Then once they had troubles, they looked for a person who had the knowledge who asked me to join the project. But he missed the evaluation and implementation stages. Finally, when the crisis happened, he looked for what would be the possible solution. However, it was already late by then. So, almost when I came the project was restructured again.

Q-B.4.9: OK. My next question is related to this issue. What steps did you carry out to complete the project?

A-B.4.9: In any project without proper documentation or let us say with no clear documentation about the project, in terms of project deliverables and management etc. So, what happened was that we returned to the RFP and contract to make sure that everything is done per the requirements. So, we went back to square zero by analysing everything that was happened from scratch from the beginning until we reached to this stage. We didn't want to know why, but we needed to move forward. There was a difference. I mean I reviewed not to be held accountable but to address the weakness. Then from there, we started with them to define what should be the deliverables. Almost, let us say again, almost all had not seen deliverables within the scope or what is not been performed within the scope is put in a new project plan. I mean, it is a new fully project plan which fills the gap between what they did and what they should do. That is not a full project plan but only a plan to complete the project or a project plan to finalise the scope. After that, we started mainly... The most important issues which were defined were: (1) scope, (2) missing deliverables, (3) quality assurance, which was not available so we added list of project deliverables, (4) time table, and we put its quality assurance and handover, and (5) obstacles which were not addressed and they made it bouncing between them. We put them and agreed upon. Let us call it the disputes. We sat down several times to make it clear for everybody. So, in order we define the deliverables, we sat down with the people to clarify the deliverables and we put roles and their responsibility matrix of what duties they needed to do. Then, we laid out to them the timetable.

Q-B.4.10: What were the results of these decisions?

A-B.4.10: Actually, I did not complete until the end. However, the result was that we were able to follow up on their performance. Their communication improved and that we knew their executions. The organisation started handling the obstacles on the spot, not to wait for them to happen. What do they call it? More attention or more pursuit. Also, we got final prototype and we started preparing UAT (User Acceptance Test). We started finalising. In addition, we agreed about the solutions or workarounds for all obstacles. So, the organisation took care of all issues that were out of project scope. It provided temporary solutions for the issues related to network, communication and connectivity to the database. These actually were unaddressed prerequisites of the project. They had negative impacts on the project. We also put the operation requirements. And, the contractors started to work on a clear path. I followed up to here. Then I left.

Q-B.4.11: Did ITIL affect people, processes and IT?

A-B.4.11: I doubt! ITIL never been implemented. It has never been communicated. There was no awareness. Only, it was within the team. There was a lack of communication. Only few people and the management knew about the project. The others did not know what was

happening. It was not well communicated. In general, implementing ITIL is a change management program, it is not a tool, it is not... If the change management is not communicated well, nobody will use it. If they give them training, you will not benefit from training one hundred percent. If you apply one percent, you get benefit, but, even the training, they did not take it including the level of foundation. The scope included training, but the training was for tool users and not for ITIL concepts. Do you understand me? I don't think, from my viewpoint, until I left if you asked anybody in IT departments 'what is ITIL?', he would not know. From my viewpoint, they did not benefit because of the above reasons.

Q-B.4.12: How do you evaluate the implementation team?

A-B.4.12: In my opinion, there was no work team in the organisation. In my opinion, there were a project owner and contractors. I did not feel that there was a project team in the organisation. They appeared to me as users of application and not as a team for implementation. That was it.

Q-B.4.13: Did people use ITIL publications?

A-B.4.13: I doubt that anybody read them! The vendor used them to cut and paste. This was what I sensed. The organisation did not see them. It did not have the books. The organisation adopted the vendor opinion more than books as the vendor was like a proxy.

Q-B.4.14: During your participation period, what difficulties did the project encounter?

A-B.4.14: Mostly there were communication issues including finding out who was responsible and also lacking of documentation. These two issues were the most persistent.

Q-B.4.15: How were they resolved?

A-B.4.15: They were resolved as I mentioned earlier. We went through details. We revised everything we had and then we mapped whatever they derived and whatever they did to the requirements. It actually took time because of mapping or revisiting everything as there was no clear vision.

Q-B.4.16: Have there been changes to the organisational structure?

