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*Challenges of implementing decision support systems:
Joining the views of consultant and customer*

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Author Mikael Persson
Supervisor -
Examiners Paul Pierce
Benjamin Weaver

Title: Challenges of implementing decision support systems: Joining the views of consultant and customer

Author: Mikael Persson
gin10mpe@student.lu.se

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Supervised by: -

Examined by: Paul Pierce
Benjamin Weaver

Abstract

In today's business environment, organizations rely on information systems to store and process the information constantly gathered. These systems are used to support the everyday needs of the organization. It is apparent that many of these systems has limited or no analytical capabilities, can the introduction of a decision support system could enable practitioners to benefit from this can thus increase their productivity by executing excellent decisions. This thesis choose to focus on expertise necessary for implementing the system, and challenges accompanied with this process. In order to find the answers regarding these topics, a theoretical framework on the topic of decision support systems and the approaches necessary to implement the system. The framework is composed by four themes; External expertise, Internal expertise, Human challenges, Conceptual challenges. The thesis support the arguments from the theoretical grounding by conducting a qualitative analysis with both consultants and the customer in a specific implementation environment. The use of semi-structured interviewing enables the thesis to benefit from the development of each interviewee and can thus get a rich description on the situation of the implementation. Each of the four themes will present the personal impressions of both consultant and customer by presenting each party separately and thus enabling every factor to be discussed from a provider perspective as well as buyer. The findings of this thesis contribute to the body of knowledge by presenting each theme in context to the implementation setting of the project.

Keywords: Decision support systems, Consultant view, customer view, Implementation inhibitors, Human challenges, Conceptual challenges

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1 Introduction

The first chapter will provide an outline of the thesis topic and the problems related to this specific area. Next on, the purpose and motivation for conducting the research will be described as well as presenting the research question. Finally, the delimitations of the research will be presented.

1.1 Background

In today's business environment, organizations are relying on IS (Information Systems) to handle information storage and processing. These systems are serving the purpose of keeping track of changes and helping the organization to serve its business requirements. Given that each organization has its own services and goals, the introduction of a new information system need to be aligned in order to support the business processes of each employee (Wang & Chen, 2006). Accordingly, there is no single best practise of an IS that fit the needs of every organization, and expertise from a consultant enables the possibility of aligning the system with the goals of the organization .The involvement of consultants in organizational implementation of IS can be assumed to play an increasingly important role because of their technical expertise, especially if the organization has limited or no internal IS strategic management presence (Gable, 1991). The stream of information is constantly increasing and many enterprises are relying on Decision Support Systems (DSS) to enable themselves for better decision management (Surajit Chaudhuri, 2011). The proper application of such a system will further enable the DSS user to organize superior decisions in terms of quality, speed and precision (Sahay & Ranjan, 2008). In order for the DSS to achieve competent functionality it is required that the DSS is implemented by professionals with expertise capable understanding the customer's business environment. The introduction of a new technology entails an iterative process of interaction and teamwork between the customer and consultant in which many factors matter whether the final product is successful or not.

The concept of a DSS encompasses functions which aims at improving decision making processes in the organization by adding a set of analytical capabilities (Arnott & Pervan, 2005). DSS technology span a broad range of functions capable of collecting, consolidating, visualizing and analyzing data pulled from databases, originally deposited by other IS in the organization (Sahay & Ranjan, 2008). A DSS is capable of bringing a comprehensive view and thereby define information to the user which gain knowledge (Muntean & Surcel, 2013). Users of a DSS could be situated at different hierarchical levels such as; the strategic, tactical or operational levels. Being able to use a DSS on different organizational levels is mandated by the fact that the technology is implemented with scopes adapted to provide adequate information which enables the user to complete the task at hand (Negash, 2004).

Organizational systems such as an enterprise resource planning system (ERP) are used to support business processes (Hribar Rajterič, 2010). These systems manage the input of data together with processes that they govern, but most often fail to provide functionality of a DSS, and without it the organization may miss out on the advantages which it provides. Consequently, implementing a DSS

can provide the asset of increasing transparency of information throughout the organization. Given the importance and potential benefit of a DSS, it is important to have the correct approach in selecting a suitable DSS but also to form an acceptable implementation approach. While it can be assumed that profitability is a dominant cause to justify the acquisition of a DSS, other reasons consist of assisting forecasting based on historical data which further allow the organization for external and internal rise in service quality (Warapong Boonsiritomachai, 2014)

1.2 Problem area

Considering that DSS implementation span across several branches in an organization it can be safe to assume that difficulties in realizing the intended implementation are prone to exist. Decision making today is generally faced with difficulties such as information overload, uncertainty of data quality and resistance to change (Surajit Chaudhuri, 2011). Existing enterprise systems containing data about employees, financial records, service info and suppliers cannot give the decision maker a sense of decision control because existing systems do not present it in a comprehensive manner (Gangadharan & Swami, 2004). To make matters worse, inconsistencies of data format and general quality can prove difficulties in extracting these repositories to make them useful for decision-making (Gangadharan & Swami, 2004). Concluding, DSS projects in general tend to drag on and fail to deliver the proposed product on time (Zimmer, Baars, & Kemper, 2012). Due to the process of implementation being of iterative nature generally complex to adapt and there is a need for proper expertise which can mitigate the general hardships that these projects suffer from. Given technological and human aspects that may hinder a DSS implementation, providing adequate implementation support in form of external consultants could be the right solution to mitigating potential problems.

