SUSTAINABIL(IT)Y

How IT service providers can incorporate sustainability into business practices

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	Sustainabil(IT)y **How IT service providers can incorporate sustainability into business practices**
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Abstract

Companies all over the world are seeking ways to address sustainability related issues, both to meet external expectations and as a way to find opportunities for growth and innovation. Many attempts have been made in providing descriptions and guidance in how sustainability can be adopted within corporations. However, much of earlier research has focused on the manufacturing industry where materials and production processes are central in the concept. How sustainability can be incorporated in service industries, more specifically by IT service providers (ITSPs), is a somewhat unexplored area even though the potential for sustainability related risks as well as opportunities are high. Previous research in this area that has set out to construct models of this phenomenon has not managed to consider the characteristics of IT service providers to the fullest.

This study has investigated how ITSPs can incorporate sustainability into business practices through a multiple-case study with four ITSP and one technical consulting company. The data has been collected through interviews and document analysis, and analyzed both separately and by comparison. Additional interviews were held with experts and professionals with relevant knowledge to strengthen the findings.

This study resulted in model that can serve as an analytical tool and presentation format when incorporating sustainability in business practices within the IT Professional service industry. The results showed that incorporation of sustainability in practices needs to be divided in two main categories; incorporating sustainability in internal operations and incorporating sustainability in customer offerings. Within these categories the study identified a number of activities that ITSPs can undertake to incorporate sustainability and what outcomes they may have. It was concluded that the activities in within internal operations were primarily focused on building trust towards customers. The study also showed that incorporating sustainability in customer offerings can be done to different extent with different outcomes. The critical activities to successfully incorporate sustainability in customer offerings has been described in the study and visualized in a 3-level map to further provide guidance. A main finding within this category was that interaction with the customer is crucial to successfully deploy service offerings that incorporate sustainability. The results can be generalized to other ITSPs in similar settings and parts can also be argued to be adoptable to other companies in the professional service industry that rely on intense technology.

Key-words: Sustainability, Corporate Sustainability, IT service provider, the Value Shop

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List of Abbreviations

IT	Information Technology
ITS	Information Technology Service
ITSP	Information Technology Service Provider
ITPS	Information Technology Professional Services
ICT	Information and Communication Technology
HR	Human Resources
R&D	Research and Development
SITSVC	Sustainable Information Technology Service Value Chain

Acknowledgements

Building the Foundation

By presenting the introduction, the methodology and the theoretical framework, this part builds the foundation for the analysis.

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1 Introduction

This chapter gives an overall introduction to the study. The background to the addressed problem is described, the purpose and objective is presented as well as the research questions. Finally, delimitations are stated and an outline of the structure of the report is given.

1.1 Background and Problem Formulation

The need for sustainability is an important topic on the global agenda which forces governments, industries and in fact every citizen of the world to adapt and adopt new ways of thinking and acting (Wolfson, Tavor, & Mark, 2013). One of the central questions of this century is argued to be if, and how, the current model of corporations needs to be modified to contribute to the health of our planet, to a just and humane society, and to the well-being of the population (Dunphy, Griffiths, & Benn, 2003, pp. 3-4).

As a response to this, corporations all over the world are seeking ways to address sustainability issues and responding to societal expectations and regulatory demands (Dunphy, Griffiths, & Benn, 2003, p. 3). Corporate sustainability is becoming an ever-greater factor in determining business success, where leading companies are now both working to meet expectations as well as viewing sustainability as a driving force for growth and innovation (Accenture & UN, 2013).

Corporate sustainability is often viewed as something that primarily applies to manufacturing companies. The reason is probably that these companies have a more visible impact on society and environment through their products, processes, waste and emissions. (Goodman, 2000) But in the last decades there has been a shift happening in industrial countries. Industries are moving away from the manufacturing of material goods towards offering intangible values through services. (Bryson & Daniels, 2007) Therefore, research within corporate sustainability needs to put focus on the service industry as well.

The IT Professional Service (ITPS) industry is an example of a service industry that has grown explosively during the last decades (Gable, 2006). As a result of the boom of mobile communication and information technology, hosting data centers consume around 2% of the global electricity and are argued to grow at a rate of 12% annually. Increasing pressure is put on the IT industry to take responsibility for their own growing footprint and there are several examples where IT service providers have been heavily criticized for not meeting external expectations on corporate sustainability. (Greenpeace International, 2011) At the same time information technology is believed to

play a key role in enabling sustainability in other industries such as transport, power transmission and distribution to mention some (The Boston Consulting Group, 2012).

It is therefore important to investigate how IT Service Providers (ITSPs) can approach corporate sustainability and incorporate it in their own business practices as a way to respond to the increasing pressure as well as exploiting the opportunities that exists in the sustainability area.

1.1.1 Problem Formulation

The existing research on corporate sustainability is to a large extent focusing on the manufacturing industry and not putting enough attention on the conditions of the growing service sector. There is a lack of research addressing the current state of sustainability within the ITPS industry. This means that there is little guidance for ITSPs that need to respond to increasing expectations or want to exploit the opportunities in this area.

1.2 Purpose and Objective

The purpose of this study is to investigate how ITSPs can incorporate sustainability into business practices. The objective is to construct a model that captures this phenomenon, and that can serve as an analytical tool and presentation format when addressing sustainability within the ITPS industry. Thereby, the study will further the literature of corporate sustainability in service industries, and provide guidance for ITSPs that want to incorporate sustainability into their business practices.

1.3 Research Questions

In order to fulfill the purpose and operationalize the objective of this study the following research questions have been formulated:

- *How can ITSPs incorporate sustainability into their business practices?*
- *What are the implications of doing so?*
- *How can a model be constructed to capture the essence of sustainability within ITSPs' business practices?*

1.4 Delimitations

To answer the research questions delimitations had to be made, primarily in order to make the study feasible within the time frame that was set for this project.

Firstly, this study takes the perspective of the IT service provider and does not include the perspective of their customers, suppliers or other stakeholders. Secondly, the study has a global perspective but is carried out in Sweden. Due to access, ITSP representatives that have participated in the study are therefore from the Swedish unit of the company.

Corporate sustainability is a comprehensive concept that stretches over the entire organization. This study will not attempt to map the entire amount of sustainability related business practices within an ITS organization, but rather to show the essence of how the industry works with sustainability. Additionally, sustainability is a wide subject and there are many discussions on how corporate sustainability should be measured. As the purpose of this study is to investigate a current state, focus has not been put on discussing the actual long term impact on society of specific practices or how this impact could be maximized by choosing alternative practices.

1.5 Outline

This report is divided into three main parts: "Building the foundation", "Constructing the Sustainability Value Model" and "Conclusions and Discussion".

The first part, "Building the foundation", includes *Introduction, Methodology* and *Theoretical Framework*. *Introduction* describes the background, problem, purpose, research questions and delimitations of the study. *Methodology* describes the choices of methods that have been made throughout the process and reflects upon what implications these choices have had on the quality of the study. The *Theoretical Framework* discusses concepts that are important to understand in order to grasp the subject of this study as well as the framework that has served as the foundation for data analysis.

The second part, "Constructing the Sustainability Value Model", constitutes the main part of this report where the analysis of the empirical findings in relation to existing research is presented. The research questions are addressed and answered, and the model that is the objective of this study is constructed throughout the chapters.

The final part, "Conclusions and Discussion", summarizes the main findings as well as discusses the conclusions, implications of delimitations and suggestions for future research.

2 Methodology

In this chapter, the methods used to systematically and critically answer the research questions are described and motivated for. This includes research design, data collection and analysis. Finally, the limitations of the chosen methods will be discussed in terms of validity, reliability and generalizability.

2.1 Research Design

The objective of this study is to construct a model that can serve as an analytical tool and presentation format when incorporating sustainability within the IT Professional Service (ITPS) industry. This model will henceforth be referred to as the Sustainability Value Model.

In addition to, and as prerequisites for, constructing the Sustainability Value Model, the study set out to answer how ITSPs can incorporate sustainability into their business practices and what the implications of doing so are. To answer these questions this study has investigated how ITSPs are incorporating sustainability in their practices today and what their arguments for this are. As the objective for this study is to build theory that reflects empirical reality an inductive approach has been adopted (Collin & Hussey, 2009, p. 157).

To fulfill the purpose of the study the investigation needs to describe and understand the dynamics of sustainability within the setting of an ITSP as well as the reasons behind it. When addressing descriptive questions answering "What?", "How?" and "Why?" a case study approach is suitable to adopt. The case study approach opens for opportunities for insightful explanations and in-depth understanding that may be lost when using other methods. (Yin, 2012, p.4-5)

Case studies can be conducted in different depths and widths depending on the focus of the research. As this study aims to further literature and provide guidance where existing theories are inadequate, a wider multiple-case study was chosen as it is suitable under these conditions and often provides novel, accurate and testable theories (Eisenhardt, 1989).

In order to create a model that faithfully represents the phenomena of sustainability practices in ITSPs the methodology of grounded theory has been adopted. Grounded theory is defined as developing an inductively derived theory about phenomena through a systematic set of procedures (Collin & Hussey, 2009, p. 157).

Eisenhardt (1989) provides a practical way of combining the case study approach with grounded theory in what she calls "building theory from case study research", which is a method especially appropriate when researching new topic areas, as in this study. Eisenhardt's approach of building theory from case study research was therefore determined best suitable in reaching the objective of this study.

2.2 Selecting Case Companies

For this type of study, Eisenhardt (1989) advices against statistical sampling, meaning that when building theory from case studies it is preferable to choose cases using theoretical reasoning. In this study, cases have therefore been chosen for theoretical reasons not statistical ones. Below, the chosen cases will be presented.

2.2.1 IBM, Accenture, Capgemini & Infosys

The cases were chosen according to replication logic, meaning cases are chosen to replicate each other, which enable possibilities to both enhance the confidence in the validity of the built theory and opportunities to extend it where cases disconfirmed relationships. (Eisenhardt, 1989)

Four case companies within the ITPS industry was selected, as less than four cases makes it hard to generate theory with complexity or a convincing empirical grounding (Eisenhardt, 1989). The main criteria when selecting cases was the potential of giving insight to state-of-the-art sustainability practices within ITPS industry. IBM, Accenture, Capgemini and Infosys were determined appropriate case companies based on their leading positions within the ITPS industry and international scale of operations.

2.2.2 ÅF

ÅF is a professional service company that was suitable to include as a case company due to their strong sustainability profiling and environmental competence. According to themselves they are putting up the most demanding sustainability goals in Europe within their industry and also aim at incorporating a green alternative in each customer offering (ÅF, 2014).

Collin and Hussey (2009) brings up the concept of theoretical generalizability saying that findings from one setting can be transferred to another setting if the analysis has captured the characteristics of the phenomena you are studying. Even though ÅF does not define themselves as an ITSP, but a technical consulting company (ÅF, 2014), the similarities to the case companies in being a professional service company with IT competences makes it possible to use findings from ÅF. ÅF was included in order to gain further insight in how sustainability is incorporated into business practices in the professional service industry.
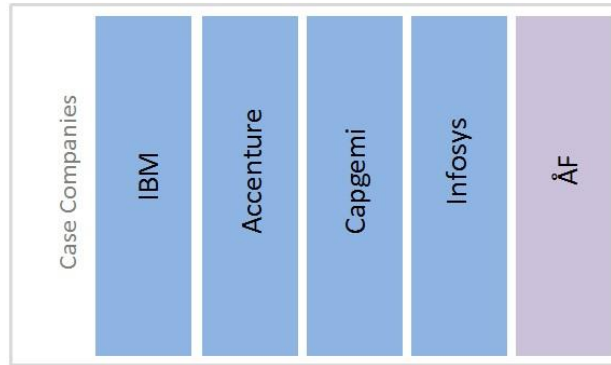
Figure 1 The companies in the multiple-case study

Figure 1 summarizes the five case companies chosen for the study. Five cases were considered an appropriate number as it was enough to reach saturation and find patterns within the time frame of this study.

2.3 The Research Process

The method for empirical data collection, literature review and data analysis is in the following chapters discussed separately, however it is important to notice that these activities have not been undertaken separately but parallel to one another. The process of building theory from case studies is an extremely iterative one where data analysis and data collection constantly overlaps. An essential feature is also to continuously compare emergent theory with existing literature in order to support or discard findings. (Eisenhardt, 1989)

Due to the process being iterative and non-linear it will not be described from a chronological perspective but rather based on which role the different components have played in order to reach the objective of the study (see Figure 2).
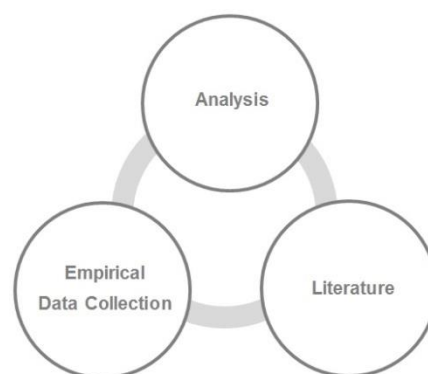
Figure 2 The components of the research process

2.4 Empirical Data Collection

In order to reach the objective of the study the empirical data needed to reflect reality in a faithful way in the specific context of ITSP. Therefore, qualitative data was collected

since it usually results in findings with high degree of validity (Collin & Hussey, 2009, p. 143).

In case study research it is often best to combine data collection methods in order to obtain in-depth knowledge about the phenomena being investigated (Collin & Hussey, 2009, pp. 82-83) and also enable stronger substantiation of construct for theory building (Eisenhardt, 1989). Therefore, the data collection methods used have been interviews and document analysis, including going through the company websites. These data collection methods are traditionally used in case studies (Collin & Hussey, 2009, p. 83) and will be further discussed in the following sections.

2.4.1 Document analysis

As a first step of the investigation, there was a need to obtain an overview of what the case companies perceive as sustainability practices, what activities they are doing to incorporate sustainability, and how they are communicating this work. To obtain this overview a document analysis was carried out which included the case companies sustainability reports and official websites. Reports and websites were determined to be relevant sources, however they are likely to give a version of the truth adjusted to strengthen the company brand's and findings have therefore been strengthened through other sources like reports from external auditors or non-profit organizations, earlier research and interviews.

2.4.1 Interviews

Since answering the research question demands deeper insights about underlying reasons behind the phenomena under investigation, interviews were held to explore feelings, opinions and practices (Collin & Hussey, 2009, p. 144).

When using interviews as a data collection method voluntary participation is one of the most important ethical principles (Collin & Hussey, 2009, p. 45). To ensure this, each interviewee received information stating the purpose of the research and the background for the project before the interview. This information also included what types of questions would be asked during the interview.

All interviews were held face-to-face and were audio-recorded after permission was given by the interviewee. As a principle, anonymity and confidentiality should be offered to all participants (Collin & Hussey, 2009, p. 45), which therefore has been offered to all interviewees in this study. As no confidential data has been collected and due to the communicative nature of most interviewees work role, none have taken the offer of anonymity. During interviews, both researchers participated in order to gain the positives of using multiple researchers in terms of converging interpretations, viewing the situation from different perspectives and so on (Eisenhardt, 1989).

When building theory through case study research, a goal is to understand each case individually and to as much depth as is feasible by taking advantage of the uniqueness of each case (Eisenhardt, 1989). Eisenhardt (1989) means that there should therefore be a

flexibility where the researcher is allowed to take advantage of themes that emerges during the research process. To have this flexibility, interviews were held in semi-structured manner as it gives room to explore new but relevant issues that are revealed during the interview (Collin & Hussey, 2009, p. 195). The general interview guide used when conducting interviews with the case companies can be found in Appendix 2.

As previously mentioned, an important aspect when conducting a case study is that collection and analysis cannot be separated (Collin & Hussey, 2009). As data collection and analysis overlapped, findings from one interview affected the structure of the next in order to follow-up on interesting topics. This overlap is also a key feature of theory building and freedom to make adjustments during data collection process is therefore important (Eisenhardt, 1989).

To understand each case individually and to as much depth as is feasible, the number of interviews held at the different case companies has varied based on the access given. Additionally, when relevant knowledge could not be obtained at the case companies, other empirical data sources were interviewed to better ground the theory. The approach of using multiple sources in this way to investigate the same phenomena leads to a much richer picture of the subject (Collin & Hussey, 2009, p. 85).

Interviews were added until a sense of saturation was reached, meaning little new knowledge was gained form adding interviews. The following sections will discuss how interviewees were selected and how they have been viewed critically to ensure validity.

IBM, Accenture & ÅF

As the goal was to obtain in-depth knowledge about how the case companies incorporate sustainability into their business practices as well as the reasons behind their choices, it was important that the interviewees had both knowledge about the sustainability area and a holistic view of the company. Interviews were therefore held with the Head of Sustainability, or equivalent role, of the Swedish company unit as they have the broad and extensive knowledge needed to provide relevant information.

As the investigation progressed, the interaction between provider and customer became important in answering the research questions. In this matter, the Head of Sustainability lacked the knowledge needed to give sufficient insight as they do not interact with customers in their everyday work. Therefore, a consultant at ÅF was interviewed as she interacts with customers on a daily basis as part of client projects. She also has competence within the sustainability area and was therefore representative for the subject under investigation.

The above mentioned sources can all be assumed of having some motive to adjust their statement according to what aligns with the company image of sustainability practices. The role of Head of sustainability is often very communicative, and speaking to the public about the sustainability work is often included within their role. As a source this can result in that answers are given in a way that presents a good image of the company, reasons behind actions and such.

To balance this, sources with no tendency to be biased but still had relevant competence regarding the subject were added: a CSR analyst at EcoVadis and the Green IT expert (see Figure 3). These two sources are described below.

EcoVadis analyst & Green IT expert

EcoVadis is a French company that assists client organizations that aims to implement sustainable supply management practices. By combining IT and expertise on sustainable procurement, EcoVadis screen and monitor the sustainability performance of suppliers within their client's supply chain. This way EcoVadis helps the client to reduce their risks. (Ecovadis, 2014)

An interview was held with a CSR Analyst at EcoVadis who has experience in performing sustainability auditing and could therefore provide deep knowledge concerning this relevant area. She could also reflect critically on the findings from the case companies as she had no motive to adjust her statement to what aligns with the image of the case companies.

The Green IT expert has worked within the ITPS industry, connecting business and environment in both strategic and operative sustainability work. Due to his experience and knowledge within the environmental area he had a seat in the Swedish government environmental branch and acted policy adviser to Greenpeace International. He has also written a book on Green IT. (Green IT expert, 2014)

The Green IT expert could therefore contribute with broad knowledge on the subject under investigation. As he has both worked as a consultant at ITSP as well as purchasing services from ITSP (Green IT expert, 2014) he could give critical perspectives on the findings from both a provider and a customer perspective.