A-B.4.16: We did not enter into these issues. At that time, there was no change of the organisational structure because even the operation of the service desk was, as based on outsourced contract, which included the first line support requirements. It was outsourced and this was one of the obstacles because they even did not know their vision. The contract was BOH (Build, Operation and Handover). Thus, changes would happen but at later stages of the project and there were no changes at that time. I consider that as an advantage because

whenever there is a change, the resistance becomes tougher. Each one becomes worried about his own position.

Q-B.4.17: Was there any resistance?

A-B.4.17: No. I think there was no resistance because we did not reach a stage to make it running. I don't think there was resistance. But there was rejection or misunderstanding from the vendor of the scope and he didn't perform some tasks because he thought they were out of the scope. But there was no resistance in the organisation. I did not feel any resistance. This is my viewpoint. In contracts, I found they wanted to finish the project.

Q-B.4.18: Was there any change management strategy used in the project?

A-B.4.18: It was not used, but we made not a change management strategy. What we mede a list of tasks that checked only by no and yes. We redefined all the tasks and then it became under our control and then anything under these tasks followed the change management and we agreed on it. That's what we did. We agreed upon that. So, the change management is at a project task level and as change management for the whole organisation just only to control the project deliverables.

Q-B.4.19: What obstacles did ITIL project face?

A-B.4.19: It faced lack of knowledge and expertise at all levels including the organisation, the vendor, and the subcontractors which led… that the project would never end. I mean it became open-ended project. Do you understand me? There was no clear direction. We wanted to go, we wanted to go, but how? we didn't know.

Q-B.4.20: How did you overcome them?

A-B.4.20: First, I started by reviewing the scope, redefining tasks, negotiating vendors to define the scope. Then, we started within the project team awareness. We told them what this was and what that was. We started raising awareness to make the project clearer to just between project team and vendor. We increased ITIL awareness. Also, you can add to the obstacles that there were some people who we did not see them. They never showed up which means that they did their best and they do not have anything more. They provided some documents and said you can continue alone. I mean the subcontractor who provided documentations which were soil. That made the main contractor lost at a certain stage. So, in sum, I reviewed the project and its contractual scopes.

Q-B.4.21: Why did the project stop?

A-B.4.21: Because of the owner changes... the project owner was moved or shifted, the IT management changed. Only these were the reasons.

Q-B.4.22: In your opinion, what were the reasons for the project to fail?

A-B.4.22: First, from the beginning vision lack of the project...Let us say… It was the lack of vision and objectives that caused the project to fail. So, first was the vision and the second was the business objectives which were behind the project. It was not clear. Second thing was lack of knowledge in the organisation. The third in my opinion was the selection of wrong vendors. Why? The vendors had lack of experience. They were tools oriented and not business oriented. Do you understand? They deliver hardware, software, box moving and such issues. They didn't look how... or they were not business integrators. That it was. Also, the subcontractor was similar to them. So, you have two problems. Now is the next one. Fourth is the selection of the wrong vendor, and also the prime vendor selected wrong subcontractor even this should be under the control of organisation. So, the fifth, which is the most important one, is the evaluation process for the vendor and subcontractor was even for the product was because of lack of knowledge not done properly. Simply, the organisation did not have information, so how it would initiate the project. They selected a contractor. This selection was wrong. Also, he selected a wrong subcontractor. So, we enter in loop of lack of capabilities. Now, the resources were available but without capabilities. The vendor sent resources, but they were incapable to do the requirements. These were mainly the issues. The last mistake, if you would like, the lack of project management in general...There was no capability to follow the execution. Also, there is the sixth which was the ownership turnover that was too high within the project lifecycle. I think it was three times. So, the result was no stability of the subject.

Q-B.4.23: What were the experiences you got during this project?

A-B.4.23: It was for me a business opportunity. Also, I found that I didn't market myself otherwise I could involve earlier. Do you understand? I mean we were not proactive. So, I learnt that if I had a previous relation and I was proactive, I would know about the trouble and be involved at earlier stage. What I advise is: you learn from your weak points. That is it... I don't think there is anything else.

Q-B.4.24: Do you want to add any additional thing?