Figure 3 The Green IT expert and EcoVadis added for expertise and unbiased opinions

Validation Test Company: CGI

In order to test the Sustainability Value Model a company with the same characteristics as the case companies was chosen as an added source, namely the global ITSP CGI (see Figure 4). The individual who participated in the test was the CSR and Environmental Coordinator at CGI Sweden, an equivalent role as the Head of Sustainability. She has previously worked as a project manager and has therefore worked closely with customers delivering Green IT solutions (CGI CSR & Environmental Coordinator, 2014). She therefore has the overall knowledge concerning how ITSP are incorporating sustainability to practices needed in order to be critical to the gathered findings. As CGI was not included as a case company in the study she was also un-biased in her

evaluation of the findings presented. The interview with CGI was held in a more structured manner where the model and other findings from the research served as an interview guide where the questions aimed to let the interviewee confirm or discard the claimed conclusions.

Figure 4 CGI added to validate the findings

Table 1 summarizes the name and role of all interviewees as well as duration of interviews held. Figure 5 summarizes how interviewees have been selected based on critically viewing each source contribution in answering the research questions.

Table 1 List of interviewees, their role and the duration of interviews held

Role	Name	Duration
ÅF Sweden, Head of Sustainability	Nyamko Sabuni	1 h
ÅF Sweden, PRS Services Manager	Johanna Axelsson Linder	1 h
IBM Sweden, Corporate Citizenship and Corporate Affairs Manager	Susanna Salwén	1 h
IBM Nordic, Diversity Leader IBM Europe, LGBT Program Manager	Marie C Nilsson	1 h
Accenture Nordic, CSR Lead	Fredrik Nilzén	1 h
CGI Sweden, CSR and Environmental Coordinator	Elin Swedlund	1 h
EcoVadis France, CSR Analyst	Carina Miki	1 h
Green IT expert	Håkan Nordin	2*1 h
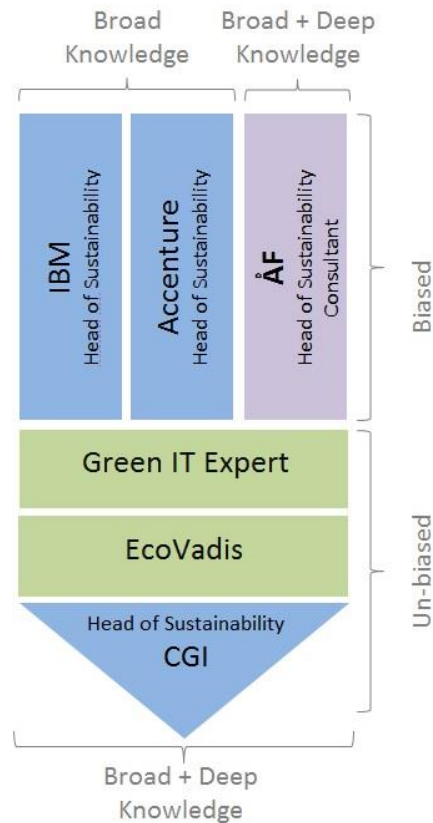
Figure 5 Summary of the contribution of selected interviewees

2.5 Literature Review

As the qualitative data collected in this study needed to be understood within a context (Collin & Hussey, 2009, p. 143) an initial literature study was performed to contextualize and build a problem background. The aim was to clarify what is, and what is not, known about the subject area in order to create a basis of analysis. (Collis & Hussey, 2009, p. 143; Eisenhardt, 1989) This way the literature study was used to create a focus for the research. However, as the nature of a case study and theory building is an iterative process that moves between collected empirical data and existing research (Eisenhardt, 1989) and literature has played a key role throughout the process in understanding the empirical findings.

The existing research regarding how sustainability can be incorporated by service providers is not extensive, and research addressing incorporation by IT service providers even less so. The theoretical framework for this study therefore consists of existing research that separately addresses corporate sustainability, service science and value creation. When choosing sources within these research areas the most recognized and prominent researches in each area have been used as much as possible.

The literature study includes books, journal articles, online publications, and reports. Search engine used to collect literature has been PRIMO and Compendex accessed through The Royal Institute of Technology. Articles used are published in well-

established journals or protocols from respected summits that are independently reviewed and approved before publication.

When viewing literature critically some sources that have been used in this study, such as Greenpeace reports, can be suspected of not being neutral in their research as they drive a strong agenda towards corporations on how they need to be more sustainable. However, the research used in this study has been conducted as collaborations with corporations within the ITPS industry and includes extensive descriptions of research method and was therefore considered to be reliable and valid.

2.6 Data Analysis

Following Eisenhardt's (1989) method to analyze the collected data in building theory from case studies, a within-case followed by a cross-case analysis has been carried out. Shortly described, this process means becoming immediately familiar with each case as a standalone entity, followed by looking at the gathered data from all cases in order to find similarities and differences which are used to construct a model (Eisenhardt, 1989). Below, the analysis process will be explained in more detail.

2.6.1 Within-case analysis

The qualitative data from the document analysis and interviews from each case was in the first phase analyzed separately (see Figure 6). This way, a rich familiarity with each case could be made and unique patterns are allowed to emerge separately within each case (Eisenhardt, 1989). This was also a good foundation for the following cross-case analysis (Eisenhardt, 1989).
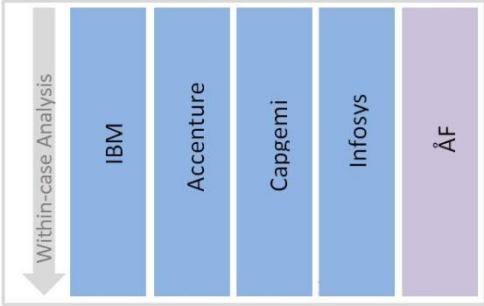
Figure 6 Within-case analysis of the five case companies

It is necessary to perform analysis of within-case data consisting of detailed write-ups or case-study protocols to capture important characteristics from each case (Eisenhardt, 1989; Yin, 2012, pp. 11-12). A first step was therefore a discussion session held after each interview to reflect on the findings in connection to the document analysis and verbalize findings. This way, not fully articulated reasons, opinions and such could be discussed and perceptions between the interviewers could be compared and documented. Contradicting interpretations of what the respondent had expressed could also directly be addressed in order to minimize the risk of misinterpretations. Following this, the audio recording from each interview was transcribed shortly after the interview where more detailed and comprehensive analysis could be made.

2.6.2 Cross-case analysis

After data collected from the five case companies were separately analyzed, a cross-case analysis was carried out in order to find similarities and differences among the cases (see Figure 7).

In theory building, the goal is to create a theoretical formulation of reality (Collin & Hussey, 2009, p. 179). To do this, data was organized into concepts based on similarities and differences and concepts were in turn organized into categories. This way categories and subcategories could be found and a model emerged.

Since there is a risk of reaching premature conclusions from the within-case analysis (Eisenhardt, 1989), this was a very iterative process of looking at data in divergent ways and attempt to go beyond initial impressions (Eisenhardt, 1989). Emerging patterns could motivate going back to transcriptions of interviews and with the knowledge gained throughout the analysis process new insight and similarities could be found.
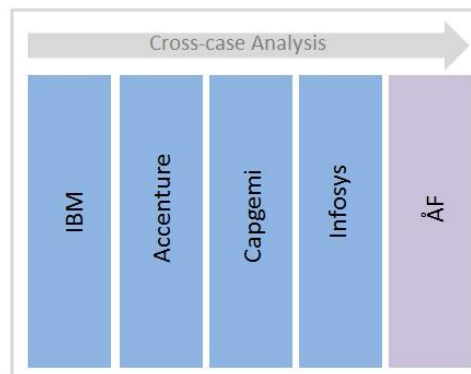
Figure 7 Cross-case analysis of the companies in the case study

2.6.3 Sharpening the model

A highly iterative process of comparing emerging theory and data ensured a close fit between the two and sharpened the model. A close fit is important for an empirically valid theory (Eisenhardt, 1989). Data from diverse sources was included, where evidence converged the model could be furthered sharpened and validated, and where it did not the model could be extended.

2.6.4 Enfolding literature

An essential part of theory building is to compare the emerging model with existing literature, both with conflicting literature as well as literature with similar findings to ensure confidence in the findings (Eisenhardt, 1989). Enfolding literature has been a component of every part of the analysis by asking what is similar, what contradicts, and why. In this way, the theoretical model was further sharpened by iterating between looking at the information in the research data, turning away from the data to think rationally about missing information, reviewing existing research and see what conclusion that could be made, and then returning to the data in order to support, disprove or modify the model. This way of alternating between inductive and deductive

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thought and constant reference to the data helps in grounding the theory (Collin & Hussey, 2009, p. 157).

The Value Shop

For this study, one model from existing literature had a more prominent role than other theory; the Value Shop (Stabell & Fjeldstad, 1998) which will be presented further and argued for in the theoretical framework. During the analysis and sharpening of the model, it became clear that a framework for categorizing the data for a more in-depth analysis was necessary. The Value Shop model served as both a tool for categorization and the basis for the final model developed in the research and therefore has a key role when presenting the findings.

2.7 Validating the Model

As a final step, the constructed Sustainability Value Model was as tested by presenting the model and the reasoning behind conclusions drawn CSR and Environmental Coordinator at CGI Sweden, to confirm or discard the findings. Based on this test, adjustments could be made according to the test results. This way, rechecking the consistency between findings from different sources the robustness of the research was improved (Yin, 2012, pp.13).

Figure 8 presents a summary of the role that empirical data sources have played in the analysis. It is important to note that it is not a description of the process in a chronological order, neither has the role of literature been visualized in the model. The analysis has been an intensively iterative process in going between the data from all the different sources and enfolding literature.
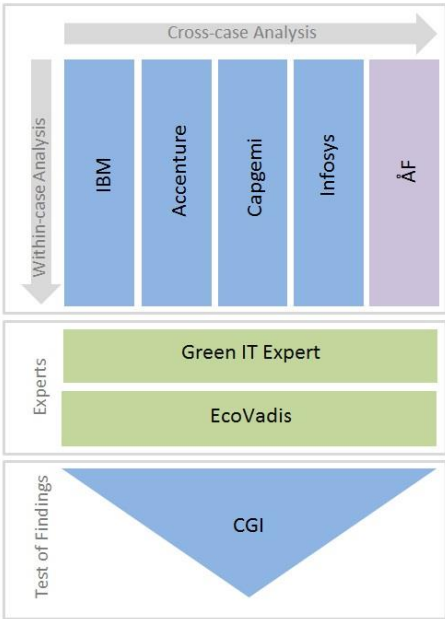
Figure 8 Summary of the role of the empirical data sources

2.8 Reflection on Research Design

The quality of the research is determined by the validity and reliability of the findings (Yin, 2003, pp. 35). Here, reflections of the research design and its effect on validity, reliability and generalizability is made.

2.8.1 Validity and reliability

In this type of study it is difficult to prove high reliability (Collin & Hussey, 2009, p. 65). To increase reliability, emphases has been put on explaining interpretations and establish authenticity by using protocols and documented procedures. The transcriptions of each interviews and the way of structuring the analysis is considered to contribute to a strengthened reliability.

To answer the research questions, the aim of this research has been to ensure high validity in terms of capturing the essence of the phenomena under investigation and extracting data that provide rich, detailed explanation. The choice of conducting a case study makes the research likely to be empirically valid due to the close interaction with actual evidence (Eisenhardt, 1989).

The data collected for this research was qualitative data. To help ensure validity, the practices of using audio recorder to record interviews and detailed field notes have been adopted to retain the integrity of the data. The data collection and analysis method has ensured that the use of evidence from multiple sources has increases the validity of the research (Yin, 2012, pp.12-13).

The iterative process of comparing the model with existing literature, and addressing conflicting or similar findings in literature strengthens the validity of the model. The positive outcomes of multiple researchers have also been exploited in both analysis and data collection. (Eisenhardt, 1989)

The validity test ensured that the model and the reasoning behind its construction were reviewed critically by someone with knowledge and experience within the subject. This way the validity of the model is therefore increased.

2.8.2 Generalizability

It may be possible to generalize from one setting to a similar setting if the analysis has captured the interactions and characteristics of the phenomena under investigation (Collin & Hussey, 2009, p. 65). With this in mind, it can be argued that the findings will be transferable to other ITSPs in similar settings as those investigated. As the findings are built to consider the characteristics of professional services that rely on intense technology there may also be parts that can be transferred to other industries with similar conditions.

3 Contextualization and Theoretical Framework

This chapter provides a background to the research area this study addresses and provides the reader with knowledge needed to understand the coming analysis. In short, this includes the characteristics of services and why they cannot always be handled the same way as manufactured products. It also presents the concept of sustainability and how it has been adopted in companies.

3.1 The IT Professional Service Industry

This study investigates IT Service Providers (ITSPs) in the IT Professional Service (ITPS) industry. As IT is increasing in complexity, ITSPs have a growing role in servicing IT within organizations. Common services are IT management, planning and design of IT systems as well as support. (Gable, 2006) The most important aspect to remember about ITPSs, in order to grasp the findings of this study, is that they are professional service companies that rely on information and communication technology in order to solve customer problems. They have very little, or no, manufacturing and are highly service driven. Therefore, the following discussion regarding services and their characteristics also include, and are applicable, to the IT professional services that this study is focusing on.

3.2 Services

As this research takes place in the service industry it is important to understand what a service is and how the characteristics of a service is of importance to this study. This section will also discuss how a service driven organization can be broken down in in order to be analyzed.

3.2.1 Defining services

There are a large variety of definitions of services ranging from simplified wordings to more complicated formulations. Many definitions are focused on the methods and transformation of values performed by a service provider on the request of a customer. (Wolfson et. al, 2013)

Grönroos (1990) makes an effort to combine several previously formulated definitions by stating:

"A service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems" (Grönroos, 1990, p. 27)

Even though Grönroos (1990, pp. 28-29) provides a definition he simultaneously states that it is probably better to focus on what characteristics services have than trying to reach a consensus on an appropriate definition. Researchers seem to disagree regarding

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which definition that should be adopted, but the fundamental characteristics are agreed upon by several (Illeris, 2007, pp. 25-27).

Following this argument, the following section will focus on the characteristics of services.

3.2.2 Characteristics of services and implications

There are of course differences between different kinds of services, but some characteristics can be found in most of them. By summarizing the most frequently mentioned characteristics of services, Grönroos (1990, pp. 28-29) comes up with four basic characteristics that can be identified in most services, including ITPSs:

1. Services are more or less intangible
2. Services are activities or a series of activities rather than things
3. Services are at least to some extent produced and consumed simultaneously
4. The customer participates in the production process at least to some extent

The intangibility of services is one of the most commonly brought up characteristics of services. Even though many services include highly tangible elements the essence of a service lies in intangibility. (Grönroos, 1990, p. 29) A service cannot be transported, stored, or owned in the same way as a material good (Illeris, 2007, pp. 23-25).

Services are often to a large extent produced and consumed simultaneously, also known as the "inseparability characteristic". An example of this is the service of a hair stylist which is almost totally produced when the customer is there to simultaneously consume it. The inseparability characteristic exists in different extent depending on the type of service, and even though the service of a hairstylist seem to be far away from the service of an ITSP the same characteristic applies.

When delivering material goods, most of the production process is invisible to the customer and pre-produced quality can be controlled in advance. However, because of the inseparability characteristic of a service, quality control and marketing must take place at the same time of production and consumption. (Grönroos, 1990, pp. 29-30) Using the example with the hair stylist, this means that the quality of the service can only be controlled after the service is produced and consumed and the hair is cut.

A service is always to some extent customized and a service to one customer will not be exactly "the same" as to another. This heterogeneity aspect is often due to the fact that delivering a service is highly dependent on people, both in form of personnel and customer. This leads to a challenge of maintaining even quality when offering services to different clients. (Grönroos, 1990, pp. 29-30)

Based on the above stated research, the consumer plays an important role in services as do the service personnel. This characteristic of a service is important for this study and will therefore be discussed in more detail.

The role of the customer and the importance of interaction

Research on services point out how the role and the relationship with the customer when providing services differ compared to when delivering manufactured products. Vargo and Lusch (2004) have put a lot of attention on the how value of services is co-created by provider and customer. They call the customer a co-producer and say that this means that marketing is a process of doing things in interaction with the customer.

Grönroos (1990, p. 209) emphasizes the interaction with the customer even more and describes customers as directly involved in quality generation in services.   He argues that the points of interaction between the provider and the customer are critical for the quality of the service. This includes both interaction supported by physical resources, systems and operational routines, but most importantly the interaction between customers and employees. It is the employees directly interacting with the customer that have the opportunity to recognize customer needs by watching, asking questions and responding to customers' behavior.

Knowledge is another recurring concept presented as a critical resource in services and is often referred to as the fundamental source of competitive advantage (Vargo & Lusch, 2004). Value creation in services is pointed out to be highly dependent on an exchange of knowledge between the customer and the provider. (Harmon & Demirkan, 2012)

3.2.3 Breaking down a service organization: the Value Shop

As one of the fundamental characteristics for a service is that they are activities rather than things (Grönroos, 1990, pp. 28-29) it makes sense to break down service organizations in activities as units of analysis.

Porter's Value Chain (1985) has been widely used to decompose firms in strategically important activities. The Value Chain is presented as a generic model that can be applied to all industries. Stabell and Fjelstad (1998) however, argue that the Value Chain is well suitable when applied to traditional manufacturing companies but does not transfer well to service industries. They use the fundamental differences between manufactured goods and services to visualize how the Value Chain does not capture the essence of value creation when applied to service industries. For professional services companies like ITSPs they instead suggest a value configuration called the Value Shop (see Figure 9). (Stabell & Fjeldstad, 1998)

The Value Shop

The Value Shop model is used to break down firms into strategically important activities with the basis in how to create customer value (Stabell C. , 2001).
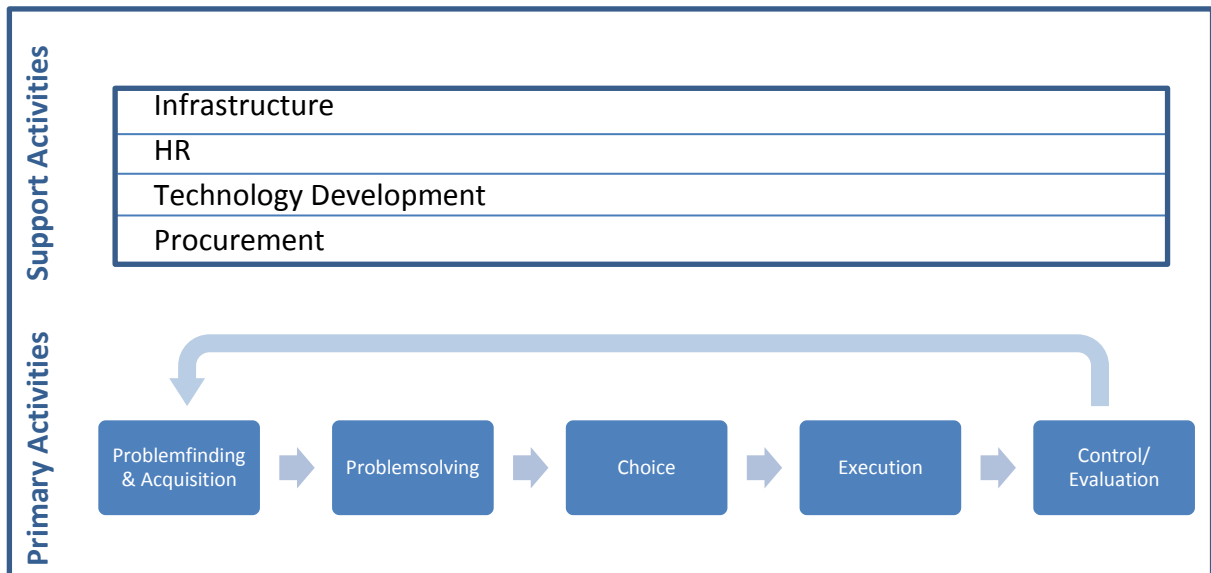
Figure 9 The Value Shop (Stabell & Fjeldstad, 1998)

This section describes the Value Shop as presented by Stabell & Fjelstad (1998).

Firms that can be modeled as Value Shops are firms that rely on an intensive technology to solve a customer or client problem. In such firms a large part of the employees consists of specialists and experts, often professionals in the area of the types of problems they are set to solve. Typical examples of this type of firms are professional service firms. Instead of a fixed set of activities to produce a standard product, the activities in the Value Shop are dependent on the needs of the client. The value creation in the Value Shop is therefore the same as problem-solving, defined as the change from an existing sate to a more desired state. According to the Value Shop this value is created by two main categories of activities: primary and support activities. These categories are presented below.

Primary activities

There are five categories of primary activities in the Value Shop diagram (See Figure 9). Each of these can be divided further into a number of distinct activities depending on the particular firm.

- **Problem finding and acquisition:** Activities associated with finding and formulating the problem to be solved and choosing an overall approach to solving

it. This category is close to the marketing activity in the value chain, defining the client's problem is also acquiring the client.

- **Problem-solving:** Activities associated with generating and evaluating solutions.
- **Choice:** Activities associated with choosing among alternative solutions.
- **Execution:** Activities associated with communicating, organizing and implementing the chosen solution.
- **Control and Evaluation:** Activities associated with measuring and evaluating to what extent the implementation has solved the initial problem.

The flow of activities in the Value Shop is not linear, as in Porters Value Chain, but rather iterative between activities and cyclical across the activity set. Solving one problem may very well initiate a new set of activities. This flow results in a high degree of interdependencies between the activities. For example, feedback from generating one solution may require the definition of a new solution.

Support activities

The categories of the support activities have remained the same as in Porter's Value Chain but Stabell & Fjelstad emphasize that there is a difference in the dynamic between the two types of activities. There is a co-performance of support and primary activities. For example, marketing, procurement and technology development is often carried out in the course of solving a client's problem. However, just because the support activities are not distinct, they cannot be discarded as they are still crucial for the company's success.

3.3 Defining Sustainability

As this research investigates how the ITPS industry works with sustainability it is important to understand what sustainability is, and how the concept is applied in this study.

Sustainability is generally described as the capacity of the present generation to meet its needs without compromising the ability of the future generations to meet their own needs, as defined by the United Nation in 1987 (United Nations, 1987). During the 1990's the term "triple bottom line" was coined as an active attempt to integrate environmental, social and economic aspects in a way that could be used by businesses (Elkington, 2004).

This three dimensioned conceptualization of sustainability can be found in two well-known constructs: corporate sustainability (CS) and corporate social responsibility (CSR). The constructs are very similar but not without differences. It is important to this study that, in order to be considered a sustainable company, firms must address all of the issues CS and CSR in combination addresses. (Harmon & Demirkan, 2012) Making a distinction between the two does not benefit this study and corporate sustainability will thus be used as a broad term which includes both CS and CSR.

Many researchers are discussing how companies can truly adopt the triple-bottom-line concept from a value centered approach (Harmon & Demirkan, 2012; Porter & Kramer, 2006). Porter and Kramer (2006), as well as Harmon and Demirkan (2012) emphasize that incorporating sustainability is about finding the areas where societal value, business value, and customer value can be created simultaneously. These value dimensions will be discussed more in-depth below.

### 3.3.1 Business value, customer value, societal value

Business value naturally depends on creating value for the customer, and its primary objectives are about generating returns for the company. Customer value is the perceived benefit from a product or service. The definition of societal value is not as easy to determine as it has many subjective interpretations that include different kinds of social and environmental aspects depending on which issues that are addressed. An organization can create societal value by dealing with renewable energy or recycling which would give very tangible results or by addressing issues like world hunger or social justice which is slightly harder to measure. (Harmon & Demirkan, 2012) As a summary it can be said that societal value is created whenever a negative impact on society is decreased or a positive impact on society is increased, this includes both environmental and social aspects. A company must create business value as well as customer value as a company naturally does. However, to incorporate sustainability this must be balanced with societal value creation.

Adopting a Definition

Sustainability is a comprehensive concept and definitions and distinctions are still being discussed by many. Following the concepts discussed above, this study makes the following distinctions and definitions;

- **Sustainability:** No particular distinction between CS and CSR is made
- **Incorporating Sustainability**: Creating business value and customer value while also creating societal value (see Figure 10)
- **Societal value**: When a positive impact on society is increased, or when a negative society impact is decreased, including both environmental and social aspects. This will serve as an indicator for when companies have incorporated sustainability.

These definitions will have an important role in the analysis as they make the foundation of what incorporation of sustainability means.
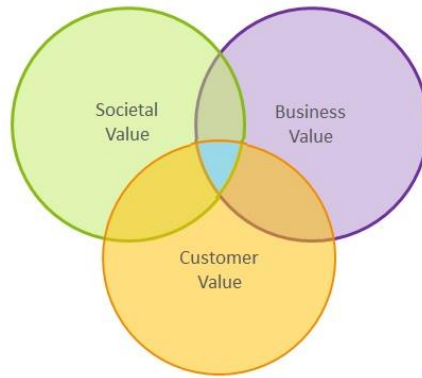
3.4 Sustainability and IT

In the following sections sustainability is connected to IT and IT services in order to put sustainability in to the context of ITSP, which is the context of this study.

IT has been widely recognized as a technology that could have a major impact on sustainability issues (Zapico J. , 2013; The Boston Consulting Group, 2012; Harmon & Demirkan, 2012). IT has always aimed for optimization and dematerialization; therefore have natural connections to sustainability in decrease of resource use (Zapico J. , 2013). The Smarter2020 report, that aims to describe the role of information and communication technology (ICT) in responding to challenges in climate changes, describes how IT as an enabler has the potential to have a far greater impact on the environment and society that the operations of the IT companies themselves (The Boston Consulting Group, 2012).

3.4.1 Green IT services to sustainable IT services

As a result of the large potential of IT to optimize and dematerialize, companies that are trying to increase corporate sustainability are looking to IT operations to find ways to reduce their energy consumption, often with a focus on cost reduction and the impact of data centers. This has created a new market for "Green IT services". (Mines, 2008)

Green IT services is defined as;

"Consulting services that help enterprise IT organizations reduce their companies' environmental impact by assessing, planning, and implementing initiatives that make the procurement, operation and disposal of IT assets more environmentally responsible." (Mines, 2008, p. 2)

Mines (2008) states that the ultimate opportunity is to not only look at the impact of the IT assets themselves, but use IT as an enabler to green processes throughout the company and incorporate IT to minimize environmental impact of all activities in companies, as supply chain, workforce management, and facilities. This transition has been called moving from Green IT services to Sustainable IT services (SITS). SITS are going beyond the issues addressed by Green IT and focuses on the effect IT can have on a firms, its customers and society at large. (Harmon & Demirkan, 2012).

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Sustainable IT services is defined as;

"…the application of IT knowledge and technologies for the benefit of customers and other stakeholders that enhances long term mutual economic, environmental, and social wellbeing." (Harmon & Demirkan, 2012, s. 6)

3.4.2 The Sustainable IT Service Value Chain (SITSVC)

Datta et. Al (2010) point out that existing research is deficient in the ITSPs centered perspective of sustainability and that there is a need for a model that describes and defines the role of the ITSP in the adoption of IT-related sustainability in organizations. They present the Sustainable IT Service Value Chain (SITSVC) (see Appendix 1) that describes sustainability practices that can be incorporated throughout the value chain for an IT service in order to enhance client organizations' performance and cognizance relating to sustainable IT. The framework is based on Porter's (1985) Value Chain with adjustment to include the development chain that in IT services is where the customer gets involved according to Datta et. Al.

The authors discuss what the customer outcomes for each activity are. They conclude that ITSPs can promote sustainability in the customer's organization in three ways; by incorporating sustainability practices in every part of the chain, client education, and exemplifying their own IT sustainability efforts.

3.5 Frameworks for Sustainability in IT Service Firms

The purpose of this study is to analyze how sustainability is incorporated in the business practices of ITSPs. Existing literature has been reviewed in order to find a suitable framework that could serve as an analytical tool. Below is a discussion regarding the frameworks presented earlier in this chapter: the SITSVC (Datta, Roy, & Tarafdar, 2010) and the Value Shop (Stabell & Fjeldstad, 1998). The discussion centers on how, and if, these can be used to describe how sustainability is incorporated in the business practices of ITSPs.

3.5.1 The potential of the SITSVC

The SITSVC (Datta, Roy, & Tarafdar, 2010) attempts to illustrate a value chain that describes how sustainability can be incorporated in activities within ITSPs to facilitate the adoption of sustainable IT and IT management practices in client organizations. As this model both addresses sustainability and ITSPs it could be argued to be an appropriate framework to use when answering the research question of this study. There is however some aspects of this framework that should be critically discussed in regard to the focus of this study. Firstly, the SITSVC is using the underlying logic of Porter's (1985) Value Chain and is therefore failing to consider many of the important characteristics of services. As pointed out by Stabell & Fjeldstad (1998) the Porter's (1985) Value Chain is not suitable to the analysis of a number of service industries. They are basing this statement on supervising attempt of in-depth application of the traditional value chain in a number of firms during several years. Particularly, Stabell &

Fjeldstad (1998) point out that for professional service companies that rely on intensive technology to solve customer problems, like ITSPs, a value configuration that captures the iterative value creation process in the primary activities is necessary to fairly reflect these companies. This aspect has not been considered in the SITSVC. Secondly, the scope of the SITSVC (Datta, Roy, & Tarafdar, 2010) is limited to how ITSPs can facilitate the adoption of sustainability in the client organization. As this study is aiming to give a much more comprehensive view, with focus on the implications for the provider, using the SITSVC would mean that important parts of the phenomena would get lost. Based on both the critique regarding the characteristics of ITPSs and the difference in focus, using the SITSVC is regarded as running a risk of not reflecting a fair image of how sustainability can be incorporated in the business practices of ITSPs.

3.5.2 The potential of the Value Shop

The Value Shop (Stabell & Fjeldstad, 1998) has more carefully considered the characteristics of services. As it is developed to fit professional service firms that rely on intensive technology, the Value Shop is considered to be reflecting firms like ITSPs in a fair way. However, this model has not been adapted to the perspective of sustainability. The Value Shop is focusing on business and customer value creation, but is not considering societal value. Using this framework would therefore not capture the essence of sustainability within ITSPs.

3.5.3 Constructing the Sustainability Value Model

This leads to the conclusion that in order to find a model that can be used as an analytical tool for incorporation of sustainability in the business practices of ITSPs, there is a need for a "Sustainability Value Model" that captures the characteristics of ITPSs and incorporates societal value (see Figure 11).

As there is no satisfactory framework that can be adopted without adjustments, a new model is constructed using relevant parts of existing theory as a basis. The Value Shop is a good frame of reference as it is the model that comes closest to describing the characteristics of ITSPs (Stabell & Fjeldstad, 1998). The Value Shop also views the service organization as a series of activities, an approach that has been argued as suitable by other authors (Grönroos, 1990) .

IT Service Value Chain Adapted for sustainability but not for IT professional services providers	THE GAP	Value Shop Adapted for professional services but not sustainability

"The Sustainability Value Model"
Adapted for sustainability and for IT Professional services
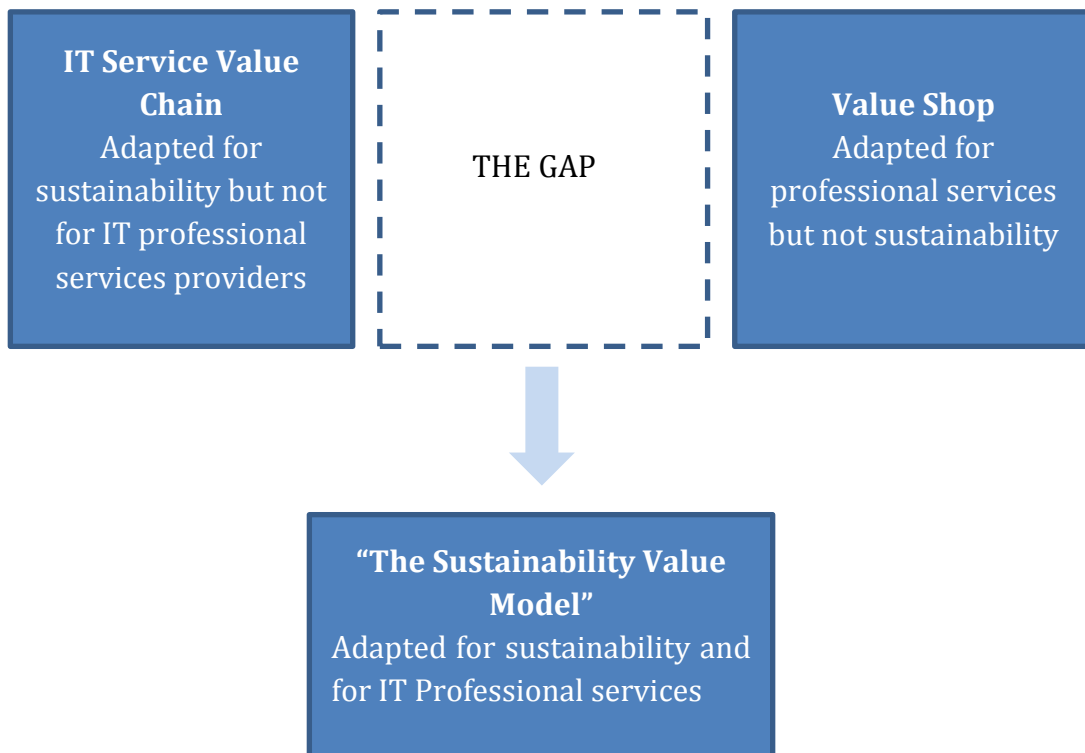
Figure 11 Visualization of the gap in the existing literature that is addressed in this thesis

Constructing the Sustainability Value Model

In this part the research questions are answered by discussing the empirical findings in relation to previous research and the conclusions from the theoretical framework. The general approach that IT Service Providers (ITSPs) have when incorporating sustainability will be presented and then the analysis will go into more detail in their activities. Throughout this part of the study, the Sustainability Value Model is constructed and motivated for.

4 Approaching Sustainability

The Sustainability Value Model will be constructed and motivated for throughout the following chapters. We will start by providing an overview of the approach held to ensure that the model captures the essence of sustainability within the business practices of ITSPs.

Following the discussion in the theoretical framework, sustainability is incorporated when business value, customer value, and societal value is created simultaneously. Since business value and customer value is the natural focus of businesses (Harmon & Demirkan, 2012), the societal value can be used to indicate where sustainability has been incorporated.

Our investigation shows that this view of sustainability is shared by the case companies. In discussions concerning sustainability practices, the case companies are exemplifying incorporation of sustainability by pointing out how societal value has been created. In these discussions, societal value refers to when a positive impact on society or on the environment is increased or a negative impact on society or environment is decreased. Typical examples are economic growth in a community or a decrease of carbon emissions. (Accenture, 2014 b; CGI CSR & Environmental Coordinator, 2014; Capgemini , 2013; IBM, 2012; IBM Corporate Citizenship Manager, 2014; ÅF Head of Sustainability, 2014)

Even though societal value is used as an indicator for sustainability, it is important to remember that sustainability by definition is reached when a balance of all three value dimensions are created. This means that there also needs to be business arguments for when societal value is created. Head of Sustainability at ÅF describes this balance by saying that they need to create value for ÅF, create value for the customer and a create value for society at the same time (ÅF Head of Sustainability, 2014). The same perspective is conveyed by the Corporate Citizenship and Corporate Affairs Manager at IBM who states that sustainability should be about finding the mutual benefit for the company and society; there must be arguments from a business perspective (IBM Corporate Citizenship Manager, 2014).

Following the discussion in the theoretical framework, services are suitable to view in form of activities (Grönroos, 1990, pp. 28-29) and in order to break down ITPS firms in

activities, the Value Shop (Stabell & Fjeldstad, 1998) can serve as a suitable basis. However, adjustment will have to be made as the categorization and analysis we are aiming for in this study has a broader scope than what the Value Shop is meant for.

Our analysis is including four steps to answer the research questions of this study and fairly reflect how ITSPs have incorporated sustainability into practices:

- Identifying the activities where sustainability has been incorporated by identifying the activities that are creating societal value
- Categorizing these activities according to the Value Shop Model
- Adjusting and remodeling the Value Shop model to fairly reflect the empirical findings
- Describing the business arguments and implications of undertaking these activities

The outcome of this is described in the following chapters and thereby describes how ITSPs can incorporate sustainability into their business practices. Also, the following chapters will show how each part of the Sustainability Value Model is constructed by remodeling and adjusting the Value Shop model according to the analysis of the empirical findings.

4.1 The main Categories: Direct and Indirect Impact

We see that when the ITSPs present how they are working with sustainability they all make a clear distinction between two categories that creates societal value; what they are doing to become more sustainable and how they are enabling their customers to be more sustainable. (Accenture, 2014 a; Capgemini , 2013; IBM, 2013; Infosys, 2013)

In the ITSP's sustainability reports the majority of the case companies, apart from reporting own sustainability performance, include a category describing cases where they have helped their customers in becoming more sustainable and thereby had an indirect impact on society (Capgemini , 2013; Infosys, 2013; IBM, 2012; Accenture, 2014 a). Infosys make a distinction between making your own business sustainable and your clients business sustainable (Infosys, 2013) and even though the formulation varies, similar labeling is made by the other companies. The sustainability leaders at Accenture and IBM say that the societal value they create via their customers is a significant part of their contribution to society (IBM Diversity Leader, 2014; Accenture Head of CSR, 2014). Head of Sustainability at ÅF agree and say that "it is through our customers we can make the biggest difference" and emphasizes that more weight should be to be put on the indirect societal value companies can create via their customers. (ÅF Head of Sustainability, 2014)

This distinction between direct and indirect impact on society in the context of IT has been pointed out in previous research (Hilty, 2008; Zapico J. , 2013). That there is a huge potential for societal value creation in how ITSPs can enable others to improve their

performance is also well-known in earlier research (Zapico J. , 2013; The Boston Consulting Group, 2012).

When addressing how ITSPs can incorporate sustainability, both existing literature and our investigation indicate the need to categorize the activities where societal value is created, and sustainability incorporated, in two main categories; one for the direct impact from the company itself and one for the indirect impact that these companies have through their customers.