A-B.4.24: The organisation, in general, had lack of communication. In this environment, not an ITIL project only but any project which would enhance your operation or enhance your... could fail. Or let us say it was clear for me after discussion with more than one that the IT focuses on business improvement through business applications. They did not put a priority or any effort to improve themselves that improve their services. It was clear that any such project could fail without a clear vision and such environment. Any project which introduces a new idea that leads to change management could fail because of lack of communication, lack of knowledge, lack of expertise or even the vendor selection criteria. I mean, if they manage something related

to the business, it will success because the requirements are defined by business. They were not familiar to define their requirements. They serve other people, but do not know how to serve themselves. I mean the IT organisation focused on serve others more than improving their internal processes. At certain time, they will collapse. And even they couldn't implement any such a project with such nature. This is in general. Do you understand me? Ask them to develop an administration application, they will do it, but if you ask them to enhance their operation, they will fail. They don't sharpen their saw. I mean they serve others, but they don't sharpen their own saw. The result was you would late in business application, but you will deliver. Why do you learn ITIL? Why do you set up service desk? To serve business faster and better. This is why you need to sharpen your saw. You have to make your processes clear and more efficient. But they have technical mindset. They are not convinced because of culture issues and resistance to change. IT people are people of legacy. They have been there for more than ten years. They are not ready for change unless they change their legacy.

Thank you very much for your participation.

APPENDIX F: ANALYSIS CODEBOOK

1. human role
    1.1. role of top management
        1.1.1. top management support
        1.1.2. learning for top management
    1.2. role of IT management
        1.2.1.IT management support
        1.2.2. IT managers as champions
    1.3. ITIL implementation team role
        1.3.1. IT implementation team leader role
        1.3.2. training for ITIL implementation team
        1.3.3. learning for ITIL implementation team
    1.4. role of other people
        1.4.1. training and qualifying people
        1.4.2. learning for other people
        1.4.3. role of new employees
2. ITIL implementing strategies
    2.1. gradual implementation
    2.2. people's involvement and practice
    2.3. continuous improvement
    2.4. appreciation and rewarding
3. communication
    3.1. formal communication
    3.2. awareness
    3.3. persuasion
    3.4. measurement and reports
4. technology role
    4.1. ITSM Tool
        4.1.1. Selecting ITSM Tool
        4.1.2. Customising ITSM Tool
    4.2. learning from technology
5. results of ITIL implementation
    5.1. resistance to ITIL
        5.1.1. reasons for resistance
        5.1.2. results of resistance
        5.1.3. dealing with resistance
    5.2. benefits of ITIL
        5.2.1. achieved benefits
        5.2.2. realisation of ITIL benefits
    5.3. learning about ITIL