4.1.1 Constructing the Sustainability Value Model

When determining that activities needs to be divided into two main categories it is tempting to see these categories as interchangeable with the support and primary activities in the Value Shop, but exchanging the categories point-blank would not reflect the essences of what the Sustainability Value Model wants to convey.

The Sustainability Value Model needs to emphasize that there are those activities where ITSPs have a direct impact on society and those where they have an indirect impact via their customers. In order to ensure that the Sustainability Value Model reflects this important distinction, these two main categories will constitute the foundation for the model. "Internal Operations" will include those activities that has a direct impact on society from the provider, while "Customer Offerings" will include the activities that has an indirect impact on society via the customer (see Figure 12).
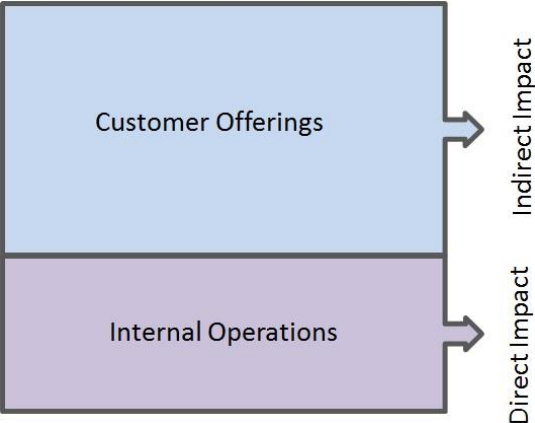

Figure 12 The two main categories in the Sustainability Value Model

To describe how ITSPs can incorporate sustainability in their business practices we will go further into the two main categories of the Sustainability Value Model in the following chapters.

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5 Sustainability Incorporated into Internal Operations

The category Internal Operations (see Figure 13) describes how sustainability can be incorporated in internal activities in order to improve the ITPS' direct impact on society.
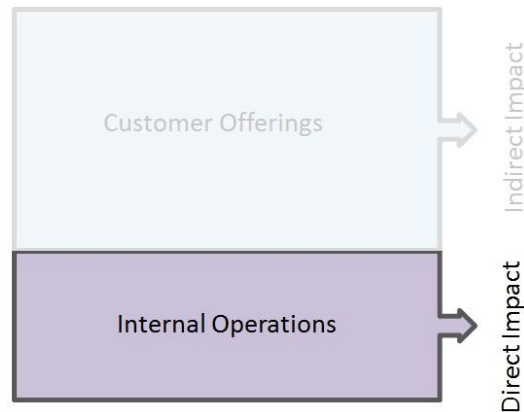
Figure 13 In focus: Internal Operations

In order to bring forward the most important activities, main categories are further broken down into sub-categories to better show how ITSPs can incorporate sustainability. The support categories in the Value Shop serve as a frame of reference for sub-categories as they are describing the internal activities of a professional service firm, such as ITSPs (Stabell & Fjeldstad, 1998). As we want to reflect the empirical findings from our investigation, adjustments are made to the sub-categories to capture the most prominent activities that the ITSPs are undertaking to improve their direct impact on society. How the support activities of the Value Shop are adjusted in order to fairly reflect the findings in the Sustainability Value Model is visualized in Figure 14.
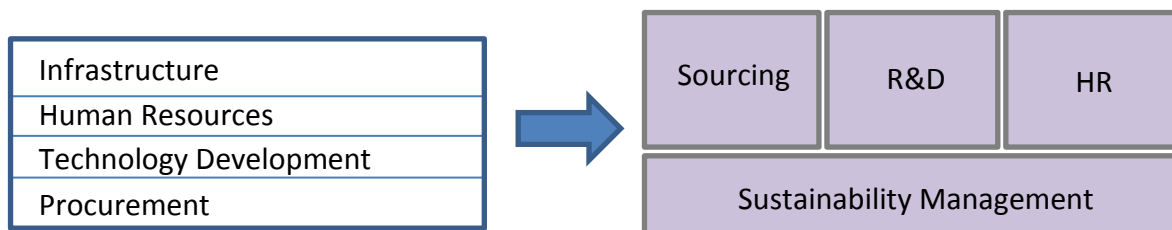
Figure 14 Visualization of how the support activities in the Value Shop (left) are adjusted to construct the Sustainability Value Model (right)

The following sections will motivate these adjustments, as well as provide a more detailed description of the activities that the ITSPs are undertaking in order to create societal value within these categories. In the end of the chapter, arguments for undertaking these activities from a business perspective are discussed.

5.1 Managing Sustainability

In the support activities used in the Value Shop (Stabell & Fjeldstad, 1998), there is an overlying category of activities called *Infrastructure. Infrastructure* is described as

overhead activities that support the entire value creating phase rather than something that can be put into specific activities, with examples as general management and planning (Porter, 1985). Our investigation shows that when managing the incorporation of sustainability within a company there is also a need for a similar overhead category. For all parts of sustainability incorporation in Internal Operations, governance, planning, controlling, communicating and reporting are necessary components.

A commonly used standard for environmental management is ISO14001 which includes certification requirements such as policies, planning, checking and management reviews (International Organization for Standardization) indicating that this type of governance is important when working with sustainability. This is also confirmed by the companies that talks about it as a vital part of sustainability work (Capgemini , 2013; Infosys, 2013; IBM, 2012).

Our analysis shows that there are two types of activities that fit in the overlying category, as neither of them can be assigned to a specific part of the company, which are here called Sustainability Performance and Engagement.

5.1.1 Sustainability Performance

In the Sustainability Value Model, Sustainability performance includes those activities that is easier to measure, that often is controlled and included in standards and evaluations. When the company EcoVadis evaluates companies' sustainability performance they include environmental, social and ethical aspects in their evaluation (EcoVadis CSR Analyst, 2014).These are aspects that the ITSPs' include in their sustainability reports as well (Capgemini , 2013; Accenture, 2014 a; IBM, 2012; Infosys, 2013). All parts of a company contribute to the sustainability performance, therefor this needs to be governed on an overhead level.

5.1.2 Engagement

The second overlaying category that should be included in Sustainability Management includes philanthropic activities. Engagement does not get included when measuring sustainability performance from external auditors like EcoVadis, but is still a category of activities that most of the companies are undertaking (EcoVadis CSR Analyst, 2014; IBM, 2012; Accenture, 2014 a). Examples of this engagement are giving monetary support, donating resources to research or supporting local communities. Engagement cannot be attributed to a particular internal activity as it often undertaken in an overhead level and relates to many activities in the company. Even though most of the companies are making some strictly monetary donations (2014; IBM Corporate Citizenship Manager, 2014; ÅF Head of Sustainability, 2014) this is not the type of engagement they want to emphasize. Instead a trend of donating skills, or "what they are good at" has emerged and there are many examples of how the companies are donating services of different types (Accenture Head of CSR, 2014).

5.1.3 Summary: Sustainability Management

Both sustainability performance and engagement are categories that can be traced to any activity throughout the company, and should therefore lie in an overhead level. If sustainability management is seen as an overhead category that includes governance, control, and reporting this can then be divided into the sub-categories of sustainability performance and engagement. Sustainability Management will constitute the first building block in the Sustainability Value Model (see Figure 15).

Figure 15 The building block of Sustainability Management

5.2 Sustainability in Sourcing

In the Value Shop (Stabell & Fjeldstad, 1998), the category of *Procurement* is defined as the function of purchasing inputs used when adding value to a product or service (Porter, 1985, p. 41). Our analysis shows that this category is also important when looking at how ITSPs incorporate sustainability into their practices. However, the definition of Procurement used in the Value Shop excludes input that is not purchased. Also, it is not highlighting the importance of the source of the obtained input, which according to our analysis has an important role for sustainability in ITSPs practices.

In order to include these aspects in the Sustainability Value Model, one of the sub-categories of Internal Operations is labeled "Sourcing" and includes activities where sustainability can be incorporated in relation to obtaining input for company operations. We identify three prominent areas that fall under the definition of Sourcing; *Sustainable Procurement*, *Supply Chain Diversity,* and *Choosing Sustainable Raw Materials.* The following sections will go further into how sustainability is incorporated in these areas.

5.2.1 Sustainable procurement

Our analysis shows that taking responsibility for the impact of the supply chain is a critical factor in incorporating sustainability for ITSPs.

The concept of "Sustainable Procurement" is widely adopted amongst the case companies, which means adopting a method to control the sustainability performance among their suppliers. (Accenture, 2014 a; IBM, 2012; Infosys, 2013; Capgemini , 2013),

Capgemini calls their process "Sustainable Procurement in Partnerships" and describes it as reviewing every category of goods and services procured from suppliers in terms of the risk of impact on the company's sustainability performance or if it is subject to any

laws or regulations (Capgemini , 2013). Similar processes are described in all of the case companies' sustainability reports. The performance is reported by using a percentage of suppliers that have complied to supply chain standards and giving account for what measures are taken towards those suppliers that have not. (Accenture, 2014 a; Capgemini , 2013; IBM, 2013; Infosys, 2013) The sustainability auditing company EcoVadis includes the supply chains performance when rating companies' sustainability performance (EcoVadis CSR Analyst, 2014) meaning that it has a direct impact on the sustainability rating of a company. It could be argued that the supply chain is not contributing to the direct impact from the provider, but as the performance of the supply chain has become such a necessary part of controlling sustainability performance and is regarded as the responsibility of the provider, we have chosen to include it in the Sustainability Value Model as an important part of how ITSPs can incorporate sustainability into their business practices.

5.2.2 Supply chain diversity

Our analysis shows that an initiative that gets increasingly large attention from several of the ITSPs is the concept of "Supply Chain Diversity".

As activities to increase diversity throughout a company is often presented as creating societal value by contributing to an inclusive a non-discriminating society (IBM, 2012; Accenture, 2014 a; Capgemini , 2013), it is not surprising that this has stretched to include the supply chain as well. IBM (IBM, 2014 a) presents efforts in creating supply chain diversity by showing how many suppliers they have that, according to IBM, have been traditionally left out in the economic mainstream as a way of showing their commitment to fostering diverse societies. What types of suppliers these are will differ from country to country but as examples from the U.S. this includes women, blacks, Native Americans, GLBT (Gay Lesbian Bi Transgender), and people with disabilities (IBM, 2014 b). Accenture describes similar efforts by presenting programs to actively choose and support female suppliers or suppliers of ethnic minorities and argues that this contributes to economic growth in local communities (Accenture, 2014 a).

5.2.3 Clean raw material

Similar to a production process of a physical product, the "raw materials" used in producing an IT-service have considerable significance when looking at the direct impact of an IT-service provider. However, determining what the "raw material" is when producing and delivering IT-services is slightly more complex compared to a physical product. To capture the intangible characteristics of services it is easier to view raw material in form of "input". By using this interpretation, we find that there are two types of inputs that carry more weight than others in the operations of ITSPs; electricity and data capacity. Ensuring that these inputs are "clean" can have a large impact on a ITSPs sustainability performance.

Capgemini states that their main environmental impact comes from office electricity and data centers (Capgemini , 2013) and the same conclusion can be drawn from other

companies' sustainability reports as well (Accenture, 2014 a; IBM, 2012). A lot of reporting put focus on how efficient data centers are, and are in that way focusing on the decrease in energy consumption as creating societal value. However, during the latest years the pressure on data centers to go further has increased. The report "How dirty is your data?" published by Greenpeace in 2011(Greenpeace International, 2011) emphasizes that it is not sufficient for ITSPs to make their data centers efficient; they must also prioritize the choice of clean energy if they want to call their data centers sustainable.

The increasing pressure is leading to that incorporating sustainability into the choice of input is often about accessing clean energy sources. Many of the companies we have investigated are presenting efforts of using an increasing amount of renewable energy in data centers (IBM, 2012; Capgemini , 2013) and facilities (Accenture, 2014 a).

5.2.4 Summary: Sourcing

Sustainable Procurement, *Supply Chain Diversity,* and choosing *Clean Raw Material* make up the first building block of the Sustainability Value Model (see Figure 16) as our analysis shows that these areas represent the most prominent activities in how the ITSPs are incorporating sustainability in the category of Sourcing.

Figure 16 The building block of Sourcing

5.3 Sustainability in Research and Development (R&D)

Technology development in the value shop is described as activities that can broadly be grouped into efforts to improve product and process (Stabell & Fjeldstad, 1998). Our analysis shows that research in the sustainability area has an important role in incorporating sustainability in business practices for the ITSPs. Even though the definition of *Technology development* would include research activities as well, we are calling this sub-category "Research and Development" and define it as activities associated with improving services and processes, to ensure that both the research and the development part gets highlighted.

In the category of Research and Development, our analysis identifies two main focus areas; *Sustainable Processes* and *Research in the Sustainability Area.*

5.3.1 Sustainable processes

We find that to increase sustainability performance, different types of processes throughout the case companies are developed and made more sustainable.

Many of the ITSP's bring up that developing the way of working and internal processes are an important aspect of incorporating sustainability. For ITSPs it is mainly about reducing travel and the use of resources. (Accenture Head of CSR, 2014; CGI CSR & Environmental Coordinator, 2014) A typical example found in sustainability reports that confirms this, is that the companies report how much investments that has been put into collaboration platforms to reduce travelling or developments that has been made to facilities in order to be more energy efficient, highlighting the societal value in decreasing carbon emissions (Accenture, 2014 a; IBM, 2012).

5.3.2 Research the sustainability area

Our analysis shows that researching sustainability related areas is an important activity for almost all of the companies investigated, both to understand how to improve their own sustainability performance and as a way to contribute to society with knowledge in the area (IBM Corporate Citizenship Manager, 2014; Accenture & UN, 2013).

5.3.3 Summary: R&D

Research Sustainability Area and *Sustainable Internal Processes* represents the most prominent areas in how the ITSPs incorporate sustainability in activities associated research and development and therefore make up the building block of R&D in Internal Operations (see Figure 17).
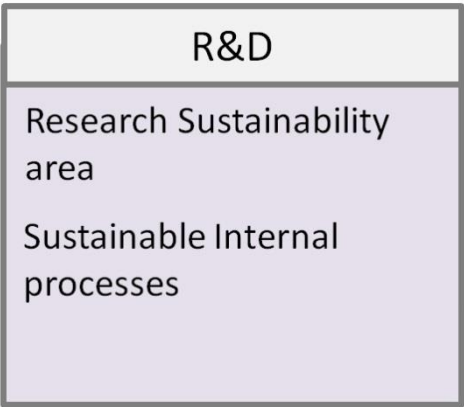

Figure 17 The building block of Research and Development

5.4 Sustainability in Human Resources (HR)

The companies all consider their employees to be one of their most, if not the most, important resource. Accenture's CSR leader and IBM's corporate citizenship manager both expresses that their people are their main asset (IBM Corporate Citizenship

Manager, 2014; Accenture Head of CSR, 2014), an opinion also shared by researchers in the service area (Normann, 2002; Stabell & Fjeldstad, 1998). Managing this resource is therefore an extremely important activity in these companies and incorporating sustainability in this activity therefore is of great significance.

There are three main points that these companies bring up as incorporation of sustainability in relation to Human Resources; *Ensuring Employee Well-being, Impact of the Employee,* and *Diversity*

5.4.1 Ensuring employee well-being

Health, safety, working conditions, and training for employees are aspects that usually gets included when evaluating the sustainability performance of any company and therefore also for ITSP's (EcoVadis CSR Analyst, 2014). One can assume that professional service companies focuses on training and development of their employees, as their competence is a crucial part in the value they are offering to their customers, (Normann, 2002, pp. 89-99) which is also confirmed by the company representatives in our investigation (Accenture Head of CSR, 2014; IBM Corporate Citizenship Manager, 2014). Another aspect that many of the companies are bringing up as examples to employee well-being is giving their employees the opportunity to engage at their workplace (IBM Corporate Citizenship Manager, 2014).

5.4.2 Impact of the employee

The biggest environmental impact of ITSPs is often due to office electricity consumption and employee travels (Accenture, 2014 a; Capgemini , 2013). One part of this issue is addressed in Research and Development where new processes are developed to minimize energy use and travel. The other part of the problem is the users, meaning the employees in the company. Almost all the companies in our investigation have initiatives that aim to increase the awareness and affect the behavior of their employees in order to create societal value by decreasing the negative impacts on the environment. Accenture has a tool called "My travel summary", described as an initiative to make their employees aware of their impact of carbon emissions and to encourage them to use virtual meeting technologies (Accenture, 2014 a). Similar initiatives can be found in the other companies as well where the efforts go from basic educational programs to competitions and challenges (IBM, 2012; Infosys, 2013).

These companies are also taking credit for their employee's behavior by reporting posts as "employee contribution" (IBM, 2012; Accenture, 2014 a). Accenture for example reports how much money their employees donated in forms of salary reductions or hours of volunteering (Accenture, 2014 a). We see that by creating awareness and encouraging employees to contribute, ITSPs can have a big impact through their employees.

5.4.3 Workforce diversity

Our investigation shows that all of these companies make a commitment to contributing to a non-discriminating and inclusive society as a way to create societal value. This commitment can be seen both in activities in the supply chain but also in how the ITSPs in different ways are working towards a diverse workforce within their own organization.

Culture, race, sexuality and disabilities are included in diversification (IBM Corporate Citizenship Manager, 2014). However, we see that the most common activities in creating a diverse workforce is working towards gender equality and therefore a common measurement for controlling sustainability performance is percentage of women in different levels in the company (IBM, 2012; Accenture, 2014 a; Capgemini , 2013).

IBM has long been known for their commitment to diversity and is still strongly profiling as a workplace that highly values diversity (IBM Diversity Leader, 2014). Activities to reach equality targets often aims to empower female talents within the organization using sponsored mentorships and training programs. This way, IBM can create female role models and foster female talents. (IBM Diversity Leader, 2014) Similar activities can be found in several of the case companies (Accenture, 2014 a; Capgemini , 2013)

5.4.4 Summary: Human Resources

In activities associated with managing human resources, our analysis identify three areas as the most prominent examples of where societal value can be created; *Employee well-being, Impact of Employee,* and *Diversity*. These three areas make up the building block of "HR" in Internal Operations (see Figure 18).

Figure 18 The building block of Human Resources

5.5 Business Arguments and Implications

The examples of activities described in Internal Operations are all creating some kind of societal value. To argue that these activities are ways of incorporating sustainability they must also include business and customer values. In this section the business and

customer values are explored by looking at what the implications of undertaking these activities are for the ITSPs.

5.5.1 Health check level

Our analysis shows the activities described in Internal Operations are often about risk mitigation, for both the provider and the customer, and that there is a certain level that needs to be reached to avoid risk.

Complying with laws and regulations is the most basic step, and few of the companies are talking about this as sustainability as it is more a condition for companies to exist. Instead, we find that the companies regard many of above discussed activities as constituting a level of "health check" that they need to reach. (ÅF Head of Sustainability, 2014) The "health check"-level is determined both by a notion of that you "need to do what the competitors are doing" and that it is considered a risk for the customer if you are not doing it (CGI CSR & Environmental Coordinator, 2014). According to EcoVadis' reviewing system, a low score in a sustainability rating in any of the categories transfers a risk to your client (EcoVadis CSR Analyst, 2014). Both IBM and Accenture express that many of the activities in Internal Operations, is about reaching the level you need to be on in order to "stay in the game" (Accenture Head of CSR, 2014; IBM Corporate Citizenship Manager, 2014). If you are at a lower level than your competitors you are out of the game (CGI CSR & Environmental Coordinator, 2014).

A good example of the risk aspect is in regards to sourcing of data capacity and the focus that has been put on data centers lately. As an ITSP today, not understanding the weight that the choice of raw material has on sustainability increases the risk of being criticized. Facebook is an example of a company that got heavily criticized for their "dirty" data centers powered by fossil fuels (Greenpeace, 2011). As a result, Facebook announced that they are moving away from coal power and instead invested in a new data center in Luleå in Sweden which is completely run by renewable energy and cooled with outside air (Facebook, 2013).

Not reaching the health check levels can make an ITSP lose customers in procurement processes, these activities are therefore undertaken to decrease that risk (Green IT expert, 2014). Not fulfilling the health check level would also constitute a risk for the customer, as the customer also gets reviewed on the sustainability performance of its suppliers (EcoVadis CSR Analyst, 2014). In conclusion, it is about building trust towards your customer and ensuring them that you will not constitute any risk to their supply chain.

5.5.2 Going beyond the health check level

We also see that there are examples of activities where companies go further than what is required in order to reach the health check level. Going further does not give any particular advantage in the general procurement process (Green IT expert, 2014), but there are still many examples of when companies are doing this as they have found other business arguments.

An example is when discussing the reasons for why companies are including Supply Chain Diversity when presenting how sustainability is incorporated in their practices. It is clear that this is not for the same risk mitigating reasons as for example Sustainable Procurement and it is not included in sustainability ratings (EcoVadis CSR Analyst, 2014). IBM states that one of the reasons they are striving for supplier diversity is because a diverse supplier base is integral to company profitability and strategic objectives (IBM, 2014 a). The same argumentation is used when talking about diversity in the workforce, there is a compelling agreement that diverse teams perform better than homogenous teams and therefore striving for diversity beyond what is required as a health check level is good for the company (Accenture Head of CSR, 2014; IBM Diversity Leader, 2014).

There is also a large amount of employer brand value involved in these activities. As an ITSP today you need to show your engagement in sustainability matters if you want to be able to recruit and retain the best people. This is a crucial matter since both the case companies (Accenture Head of CSR, 2014; IBM Corporate Citizenship Manager, 2014) and existing research (Normann, 2002, pp. 89-99) agree on that the employees are the most important resources in these types of knowledge intensive companies.

It is important to notice that where the health check lies and what it here discussed as going beyond that level differs from country to country and is also changing quickly. As an example, Head of Sustainability at CGI Sweden says that as an ITSP in Sweden, it is not an option to have anything but renewable energy in you data centers today but in other countries the pressure is not as high (CSR & Environmental Coordinator CGI Sweden, 2014). The companies also express how the health check level is continuously rising as consumers are getting more aware (Accenture Head of CSR, 2014). Therefore, the incorporation of sustainability in internal activities need to always ensure that you have a readiness to stay above the health check level in first hand before you can start thinking about other positive outcomes of sustainability work.

5.6 Constructing the Sustainability Value Model: Internal Operations

According to our analysis, the implications of the activities within Internal Operations is firstly about reaching the health check level to mitigate risk and secondly to find other positive outcomes as employer branding and workforce development. Fulfilling the health check level and showing awareness in sustainability related questions is about building trust. However, the level of health check is constantly getting higher, and more and more effort is needed in order to obtain this trust.

The building blocks presented in this chapter make out the first part of the Sustainability Value Model, they have a direct impact on society from the company and is an important part of building trust towards their customers. This is visualized in Figure 19.
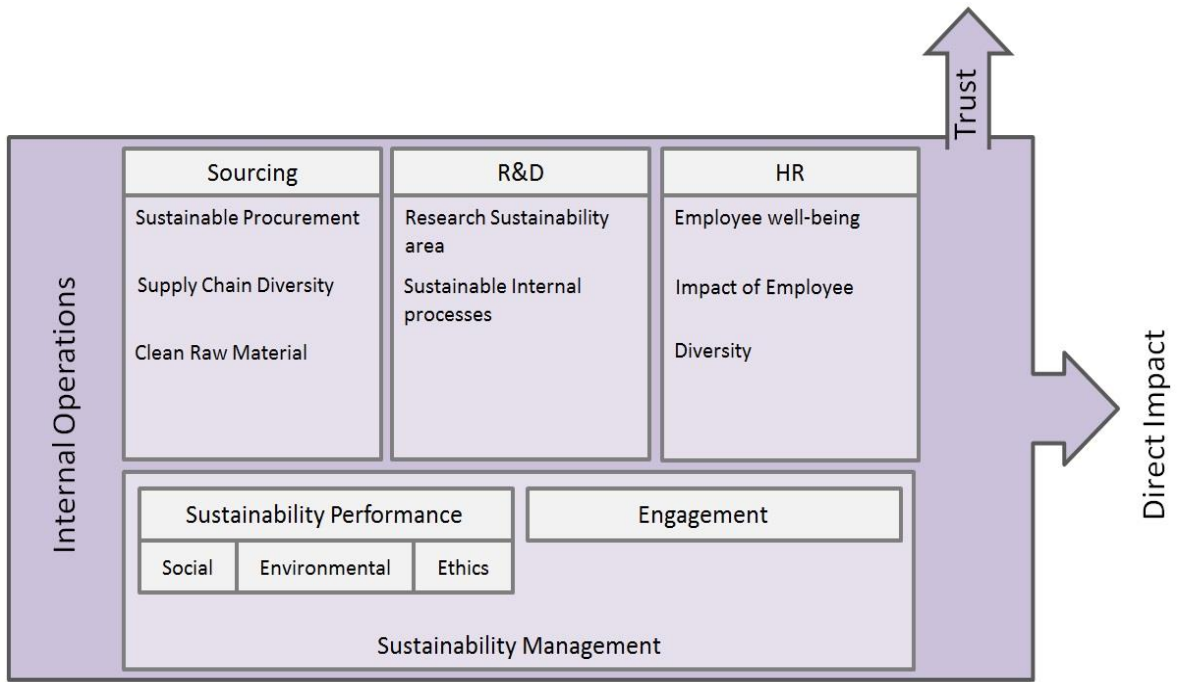
Figure 19 The main category Internal Operations in the Sustainability Value Model

Figure 20 In focus: Customer Offerings

6 Sustainability Incorporated into Customer Offerings

The category Customer Offerings describes how sustainability is incorporated in activities that have an indirect impact on society via the customers. In order to analyze the most important activities where this occurs, the primary activities in the Value Shop will serve as a frame of reference for categorization. Primary activities are suitable for this purpose as they include activities where the provider interacts with the customer when delivering a service (Stabell & Fjeldstad, 1998). However, our analysis shows a high level of complexity when incorporating sustainability into customer offerings. To describe this there is a need to show connections between primary activities and the internal activities that supports them. To show these internal activities the categorization argued for in previous chapter is used (see Figure 21).
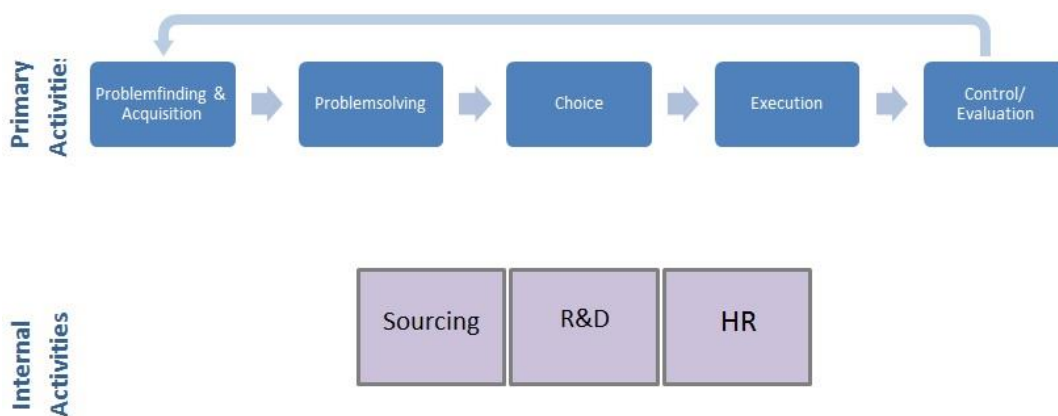

Figure 21 Categories of supporting internal activities and primary activities

The following sections will go into the activities the ITSPs are undertaking in order to create societal value within customer offerings as well as the implications of doing this.

Throughout the chapter the second part of the Sustainability Value Model, the category of Customer Offerings, will be constructed and motivated for.

6.1 The 3-Level Map

Our investigation shows that the ITSPs have incorporated sustainability into customer offerings to different extent. Interviews with company representatives suggest that ITSPs face certain challenges in incorporating sustainability to the fullest.

Existing research discusses the increased complexity for ITSPs in understanding how to address the full range of their customer's sustainability related issues and that they are poorly prepared to address these issues with their services. This is referred to as a communication gap between ITSPs and their customer. (Harmon & Demirkan, 2012) Both previous research and our empirical findings show that incorporating sustainability into customer offerings is a complex category of activities where a more thorough investigation is needed.

The 3-level map (see Figure 22) has been developed to deal with this complexity. It shows a way to categorize and analyze the three levels of incorporating sustainability into customer offerings as well as provides guidance in what is needed in order to incorporate sustainability to different extent. The 3-level map will be described and motivated for in the following chapter.
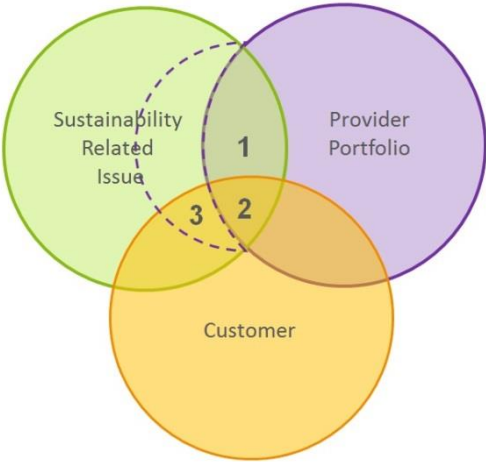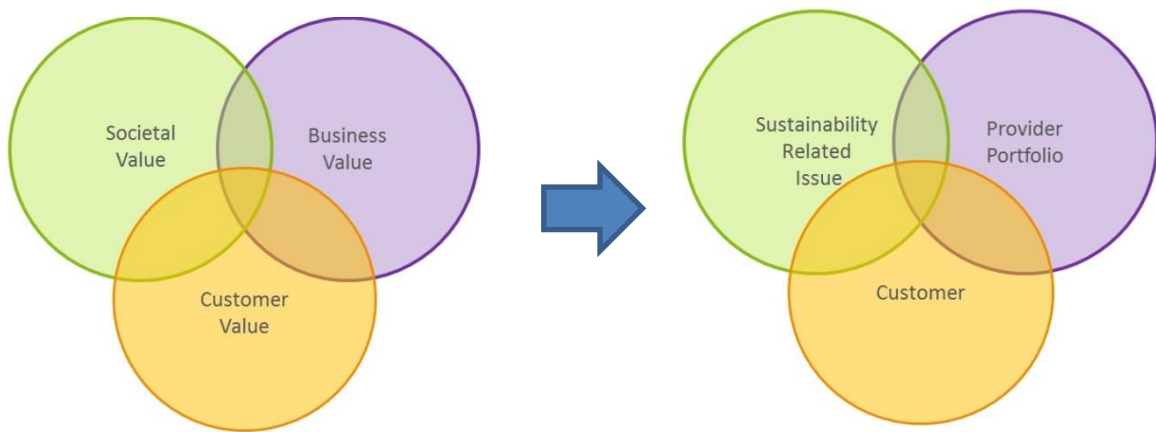

Figure 22 The 3-level map

The definition of sustainability in our study is where societal value is created and balanced with the creation of customer and business value. This definition is used when investigating how sustainability has been incorporated into customer offerings. However, to better discuss sustainability in the context of customer offerings an additional interpretation is made to better reflect reality. Our investigation shows that ITSPs are creating societal value by addressing sustainability related issues with services from their portfolio. This is therefore what will be considered as incorporating sustainability in customer offerings and constitutes the basis for the 3-level map (see Figure 23).

Figure 23 Visualization of how the theoretical concept of sustainability has been adopted within Customer Offerings

The three levels in the 3-level map have been given numbered labels to describe to what extent sustainability is incorporated into customer offerings (see Figure 22). Below is an overview of the three levels:

- **Level 1: Connecting societal value and customer offerings**
- **Level 2: Connecting societal value to customer value**
- **Level 3: Develop new services to a larger market**

The following sections will go through each of the levels in the 3-level map. Based on the arguments made, the adjustments to the Value Shop will be motivated for and the Sustainability Value Model further constructed.

6.2 Level 1: Connecting Societal Value and Customer Offerings

In level 1, existing services that create societal value are identified and the connection communicated. In Figure 24, this is visualized in finding area 1 where current customer offerings and sustainability issues overlap.
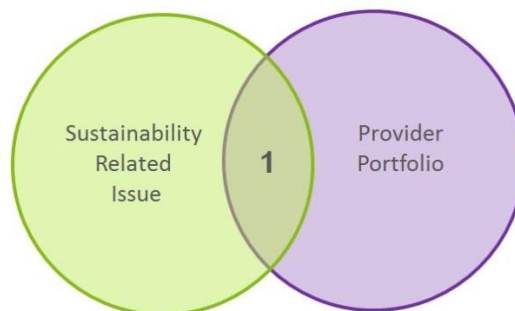
Figure 21 The 3-level map: Level 1

The following sections will present in more detail how this can be done and why this is beneficial for ITSPs.

6.2.1 Finding the overlap: Area 1

Our findings show that the ITSP needs to identify customer offerings within their existing portfolio that creates societal value, bundle those together and communicate the indirect impact on society that the ITSP have via their customer.

Our analysis shows that this approach has been used by the case companies in order to build parts of what is communicated as sustainability portfolios or sustainability concepts (Infosys, 2014; Accenture, 2014 b; IBM, 2013; Capgemini, 2014). Using this portfolio or concept they display a bundle of what will here be referred to as sustainability services offered by the company. As a result of this approach, many of the services found in the portfolios or concepts are services that have been offered by ITSPs long before they got labeled as sustainability services, the difference is that the societal values are being articulated.

This is reinforced by Accenture's CSR Lead who says that services that are now called sustainability services they offered 15 years ago and that this type of labeling is something ITSPs started with a few years ago. It is just about bringing forward new kinds of values. (Accenture Head of CSR, 2014) Corporate Citizenship Manager at IBM describes that an important part of building a sustainability portfolio is identifying and including the offerings that will make usage of resources more efficient (IBM Corporate Citizenship Manager, 2014).

We draw the conclusion that incorporating sustainability into customer offerings is not necessarily about creating new services, but rather about identifying the connections between the existing portfolio and societal values. This is visualized in Figure 24 as the overlapping area marked 1.

6.2.2 The embedded societal value in IT services

After concluding that ITSPs need to identify the societal value created by their services, the question is how. We see that the ITSPs firstly need to gain knowledge regarding what societal value is, and secondly understand if, and how, this is created by any of their services.

There is research on the subject that identifies the societal value in IT services. Services that delivers increased energy efficiency is often emphasized as one of the most important types of services where IT can have a positive impact on society via customers. Energy efficiency is nothing new to the IT industry, but has rather been an aim for IT services long before sustainability was on the table. (Zapico J. , 2013; The Boston Consulting Group, 2012)

Additionally, dematerialization in form of transforming physical products to virtual services or "presence dematerialization" where services can replace a physical presence such as videoconference calls or e-banking, are also referred to as typical services that have a positive impact on society (Zapico J. , 2013). Creating this type of societal value is

said to be where the IT industry may have the greatest potential of having a positive impact (The Boston Consulting Group, 2012).

Our analysis shows that ITSPs align with the research in where they have identified societal value in their services. In our investigation, the most recurring argument for why an IT service qualifies as a sustainability service is decreased energy usage due to optimization. Other benefits are decreased use of resources by dematerialization and improved working conditions for employees that come with a flexible workplace. CSR and Environmental Coordinator at CSR (2014) points out that IT has always aimed for resource efficiency and the IT industry is a very energy driven industry and therefore, a lot of cost driven development for energy efficiency is occurring naturally. She says that ITSPs can easily draw the benefits of this fact by reflecting the positive environmental to the clients as an added value (CGI CSR & Environmental Coordinator, 2014).

We draw the conclusion that ITSPs have a large potential in identifying societal value in their services as it is often naturally embedded in IT. Following our analysis, it is suggested that this activity therefore can be a fairly effortless activity. This is confirmed be The Green IT expert who calls this type of re-labeling of services a passive and therefore relatively effortless activity which could be done on a high-level within a company without any larger investments (Green IT expert, 2014).

6.2.3 How to communicate and the importance of communication

After identifying the sustainability services, our investigation shows that it is important to articulate and communicate the societal value delivered through the services.

Head of Sustainability at ÅF (2014) states that communication is an essential part of all sustainability work. Despite ambitious efforts, you will not be considered as sustainable if no one knows what you are doing. She says that "sustainability is not something that needs to be invented", and that she knows ÅF is already delivering societal value in their everyday work with clients. (ÅF Head of Sustainability, 2014) By looking at the case companies' communication channels, we find clear indications that similar attitudes exists among the ITSPs as well. This is what the ITSPs do when they are gathering all services that deliver a societal value in sustainability portfolios or sustainability concepts (Infosys, 2014; Accenture, 2014 b; IBM, 2013; Capgemini, 2014). These portfolios or concept are communicated through websites and reports together with descriptions of how the service will have a positive impact via the customer. This is often strengthened by showing successful client projects that serves as examples.

In conclusion, we find it apparent that all of the ITSPs manage to incorporate sustainability into customer offerings by identifying societal value in existing customer offerings and communicating the connection, and thereby reaching level 1.

6.2.4 Summary and outcome: Level 1

To summarize, being successful in the first level is fairly effortless and can be done successfully at a high-level carrying out internal activities here included in the category

of R&D for Customer Offerings (see Figure 25). The first level is dependent on that the company undertakes the following activities:

- General analysis of the sustainability area to understand sustainability related issues and what societal values could be created
- Internal analysis of the existing customer offerings to see which of those issues and values the company could address
- Evaluate and measure societal value in existing offerings
- Package the services that creates societal value together so they can be communicated in suitable channels
- Communicate this externally
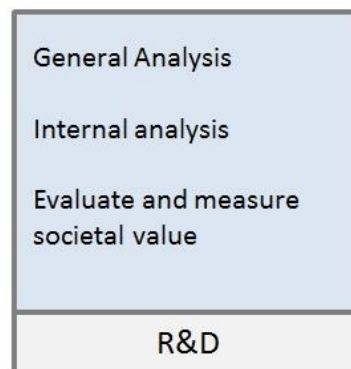
Figure 22 Summary of required activities to reach level 1

As previously mentioned, societal value needs to be balanced with customer and business value. To describe this balance the following section will discuss what the outcome of this first level is.