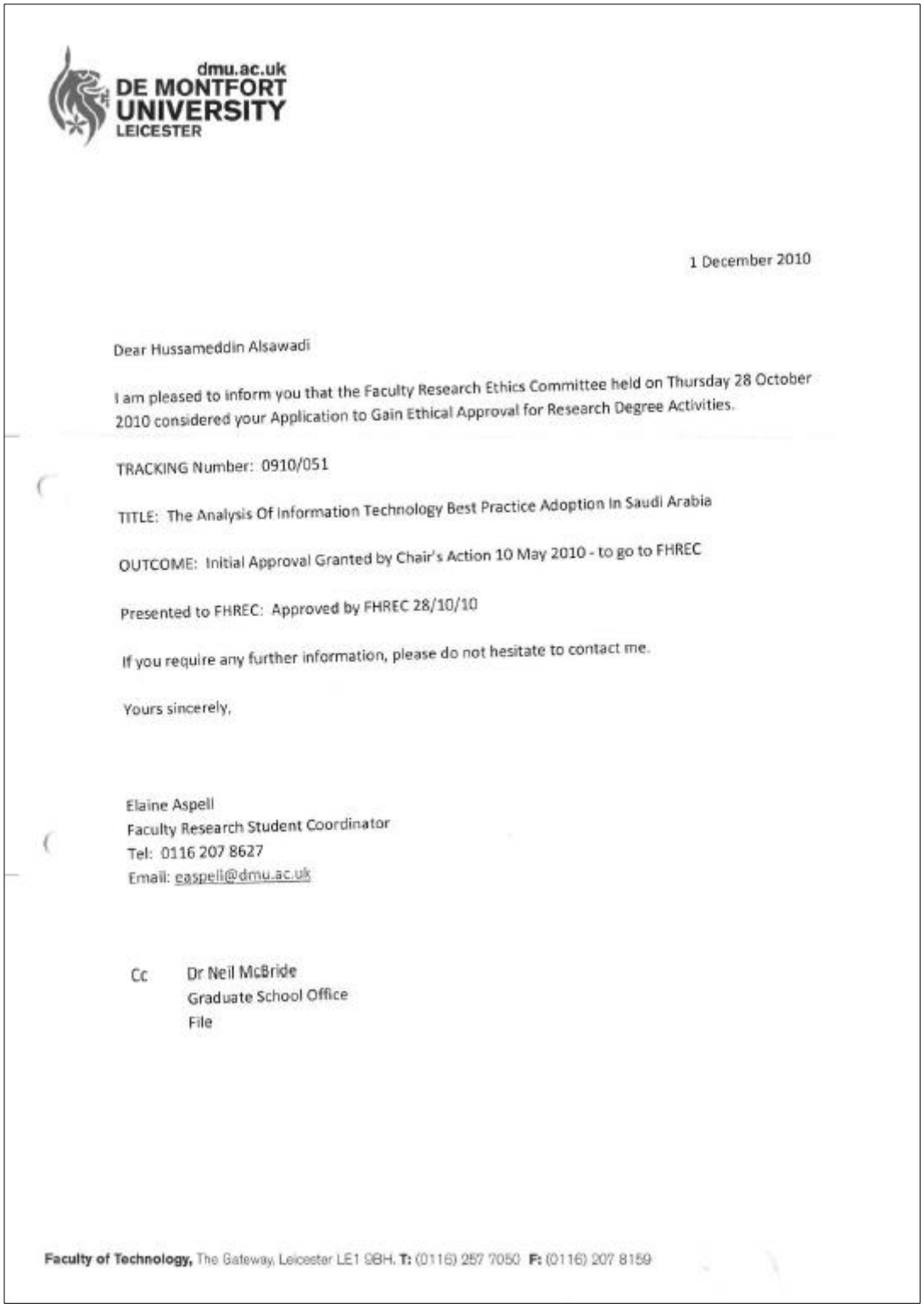
APPENDIX G: EXCERPT OF THE THEMATIC MATRIX OF CASE STUDY A

1			Theme: human role					
2			role of top management		role of IT management		ITIL implementation team role	
3			top management support	learning for top management	IT management support	IT managesr as champions	IT implementation team leader role	training for ITIL implementation team
4	CSA	IT Operation Manager	The CEO requested us to enhance the IT services. Therefore, we seek for possible solutions that could fulfil this request. I asked F. M. and M. L. to search deeply. Then, they provide me several suggestions that we discussed internally. So, we decided to propose ITIL to our CEO who encouraged us to investigate it deeply and to provide a business case and plan. (A.1.10) At the beginning, our CEO participated in preparing the high-level plan. One of the things that helped us a lot is the IT background of the CEO… I think applying ITIL in a different organisation would be harder (A.1.13)	After two years, the CEO said to me "I become persuaded that the correct way to handle any client's request is to open a ticket, before that I would sometimes forget to follow up some problems and that got me in embarrassment with clients" (A.1.4)		Our CEO called me once and said that the services were not working with some client but my reply was "tell him open a ticket". I was looking for spreading open ticket culture, even internally (A.1.4) If I did not apply ITIL, we would be lost now. It organised our work. Also, it even organised other departments. It had effects even on the development department, marketing department, and sales department. To my, ITIL allowed enhancing our services on the long run. (A.1.17)		We carried out training before applying ITIL for the operation department team. Some employees from other departments also attended the training. We conducted a two years' orientation that included group training (A.1.15) ITIL was a new topic for all of us. We understood more about it after training. But we did knew how we should start. (A.1.15)
5	CSA	Service Management Unit Leader	Actually, we started based on our CEO's request. The story of ITIL implementation starts upon a request from our CEO to IT operation manager to find a solution to the IT operation fundamental problems. After we had investigated different solutions and benchmarks, we proposed ITIL (A.2.4) We suggested outsourcing the implementation, but that did not work because our management looked for inexpensive solution (A.2.6)	our CEO asked us to build a business case for ITIL implementation. We gave a presentation to show ITIL ROI, vision, the benefits such as improvement of services and staff performance, cost estimate, references, and success stories. We conducted several meeting with him to discuss before he agreed to implement ITIL. (A.2.4) The management team was aware. So, they were studying the alternative implementation options either internally or externally. They selected the internal implementation as it was cheaper, although its execution estimated time would be longer (A.2.2)	In addition to our CEO support, there was great support from the operation management; from both S. G. who was the previous IT operation manager, and from B. A., the current manager who was previously the deputy of IT operation manager. Both provided great support. So, the operation management support was really high. I think that helped us to continue in ITIL adoption. (A.2.3)		There was also resistance because of ITIL extra work. So, we tried to thank them in many different ways, like sending them for training. However, if the high management enforced people would be obstacles instead of getting theier help. Change is difficult, and people hardly accept changes. So, I recommended people who worked with me in ITIL implementation, to be open minded, and to not take the subject in personal because of any action from others (A.2.14)	Our manager asked us to implement ITIL. But, we did have any experience. So, we got advance ITIL training before applying ITIL. It was not easy to apply the processes (A.2.5)