6.2.5 Outcome: Level 1

Our analysis shows that the outcome when successfully reaching level 1 is not increased sales of the sustainability services. However, the image of being a competent and sustainable company will be strengthened.

The Green IT expert (2014) describes the re-labeling of old services in this way a passive and relatively effortless activity. Articulating the societal value will only add an argument to buying the service, but no actual value is added in comparison to before. Therefore, customers will buy the service for the same reason as before and as a result the provider will not notice any increase in sales. Both IBM and Accenture confirms our conclusion by saying that their customers still prioritizes cost and time the highest (2014; IBM Corporate Citizenship Manager, 2014) making the societal value of the service something that is nice to have but not more.

The fact that this first level does not increase sales has been perceived to some companies as evidence that there is no demand for sustainability services (Green IT expert, 2014). This is, according to the Green IT expert (2014), an uninformed an

unfortunate conclusion as there is a demand, however companies do not meet this demand as no new value has been added.

We find that the motivation for these companies to develop these portfolios is that it serves as a way to show their competence in sustainability questions and thereby strengthening their profile. CSR & Environmental Coordinator at CGI expresses that showing societal value in a service is a way to improve the customers' view of you (CGI CSR & Environmental Coordinator, 2014). Packaging services by their ability to create societal value is a way of showing an awareness of the sustainability debate and be part of the discussion that is growing stronger in this industry (IBM Corporate Citizenship Manager, 2014). Head of Sustainably at ÅF agrees in this and says it may even be so that those who do the best job in articulating and communicating the societal value in services will be considered the most competent players (ÅF Head of Sustainability, 2014).

As an addition, our analysis determines that the activities carried out in level 1 is an important foundation if aiming to further incorporate sustainability into customer offerings and reaching level 2, which is also confirmed by CGIs CSR & Environmental Coordinator (2014).

6.2.6 Adjustment to the Value Shop:

Based on the findings adjustments are made to the Value Shop in order to construct the Sustainability Value Model that captures the essence of incorporating sustainability into customer offerings (see Figure 26).

Our analysis shows that specific activities need to be carried out internally within the company to succeed in this level. The company needs to obtain an understanding of the sustainability subject itself in order to know what to look for in their offerings. Depending on the company, this is an activity that could fall under the internal activity "R&D". Connecting existing offerings with societal value demands that existing and past projects are evaluated by measuring new types of values. This means that an exchange between "R&D" and the primary activity "Control and Evaluation" has to be made. Communicating the portfolio can be seen as part of "Problem Finding & Acquisition" as it is a way of strengthening the company profile towards customers. When these services and their value have been articulated this needs to be communicated in order to exploit the positive effects of a strengthened profile and to lay the grounds for level 2.
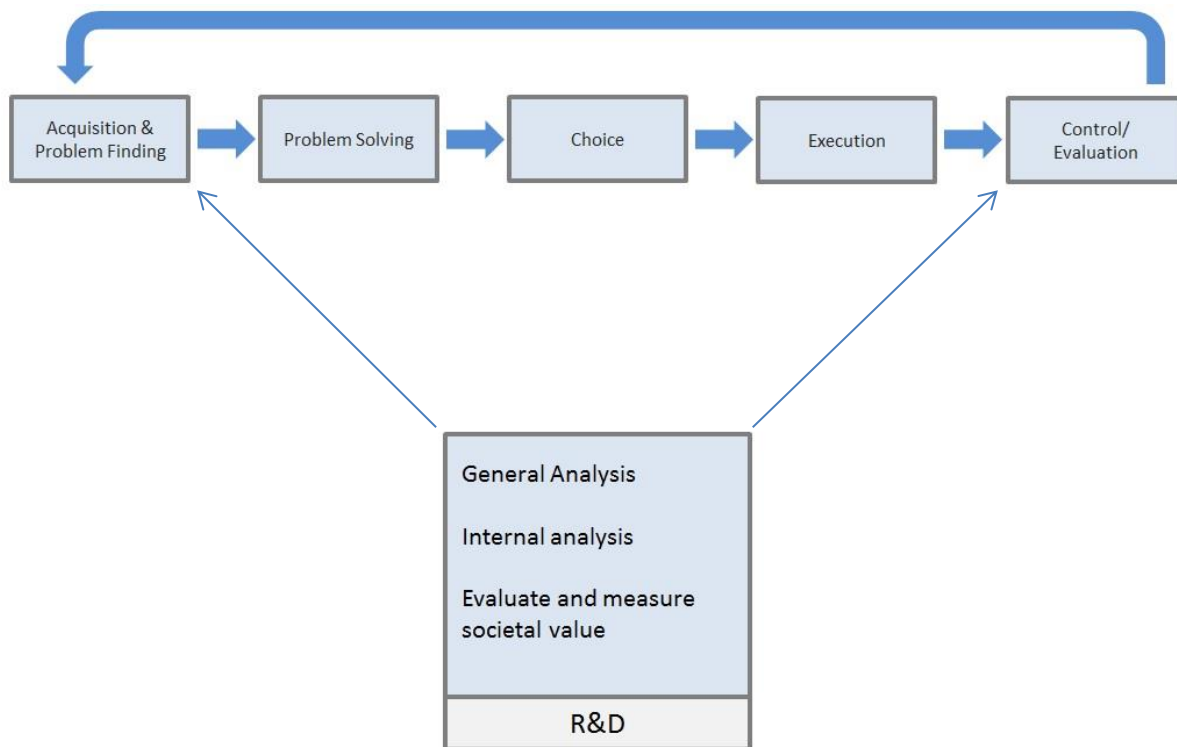
Figure 23 The internal activities that enable the primary activities in level 1

6.3 Level 2: Connecting Societal Value to Customer Need

If making the connection between sustainability and offerings is seen as a pre-requisite, according to our analysis the next level is to include the customer perspective, i.e. the customers' sustainability related risks and opportunities. In level 2, sustainability is incorporated into services to the extent that societal value created through existing customer offerings is connected to customer needs. In Figure 27, this is visualized in finding area 2 where current customer offerings, sustainability issues and customer need overlap.

Figure 24 The 3-level map: Level 2

The following sections will present in more detail how this can be done and why this is beneficial for ITSP.

6.3.1 Finding the overlap: Area 2

Our findings show that in a service delivery, there is almost always a sustainability perspective to be found, which is agreed upon by the CSR & Environmental Coordinator at CGI, the CSR Lead at Accenture, and the Green IT expert. The challenge is however to detect the sustainability perspectives that are valuable to the customer (2014; CGI CSR & Environmental Coordinator, 2014; Green IT expert, 2014).

The Green IT expert (2014) says that this is where many companies are neglectful by no considering or fully understanding the customer perspective. To sell sustainability, the ITSP must find the risks and opportunities their customers have, how IT solutions can help them avoid or exploit them and then making the customer aware about them (Green IT expert, 2014).

As mentioned earlier, existing research discusses the increased complexity for ITSPs in understanding how to address the full range of their customers sustainability related issues. Therefore they are poorly prepared to address these issues with their services. This is referred to as a communication gap between ITSPs and their customer. (Harmon & Demirkan, 2012)

We find that to further incorporate sustainability into customer offerings the provider has to understand the customer's sustainability related need and a higher level of complexity needs to be handled. In contrast to level 1, not many companies are successful in this step as it requires more effort. Those who manage to see where they can help their customers with sustainability related issues will have an opportunity for added sales (Green IT expert, 2014; ÅF PRS Services Manager, 2014).

The following sections will discuss how this can be done successfully.

6.3.2 Understanding sustainability related customer need

In existing research, services within the professional service industries are described as the customer approaching the provider since the provider knows something that the customer needs. This is called information asymmetry between provider and customer and is a condition for services to be sold at all. (Stabell & Fjeldstad, 1998)

Identifying and uncovering the customer's needs is sometimes called "hearing the voice of the customer". A challenge that many service providers face is that it might not be enough to only listen to what the customer says it needs because the customer will not always know what they need. Instead, providers need to learn about the customer and figure out what value should be provided to the customer. (Jaworski & Kohili, 2006)

In line with this, the Green IT expert (2014) puts words on what all interviewees are suggesting by saying that sustainability is new for everyone, both provider and customer, therefore a provider that wants to sell sustainability will have to both acquire

and sell knowledge. In conclusion, the biggest challenge is to identify the customer need as the customers will not be able to articulate the need by themselves. This realization then needs to be transferred to the customer, since everything depends on the knowledge and awareness of the one that will use the products (CGI CSR & Environmental Coordinator, 2014).

The reasoning in existing research and our empirical findings leads us to the conclusion that essence of level 2 is that "hearing the voice of the customer", unfolding customer needs, and educating the customer about them, are main factors for success in this level. The following sections will go deeper into discussing what methods the ITSPs have used to do this.

6.3.3 Interact with the customer to gain and share knowledge

According to our analysis, finding the value for the customer, and educating the customer about it, is something that needs to be done in close interaction with the customer, this has been visualized in Figure 28.
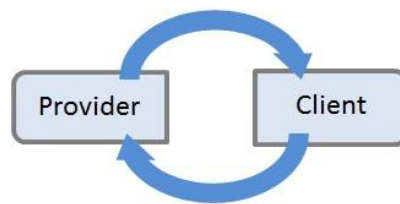

Figure 25 Illustrating interaction and knowledge-sharing between provider and client

Accenture's CSR Lead (2014) describes that sustainability is incorporated into services in discussions with the client and says that they are trying to encourage their employees to bring the sustainability perspective into the discussion when working together in any given project with customers.

A consultant at ÅF describes a situation where she, during an ongoing customer project, saw issues caused by unsustainable working conditions. She saw that the company had an opportunity to improve the working conditions for the employees while also decrease costs in the production line using an IT system. In this situation, she could translate the benefit of social sustainability aspects to cost reduction and sell a solution that solved the problem. (ÅF PRS Services Manager, 2014)

In this example, during an ongoing project the ÅF consultant gained knowledge about the customer's sustainability related issues and saw how current offerings could solve an identified problem. She could educate the customer about the problem and the benefits of a more sustainable solution and this way increase the sales for the provider.

CGIs CSR & Environmental coordinator summarize what we have seen in our investigation very well by saying that as an ITSP, you cannot identify clients'

sustainability related risks and opportunities by sitting alone in your office (CGI CSR & Environmental Coordinator, 2014). She stresses that it is risky to think that you as an ITSP will find a new solution by yourself, the goal is rather to build of the knowledge gained by having a continuous conversation with your client (CGI CSR & Environmental Coordinator, 2014).

Of course the approach of interacting with the customer will differ depending on the level of awareness of the customer. Some clients might not see the reasons for why sustainability is important (Green IT expert, 2014; Accenture Head of CSR, 2014), while others know their sustainability related risks and opportunities. More often it will fall upon the ITSP to show the customer what it needs (Green IT expert, 2014).

Our analysis shows that the role of the employee is essential when including sustainability into customer offerings. Detecting the opportunities to sell sustainability services often depend on the ability of employee to identify customer needs that the customer is unaware of and educate the customer about the benefits of a societal value and how this is balanced with the other value dimensions through a service. This ability is not something that can be taken for granted.

6.3.4 Giving employees the ability through training and knowledge sharing

In the example with the ÅF consultant in the previous section, a determining factor to sell the IT system was the consultant's personal interest and competence in the area of sustainability.

She says that to in order to make the connection to sustainability in those types of cases, knowledge is a fundamental condition. If you do not have the interest and knowledge, you will not look at the situation from a sustainability perspective and find the opportunities to solve sustainability related issues. (ÅF PRS Services Manager, 2014)

Both ÅF and Accenture reinforce this by describing how a crucial factor in exploiting the opportunities for sustainability services is that the employees have the right knowledge and mind-set when working with customers (Accenture Head of CSR, 2014; ÅF Head of Sustainability, 2014). This is endorsed by the Green IT expert (2014) who describes this state as "wearing their sustainability glasses".

The companies bring up different examples of how they are trying to give their employees that ability. ÅF is currently designing a new training program that aims to teach employees to connect sustainability to their own core competence and ÅF's offerings, in order to have the ability to communicate what societal value they are delivering in their everyday work and thereby raising the awareness of their clients. (ÅF Head of Sustainability, 2014) The ÅF consultant that had first-hand experience in finding sustainability opportunities also emphasized the importance of knowledge sharing networks amongst employees. In that way opportunities found in one project can be can also be found in others. (ÅF PRS Services Manager, 2014)

CGI believes that giving employees the ability through training is only beneficial to a certain extent and brings up the need to have a passion for sustainability as well as an innovative view on IT (CGI CSR & Environmental Coordinator, 2014). Creating a passion can be more challenging than just providing someone with knowledge. CGI is putting effort in fostering the individuals that do already have a passion for these questions by creating forums and knowledge sharing activities where their ideas gets valued. An example for raising both awareness and motivation is a currently running innovation project where employees are encouraged to send in their own ideas with the theme of "The Sustainable City". (CGI CSR & Environmental Coordinator, 2014)

From our investigation we draw the conclusions that training employees in sustainability connected to services and core competence is an important activity carried out to build a mindset that is crucial when incorporate sustainability into customer offerings. Knowledge sharing is an additional activity that can spread experiences between employees, and also a way to foster important ideas among employees passionate in finding innovative ways of delivering societal value through services.

6.3.5 Sourcing: clean raw material

Our findings show that when incorporating sustainability into a customer offering, sourcing is an important aspect. It concerns ensuring the customers that they are buying a sustainable service that is provided by using clean raw material. This is what is referred to as input in the Internal Operations sub-category Sourcing. Our analysis shows that using clean raw material is both important for the provider but also for the customers.

The Green IT expert (2014) says that many ITSPs do not have the knowledge to answer questions regarding how the service in itself is sustainable. To exemplify this: delivering a cloud service to a customer creates societal value as this decrease the use of hardware and lowers the energy usage of the customer's firm. However, the question that can be asked at this point is; is the data capacity provided clean and not contradictive to the societal value created? Very few, if any, ITSPs are able to answer this type of questions today according to the Green IT expert (2014). The best example of this is what he calls "green datacentre" services, where the data centre is proven to be efficient and run by renewable energy.

For this reason, CGI Sweden can in fact ensure that data centres are run on renewable energy (CGI CSR & Environmental Coordinator, 2014). CSR & Environmental Coordinator at CGI says that as the awareness about sustainability increases among customers, the requirements on the provider to be able to account for how sustainability has been incorporated into the service will increase. The future scenario is that when a service is delivered, the provider has to be able to tell the client exactly what has gone into building this service and how all those aspects combined affect society if the

customer buys the service. She says that the provider who will have this ability first will be one step ahead everyone. (CGI CSR & Environmental Coordinator, 2014)

6.3.6 Summary: Level 2

To summarize, our analysis determines that being successful in the second level requires understanding about the customer's sustainability related risk and opportunities which needs to be gained in close interaction with the client. In this the provider's knowledge and ability to bring in a sustainability perspective is crucial. Therefore, the company needs to enable employees to find opportunities to create societal value and educate the customer about the benefits. The internal activities critical in this level lies in Sourcing and HR and have been visualized in Figure 29.

The second level is dependent on that the company undertakes the following activities:

- Training employees
- Knowledge sharing activities to foster innovative ideas as well as sharing experiences
- Interacting with clients to learn about their sustainability issues
- Account for clean raw material

Figure 26 Summary of internal activities required to reach level 2

6.3.7 Outcome: Level 2

In contrast to level 1, if activities are carried out successfully in this level the outcome will be increased sales as shown in the example of the consultant from ÅF. The reason behind this difference is that in level 2 the ITSP is not only articulating a societal value, it is offering an added value by solving a sustainability related issue for the customer as well as showing the benefits of doing so.

The ÅF consultant (2014) describes pointing out societal values as a good way of increasing customer satisfaction. Since the sustainability aspect is being brought into the service delivery and development, the possibility of adding value and thereby increasing income arises. It is important to note that neither in level 2 is the focus about creating entirely new services, but rather to see the opportunities in what you already have, in

terms of customers and offerings. The interaction with the clients will also increase the knowledge amongst the ITSP's employees and company's readiness to reach level 3.

6.3.8 Adjustments to the Value Shop

We see that knowledge is a recurring theme in level 2, making training and knowledge sharing crucial components. It is important to remember that level 2 is also dependent on that the company has already obtained an understanding from level one and is aware of the connections between their offerings and sustainability and must now transfer that knowledge to all employees in order for them to make the connection to the customer needs. To summarize, the conditions to succeed is to give those who are working close to the customers the ability to discover the opportunities where societal value can be created while creating value for the customer, opportunities that can appear at any point when interacting with the customer. The conditions for level two have been visualized in Figure 30.
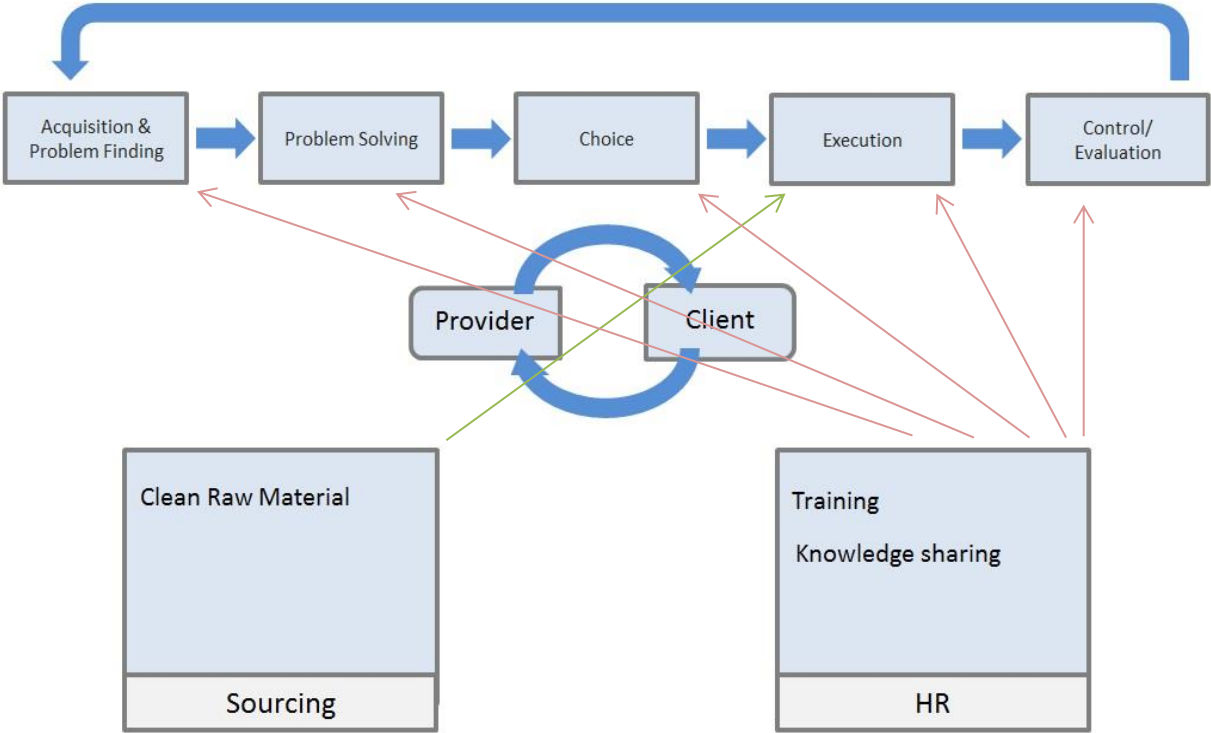
Figure 27 The internal activities that enable the primary activities in level 2

6.4 Level 3: Develop New Offerings to New Customers

In level 3 acquired knowledge about different clients industries, gained through customer interaction in level 2, ITSPs can develop new services which are offered to a wider market. In Figure 31, this is visualized by area 3, where sustainability related issues and customer overlap, but where the provider extends the existing portfolio by developing new services.
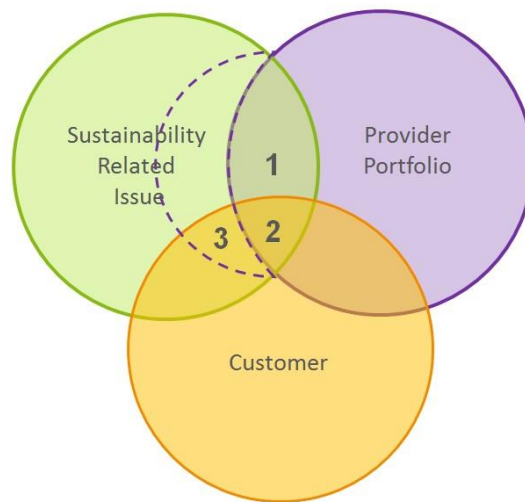
Figure 28 The 3-level map: Level 3

6.4.1 Finding the overlap: Area 3

Because of the heterogeneity aspect of services, a service delivered to one customer will not be exactly the same as to another customer (Grönroos, Service Management and Marketing: Managing the Moments of Truth in Service Competition, 1990). The key is to have the ability to understand how a solution created with one customer can also be offered to others (CGI CSR & Environmental Coordinator, 2014). According to CSR & Environmental coordinator at CGI, new solutions can be developed as a result from the activities in level 1 and 2.

The following sections will present in more detail how this can be done and why this is beneficial for ITSP.

6.4.2 Collaborations and knowledge networks to gain and share knowledge

To understand where there is opportunity to offer a new service that creates societal value, a successful strategy for CGI has been to actively engage in collaborations and discussions regarding sustainability issues with potential clients from different industries using local and global networks and forums. This way CGI gets insight in what problems different industries are challenged with. The CSR & Environmental Coordinator emphasizes the value of building and engaging in knowledge sharing networks between the company and the industries where potential customers are active

in order to understand what risks and opportunities that needs, and can be addressed. (CGI CSR & Environmental Coordinator, 2014)

If there is an IT solution that can be offered to solve identified issues, to further gain and share knowledge with a wider audience, CGI actively locate participate relevant forums to display their competence within the sustainability area. In this forum, CSR & Environmental coordinator CGI says that they can reach the boards of many large companies and well as counties and government agencies and communicate that CGI have this knowledge and experience and offer this service. (CGI CSR & Environmental Coordinator, 2014)

An example that shows the process from level two to level three is given by the CSR & Environmental Coordinator at CGI (2014). CGI was hired by a number of Dutch energy companies to develop an infrastructure for electric vehicles in Holland. Together with their clients, CGI developed an extensive solution for charging infrastructure including mobile app to locate and book charging stations, as well as the payment method. After this project, CGI had the knowledge and experience of developing this type of infrastructure. Because of their engagement in sustainability forums they knew that municipalities in Sweden were looking to build that type of infrastructure as well. By combining the experience from the Dutch project and their previous project experiences with Swedish Energy firms, they were able to develop an offering for electric vehicle infrastructure for the Nordic market. (CGI CSR & Environmental Coordinator, 2014)

Client problems often involve more or less standardized solutions, but the value creation process needs to be organized to deal with unique cases (Stabell & Fjeldstad, 1998). Our analysis shows that a vital activity that is performed in level 3 is to identify how the experience from an earlier project with a proven value for the customer can be transferred to a new offering and a new customer, which once again is determined by how the company is interacting with customers, but in a larger perspective.

6.4.3 Outcome: Level 3

As shown in the CGI example, the outcome when reaching level 3 is new services that extend the previous sustainability portfolio or concept. Based on previous experiences, a solution is created to solve a sustainability related issue that involves one or several actors within one or several industries. These services can, in contrast to the outcome of level 2, be offered on a wider market to new customers and increase sales where a demand has been identified through interacting with clients on relevant forums.

6.4.4 Summary: Level 3

We see that in order to be successful in the third level the knowledge gained from level 2 is a critical part of the foundation. What is done in level 3 is to build on that knowledge and see how this can combined and refined to be valuable to new clients. To do this successfully the company undertakes the following activities:

- Actively find relevant forums to access clients and industries

- Knowledge sharing with customers in relevant forums
- Identify how previous client projects in level 2 can be combined develop new services
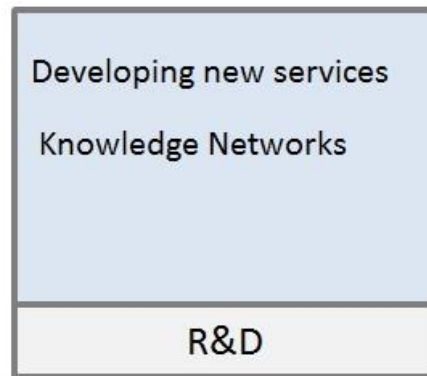- Communicate competence and new services in relevant forums

Figure 29 Summary of required activities to reach level 3

6.4.5 Adjustments to the Value Shop

We see that this level might be where many companies want to reach when realizing that there is a market for sustainability. But in order to do so successfully, and not waste investments on new services that no one demands, the ground work in level 1 and 2 has to be done first. Developing new services for new industries is depending on that the development can use input from successful projects and realize how the experience from those projects can be applied to problems for other customers (see Figure 33).
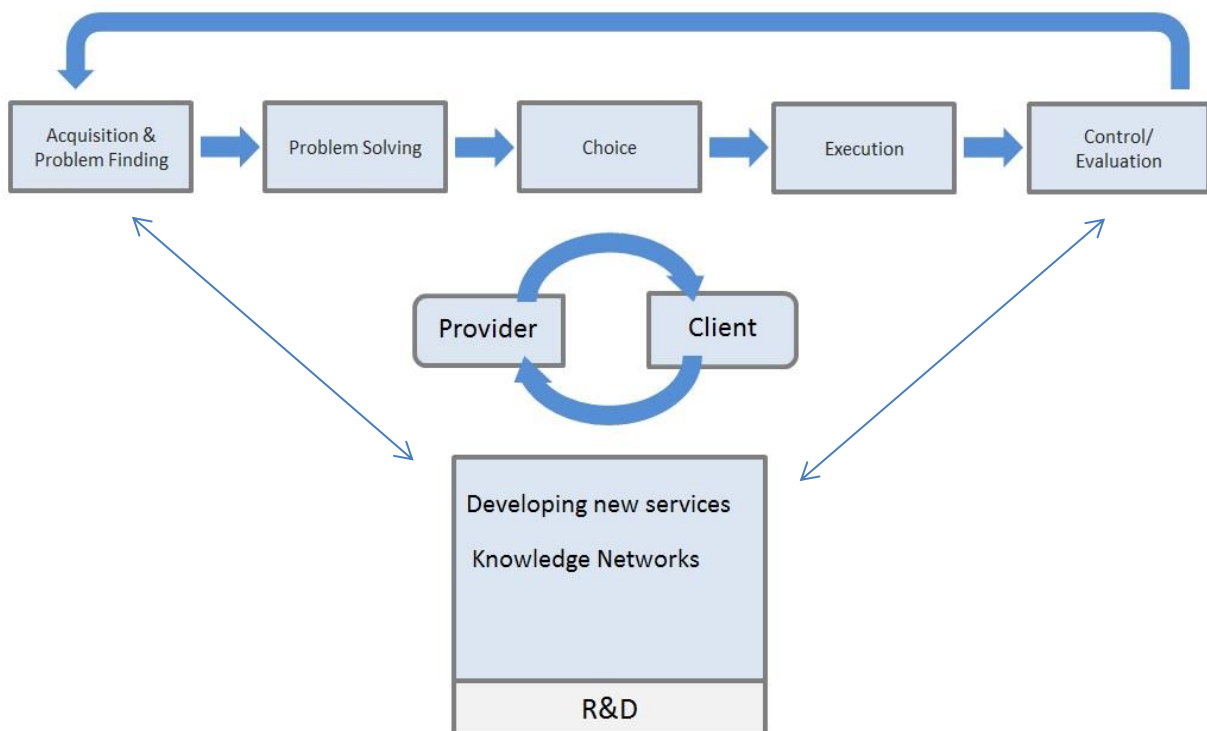

Figure 30 The internal activities that enable the primary activities in level 3

6.5 Constructing the Sustainability Value Model: Customer Offerings

Using the 3-level map as a guide, activities needed to incorporate sustainability into customer offerings to different extent are identified and adjustments made to the Value Shop motivated for. The following sections will summarize what adjustment and additions needs to be made to the Value Shop in order to construct the Sustainability Value Model.

6.5.1 Adding: Internal activities needed

Based on the findings, the Sustainability Value Model needs to convey how there are internal activities that are pre-requisites for the company's ability to offer sustainability services, as seen in Figure 34. Regardless of to what extent sustainability is incorporated into offerings, there are connections to activities performed internally. Without specifying which supporting activity that leads to what, as this may differ for company to company, it is more important to realize that links do exist.
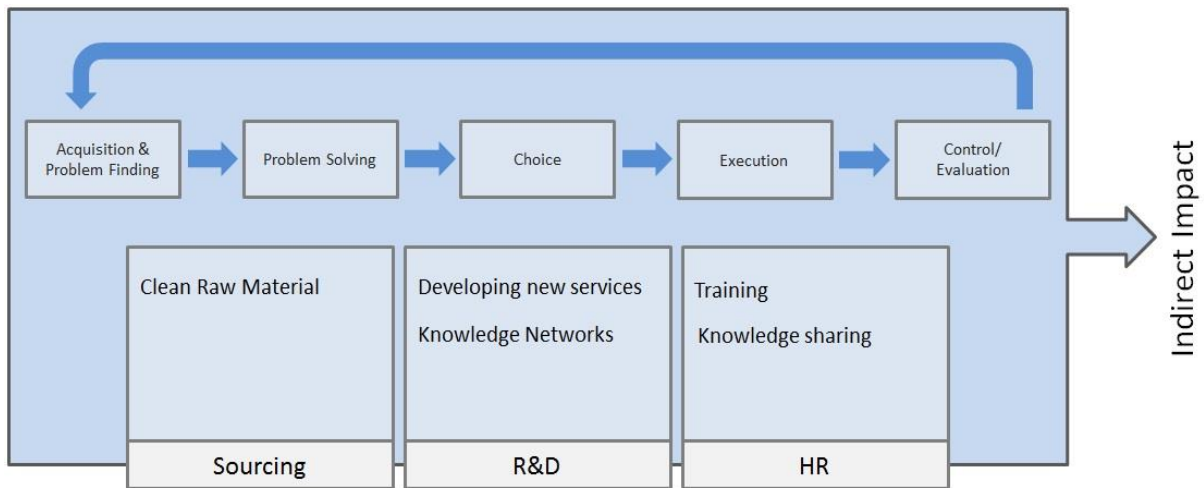

Figure 31 Summarizing the internal activities that enable the primary activities

This means that there are internal activities that do not get included when measuring direct impact, but should rather be valued on the in-direct impact they have through sustainability services. In addition to the internal activities categorized in Internal Operations, the Sustainability Value Model therefore includes a second type of internal activities that serve as support activities for societal value created through Customer Offerings. Following the 3-level map, to decide which activities to undertake an ITSP needs to determine what the goal of incorporating sustainability in Customer Offerings is, since carrying out different internal activities affects the outcome.

6.5.2 Adding: The interaction with the customer

The discussion in this chapter shows that a huge part of successfully selling sustainability lies in the interaction with the customer. This is not a surprising finding as the involvement of the customer has for long been a big part of what characterizes a service. Vargo and Lusch contends that customers are significant participants in the value creating process of a service (2004), a statement that is agreed upon by many researchers in the field (Flint & Mentzer, 2006; Normann, 2002). Normann (2002) discusses in which ways the customer is participating and brings up examples from the entire value creating process. One is in the specification of the service, for example by providing data for diagnosis of the problem. An idea that can be easily related to examples from the ITSPs in the challenge of detecting customer needs. Another example that Normann (2002) brings up is the customer's involvement in the marketing of services, which has been observed in how these companies are using successful client projects as the main way of communicating the value of sustainability services. There are numerous examples of how an exchange with the customer is a vital part in the service system, in developing, delivering, and marketing services (see Figure 35). Our analysis of the empirical findings conclude the same thing.
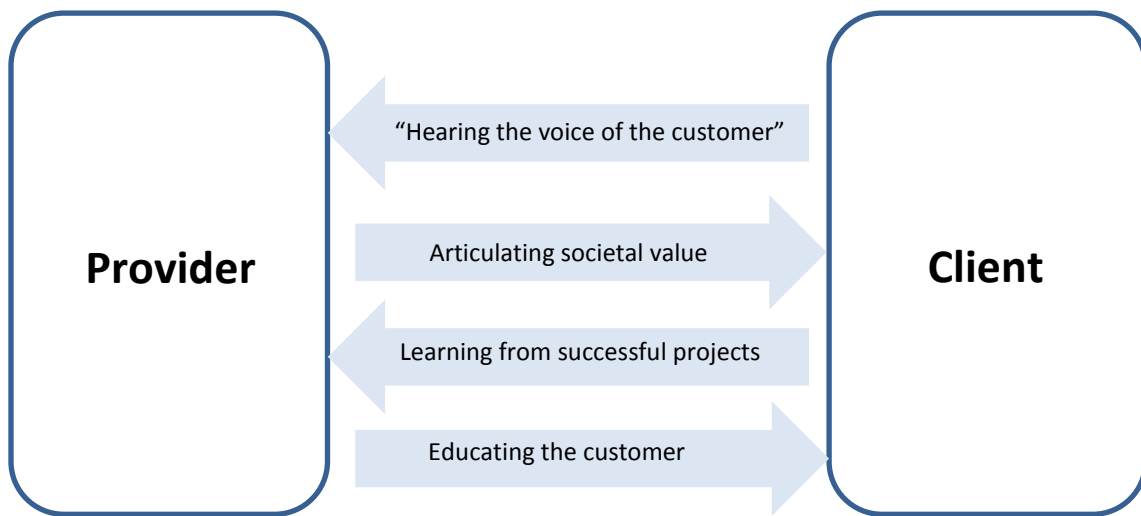

Figure 32 The importance of interacting with the customer in communication, exchanging knowledge and learning

Based previous argument the interaction with the customer is crucial in incorporating sustainability into customer offerings and is therefore needs to be highlighted in the Sustainability Value Model to capture this reality (see Figure 36).
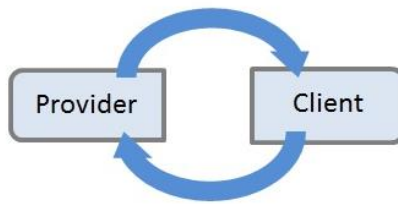
Figure 33 Illustrating interaction and knowledge-sharing between provider and client

6.5.3 Summary: Customer Offerings

Based on our analysis, the Sustainability Value Model describes how ITSPs can incorporate sustainability into customer offerings according to Figure 37.
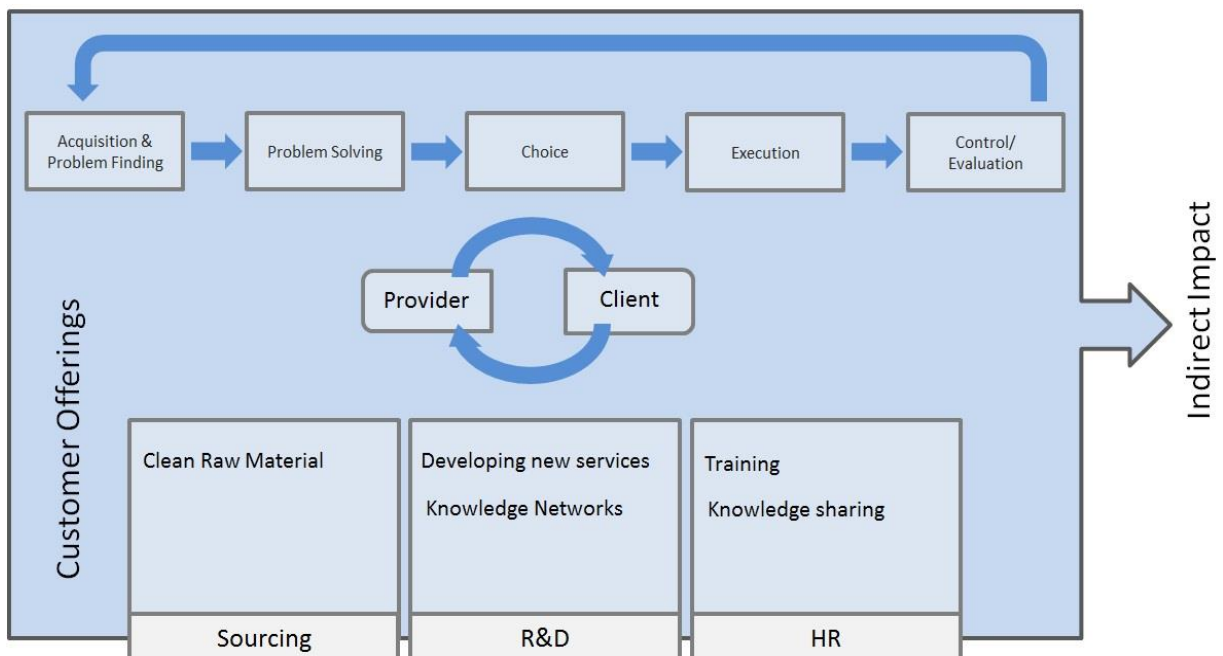

Figure 34 The main category Customer Offerings in the Sustainability Value Model

Conclusion and Discussion

In this chapter the findings are summarized in relation to the purpose of this study. The limitations of the study are addressed and the potential implications they have for the result. Lastly, contributions of the study are discussed and further research suggested.

7 Conclusion

The purpose of this study is to investigate how ITSPs can incorporate sustainability into business practices. The objective is to construct a model that captures this phenomenon, and that can serve as an analytical tool and presentation format when addressing sustainability within the ITPS industry.

Our analysis shows that the first step in how ITSPs are incorporating sustainability in their business practices is to separate incorporation in Internal Operations, which has a direct impact on society from the ITSP, and incorporation in Customer Offerings which has an indirect impact via the customers.