APPENDIX H: EVENT TABLE EXCERPT OF CASE STUDY B

	A	B	C	D
1	**S**	**Event Description**	**Actors**	**Notes of Learning**
2	**1**	The organisational development department requested IT department to document its IT policies and procedures	- manager of organisational development department - CIO	a new practice for IT department
3	**2**	CIO assigned an IT senior consultant to document IT policies and procedures	- CIO - IT senior consultant	
4	**3**	During the documentation, the IT senior consultant looked for how others documenting IT policies and procedures. Then, he knew personally from his friends about ITIL as a best practice to document IT procedures	- IT senior consultant - his friends	acquiring knowledge from external sources
5	**4**	The IT senior consultant suggested the CIO to implement ITIL as a best practice of IT operation management.	- CIO - IT senior consultant	transferring some knowledge through conversations
6	**5**	The IT senior consultant declared that he decided to leave the organisation because of family serious reasons	- IT senior consultant	for the department, there would be a loss of knowledge
7	**6**	The CIO requested the IT senior consultant to hand over everything related to documenting IT policies and procedures to another IT consultant	- CIO - IT senior consultant	would mitigate knowledge loss
8	**7**	The IT senior consultant handed over his duties to another IT consultant and explained him about ITIL benefits	- IT senior consultant - IT consultant	
9	**8**	The IT consultant looked for more information about ITIL	- IT consultant	-acquiring knowledge -IT seems he was very interested of ITIL
10	**9**	The IT consultant encouraged the CIO to implement ITIL. So, the CIO asked him to bring a quotation of ITIL implementation	- CIO - IT consultant	- a sign for accepting ITIL - the CIO declared that he expected to implement ITIL successfully because of the IT consultant existence
11	**10**	IT consultant searched of an ITIL implementer. He found a British ITIL expert	- IT consultant - ITIL expert	looking for external information
12	**11**	Several meetings between IT consultant and ITIL expert with discussing about implementing ITIL and the organisation needs	- IT consultant - ITIL expert	new information through conversations with an external party
13	**12**	The IT consultant got a proposal to implement ITIL from the ITIL expert and presented to the CIO who decided to conduct internal ITIL training by the ITIL expert and to prepare an RFP of implementing ITIL	- IT consultant - ITIL expert -CIO	
14	**13**	The ITIL expert held ITIL foundation training course for many employees including the IT consultant. However, most of these employees were new in the organisation	- ITIL expert - IT consultant -new employees	- acquiring knowledge through training - conducting the course in English hindered proper learning
15	**14**	The IT consultant met several companies to discuss the scope of the RFP of implementing ITIL	- IT consultant - external experts	looking for external information
16	**15**	The IT consultant prepared the RFP and submited to the CIO	- IT consultant -CIO	

APPENDIX I: ETHICAL FORM



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1 December 2010

Dear Hussameddin Alsawadi

I am pleased to inform you that the Faculty Research Ethics Committee held on Thursday 28 October 2010 considered your Application to Gain Ethical Approval for Research Degree Activities.

TRACKING Number: 0910/051

TITLE: The Analysis Of Information Technology Best Practice Adoption In Saudi Arabia

OUTCOME: Initial Approval Granted by Chair's Action 10 May 2010 - to go to FHREC

Presented to FHREC: Approved by FHREC 28/10/10

If you require any further information, please do not hesitate to contact me.

Yours sincerely,

Elaine Aspell
Faculty Research Student Coordinator
Tel: 0116 207 8627
Email: easpell@dmu.ac.uk

Cc Dr Neil McBride
Graduate School Office
File

Faculty of Technology, The Gateway, Leicester LE1 9BH. **T:** (0116) 257 7050 **F:** (0116) 207 8159

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