Internal Operations

ITSPs can incorporate sustainability in Internal Operations by taking measures to improve their impact on society through Sourcing, R&D, and HR. The activities must be governed on an overhead level and there must also be a certain degree of community engagement. This study discusses how sustainability can be incorporated through a number of activities in these categories. To successfully incorporate sustainability in Internal Operations ITSPs need to ensure that they have an acceptable level of sustainability performance, in this study referred to as the health check level, throughout the organization. The health check level is reached when the ITSP is at the same level as the competitors and not posing any risk to the customer. There are some valuable outcomes with going beyond the health check level, but the firstly the health check level needs to be reached. The main outcome of incorporating sustainability in Internal Operation, from a customer value point of view, is trust.

Customer Offerings

In terms of customer offerings, our study concludes that sustainability can be incorporated by offering services that create societal value by addressing customer's sustainability related issues. This leads to an indirect impact via customers and can be done to different extent with different outcomes. We describe a number of activities that the ITSPs need to undertake related to Sourcing, R&D and HR, and which activities that needs to be included for different outcomes. A critical factor is how the provider is interacting with the customer and many of the activities that the company needs to undertake aims to facilitate this interaction on different levels.

7.1 The Sustainability Value Model

The Sustainability Value Model (see Figure 38) can be said to summarize the findings of this study. The Sustainability Value Model is based on the Value Shop (Stabell & Fjeldstad, 1998) and is throughout this study adjusted and remodeled according to the analysis of the empirical findings.

The model describes how to incorporate sustainability by describing in what activities ITSPs can create societal, business, and customer value. The model also shows the difference between the activities that has a direct impact and an indirect impact as well as the importance of the provider-client interaction.
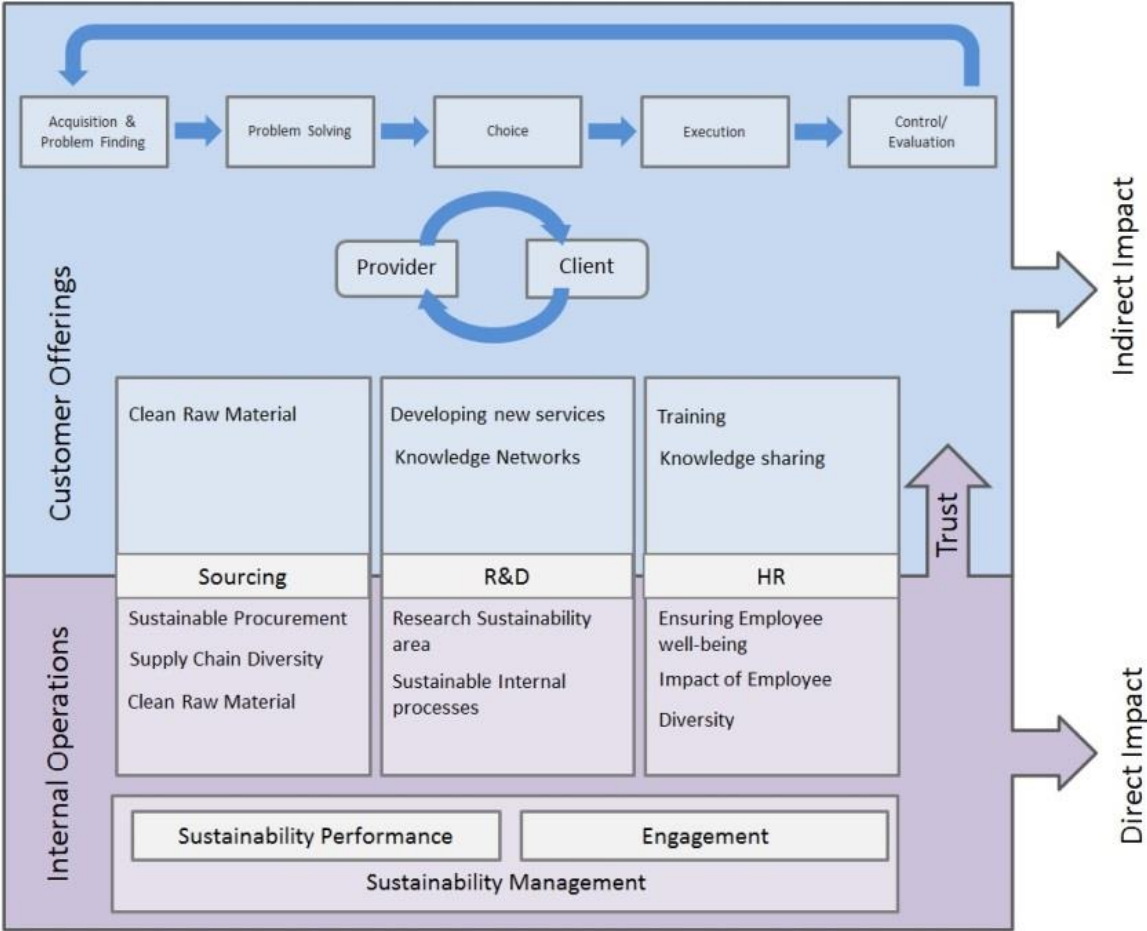

Figure 35 The finalized Sustainability Value Model

The Sustainability Value Model can be used as an analytical tool and presentation format when incorporating sustainability within the ITPS industry. It provides guidance for ITSPs that wants to incorporate sustainability in their business practices, to see through which activities there are possibilities for societal, business and customer value creation.

Our analysis shows that incorporation of sustainability in Customer Offerings is slightly more complex than for Internal Operations. As the Sustainability Value Model only

describes a general image of what activities to undertake, an additional explanation of the dynamics within sustainability in Customer Offerings has been provided. The levels of incorporating sustainability in Customer Offerings are represented in the 3-level map (see Figure 39) as a compliment to the Sustainability Value Model.
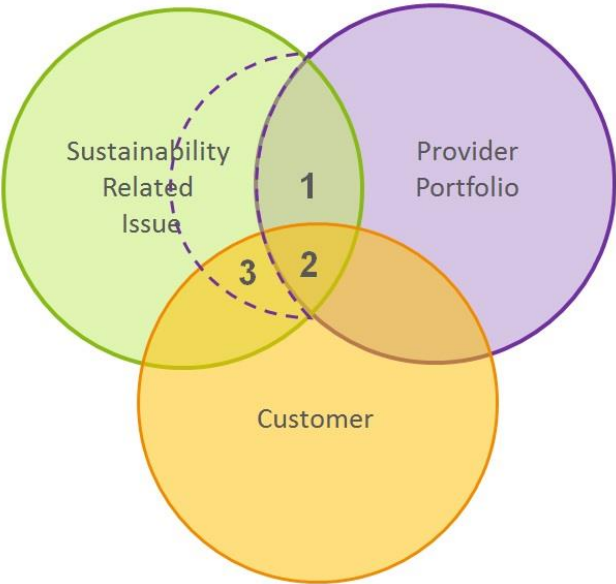

Figure 36 The 3-level map

The 3-level map visualizes different levels of how sustainability can be incorporated into customer offerings, where each numbered area represents a level.

- **Level 1: Connecting societal value and existing customer offerings**
- **Level 2: Connecting societal value to customer value**
- **Level 3: Develop new services with societal value to a larger market**

Table 2 summarizes the internal activities needed to in order to carry out primary activities and reach a certain outcome that are discussed in this study. A crucial aspect in incorporating sustainability into customer offerings to its fullest extent is to, level by level, gain an share knowledge about sustainability in connection to customer offerings and the customer's sustainability related risk and opportunities. This needs to be done in interaction with the customer.

Table 2 Summary of the implications of the 3-level map

	Simplified description of the 3-level map and its components		
	Level 1	Level 2	Level 3
Internal Activity	General Analysis of sustainability area Internal analysis of existing customer offerings Evaluate and measure societal value in existing offerings Communicate	Training Motivation Internal Knowledge Sharing Clean Sourcing	Participate in networks with customer industries Transferring value for one customer to a new solution
		Interaction with client	Interaction with client
Primary activity		Identifying Customer's risk and opportunities Find IT based solution Educating the client	Identifying new Customer's risk and opportunities Find new IT based solution Educating the client
Outcome	Stronger profile as sustainable and competent	Increased sales to existing customer	Increased sales to new customers

8 Discussion

A challenge for the Sustainability Value Model is that it is trying to address the current state of a very volatile phenomenon. How ITPSs can incorporate sustainability into practices is based on competitors and external expectations, level of awareness among employees and clients, which are all very intangible factors. It is therefore hard to predict changes that will have to be made in the model which adds a perishable aspect to the findings.

A model like this should be used as guidance and not a set strategy for companies. In order to incorporate sustainability in a strategically beneficial way the practices will have to be adapted for the setting of the specific company. The Sustainability Value Model captures many of the similarities between the companies and how they can be categorized beneath the same labels, but there are still differences in the design of specific activities.

One of the biggest challenges when incorporating sustainability in customer offerings is how to articulate the value for the customer. Even though this study provides some guidance on a systematic approach of interacting with the customer to find such value

this is still where the biggest challenge will lie and an effort that will have to be customized depending on the conditions of the company.

8.1 Reflection on Methods and Delimitations

In the following sections the quality and limitations of this study are reflected upon and suggestions for future research are presented.

8.1.1 Validity and reliability

Throughout this study, empirical sources have been viewed critically and where weaknesses have been detected, additional sources has been taken in to confirm or discard findings. When using interviews as a collection method there is a risk that the interviewee misunderstands the questions which would decrease the reliability of the results. To prevent such misunderstandings any questions that were complicated in their formulation was always repeated and followed up with questions to ensure that there were no misunderstandings. The aim throughout the study was to build the conclusions on findings detected in more than one of the case companies. In terms of interpreting the respondents correctly there were always two researchers present during each interview and the data was analyzed by the researchers separately first. This type of usage of multiple researchers was used throughout the process to ensure integrity of the data collected.

The validation test of the findings serves as a final way to detect any misunderstandings that would have damaged the validity of the study. The test resulted in that the major part of the findings were validated, very few adjustment were needed which only require highlighting the importance of knowledge sharing as a complement to training. Nothing was therefore added or removed but weighted against each other.

The method of using the Value Shop as the foundation in categorizing and analyzing how the case companies are incorporating sustainability into their practices has ensured a systematic approach in dealing with the data.

8.1.2 Generalizability

Generalizability is generally hard to reach in qualitative studies. It is however arguable that the findings can be transferred to other companies similar to those in the case study. Primarily, the findings can be transferred to other ITSPs with the same conditions as the ITSPs investigated. The analysis is also based on the Value Shop, a model developed to fit professional services that rely on intensive technology; this could indicate that there are some parts of the findings of this study that can be transferable even further to other types of professional services. This is strengthened by the fact that one of the case companies is not by definition an ITSP but rather a technical consultancy firm. To fully establish such a generalizability further investigations and tests would have to be undertaken.

8.1.3 Limitations and suggestions for future research

A potential weakness that needs to be addressed is that the interviews were held with Swedish representatives from the case companies, this might result in the data partly reflecting practices unique to the Swedish unit. In this case, it can be questioned how well the conclusions transfers to companies in other countries. An effort to prevent this has been by always having a global perspective during interviews as well as using the companies' global official documents and websites parallel to the data from the interviews. However, this should still be kept in mind when applying the model. Sweden is often brought up as an example of a country that is in the forefront of sustainability work, so if that is the case the findings would still be useful. This has however not been the considered in this study.

The findings that are represented in the model are ensured to have high validity. However, no test was carried out to ensure the clearness and logic of the visualization of findings and user friendliness of the model. The model might therefore show valid findings, but the guidance delivered might be limited. A user test of the Sustainability Value Model would be a valuable subject for future researchers.

This study has taken the perspective of the provider and has not included any customers of the companies. Including interviews with customer could have strengthened the result to further emphasize the customer value of sustainability. Since the findings showed that the interaction with the customer was a critical success factor in including sustainability in offerings a customer focused study with would make a valuable extension of the Sustainability Value Model.

There are many discussions regarding what should really be defined as value for the society where aspects like rebound effects are brought forward. This study has not tried to address such notions or aimed to evaluate what long-term effects the practices presented have on society. This is however an interesting viewpoint that can be explored further in future research.

8.2 The Contribution

The research in the addressed area is nascent and a knowledge gap was identified. Previous attempts in viewing ITSP through a sustainability lens (Datta, Roy, & Tarafdar, 2010) did not manage to move from the manufacturing-based view of value creation. In our study, a model has been created that moves closer to the nature of services. The contribution to both academia and companies is therefore a model that better captures the essence of sustainability in an ITSP and has filled part of the identified gap in field. The Sustainability Value Model can be used as an analytical tool and presentation format when addressing the incorporation of sustainability in the business practices of ITSPs.

Datta et. al (2010) describe some similar results to this study regarding in what activities sustainability can be incorporated but are only addressing a fraction of what this study has concluded. As they have not fully considered the characteristics of

services the emphasis has been put on other activities than the ones this investigation is bringing forward. In similarity to this study, Datta et. al (2010) point out the importance of educating clients, but have not attempted to go deeper into the internal activities that are needed for such a task. This investigation has gone into more depth in investigating activities needed for certain outcomes, has taken a broader scope by discussing both Internal Operations and Customer Offerings and has highlighted some important characteristics of services.

Despite that the usage of the model not been evaluated, the study is structured in a way that argues for the different parts of the model combined with examples from reality, and will provide guidance for ITSPs. By giving an overview on the current state of how sustainability is incorporated, this will help ITSPs understand areas of improvement in their own practices. The 3-level map serves as a complement to give guidance in handling some of the complexities identified of incorporating sustainability into customer offerings.

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Appendix 1: The SITSVC

Below is the SITSVC as presented by Datta et al. (2010).
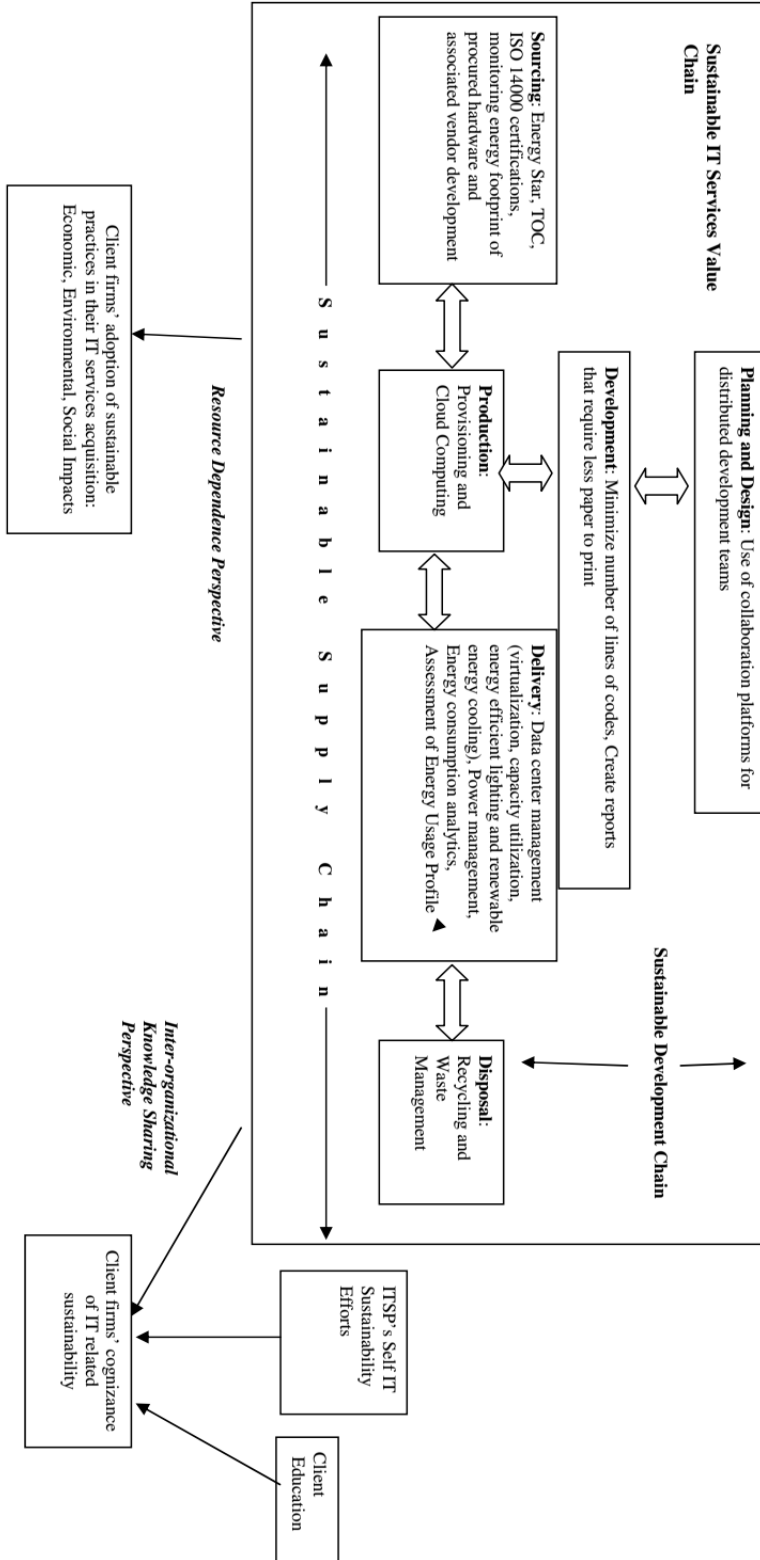
Appendix 2: Interview guide

Below is a structure used as a guideline for the interviews held with the case companies Head of Sustainability. However as the interviews were semi-structured room was given to explore topics that arouse during the interview when considered relevant to the investigation. As the investigation had a flexible approach interesting topics from one interview could be included in the next as a way to further validate a finding. This is not reflected in this structure.

Sustainability Strategy

- What is sustainability?
  - What is Company X's approach in contributing to sustainable development?

- Why is sustainability important?
  - Why is it important for companies to engage?
  - Why is Company X's contribution important?
  - What challenges/trends is Company X's targeting?
    - internally
    - externally

- What are the strategic objectives?
  - Over-all
  - Specific programs/initiatives

- How are the objectives reached?
  - Specific programs
  - Collaborations

- What is the relation between Company X's business strategy and sustainability strategy?
  - Alignment
  - Integration

- What are the challenges/opportunities in Company X's sustainability work?
- What is the next step?
  - What role does Company X's see sustainability having in the future?

The Customer

- What offerings address customers' sustainability issues (sustainability services)?

- Value proposition
  - What challenges are emphasized?
  - What skill/competence is offered?
  - What are there measurable results for the customer?

- Is there a demand for sustainability services?

- What are Company X's using as selling points for sustainability, i.e. why should customers by services to be more sustainable?

- What is the customer's expectations/needs concerning sustainability?
  - How are these understood?

- How are Company X's sustainability strategy and practices meeting these expectations/needs?
  - In terms of;
    - Meets requirements (ISO)
    - Brand
    - Products/services
    - Other…

Communication

- How is sustainability work portrayed?
  - Why?
- Which channels?
  - Social media?