1.3 Motivation and research question

The purpose of this thesis is to examine the interaction of DSS consultants and the public sector customers within the context of the implementation phase for DSS use. The ambition of this thesis is thus to produce rich descriptions and interpretations on the public sector implementation phases for DSS in the organization from both the public sector and consultancy perspective. These descriptions are meant to show the various difficulties that organizations without DSS experience face, and the role that consultant play in this relationship.

The topic of DSS has been discussed broadly both in practice and theory. According to a Gartner (2015) report concerning the top 10 strategic technology trends, the area of analytics within IT continues to be a hot topic due to the ever increasing data mass that organizations accumulate in today's business environment. On the other hand, academia has focused its research more towards the large organizations and less so of DSS adoption in smaller organization (Warapong Boonsiritomachai, 2014). Furthermore, this gives this thesis purpose to explore the implementation of DSS in context of the smaller enterprise which does not have the capability required to adopt such a system. Due to the high complexity of a DSS, coupled with high costs and needed implementation

expertise, according to (Warapong Boonsiritomachai, 2014) larger companies possessing financial resources and competence are normally are well suited to such an implementation. Accordingly, the question still stands whether a small organization in general is capable of implementing a DSS fit for purpose. Conclusively, there is a need for research to shine light upon the various obstacles that smaller organizations have to deal with in the event of adopting a new type of system that is previously unfamiliar. The research will therefore aim to investigate the conditions that customers and consultants are faced with when dealing with a DSS system implementation by answering the following research question:

What problems are consultants faced with when implementing DSS in an organization without previous internal knowledge?

1.4 Delimitations

This research is delimited towards studying the implementation of DSS based on data in a public organization as the main objective focuses on issues that arise in an implementation environment with customer and consultant perspectives. It is important to note that the thesis will not investigate similarities or differences between different organizations on the topic of DSS implementation, but the focus herein is to delve into the single case of an implementation to provide rich descriptions of that particular setting. Furthermore, this thesis does not focus on any particular technical aspect nor specific DSS software and all mentioning of this concept will adhere to the description in 1.1 above as well as the more detailed definition in the following chapter. It is also important to note that, based on their similarities, sources about DSS and Business Intelligence (BI) has been used to support argumentation.

2 Theoretical framework

This chapter presents the theoretical background with the purpose of covering a select number of categories within the IS field that will support the research question. First, it will introduce the DSS concept further into detail by summarizing a brief history and its benefits. Second, a part about the implementation of DSS will summarize a number of implementation frameworks into a collective group of DSS implementation aspects. After that, roles of the consultant will be presented in detail, explaining the relation between consultant and customer with focus on implementation. Lastly, before summarizing the theoretical chapter into a collected framework, typical problems coupled DSS implementations will be presented.

2.1 The DSS environment

A DSS is an essential tool used to support organizations operating in today's business environment. The goal of the system is to strengthen the decision maker's judgment by basing it on coherent information that the business generates (Kopáčková & Škrobáčková, 2006). Such a system can be applied within different organizational levels such as; strategic, tactical and operational departments (Negash, 2004). It is important to note that the DSS, even though it presents information for the user to act upon, does not replace the decision-maker (Gayialis & Tatsiopoulos, 2004). It supports the decision maker for the purpose of improving judgment and insight into organizational data with regards to the decision making process (Gayialis & Tatsiopoulos, 2004).

2.1.1 DSS introduction

The first DSS stem from research of conducted at institutes of technological backgrounds during the late 1950's, and involved analysis of organizational decision making (Shim et al., 2002). The concepts that emerged were later carried out at a technical level in form of components which featured the possibility to improve efficiency of the decision maker and the effectiveness of the decision itself (Rostek, 2010). The functionality of the early decision making tools was composed of three main components; sophisticated database management capabilities, powerful modelling functions, and a simple user interface which facilitates ease of using the application (Shim et al., 2002).

Fast forward, advancements in computing power and smarter algorithms have made it possible for DSS applications to solve larger and more complicated problems than ever before (Gayialis & Tatsiopoulos, 2004). The introduction of faster workstations, mobile devices, web technologies does facilitate sharing of information and thus enables large groups of users to aid their day-to-day work and thus enhances their decisions (Shim et al., 2002). DSS was once tailored for the individual decision maker, but these advancements permit the technology to be applied in a wide array of organizational levels in a decision making setting (Shim et al., 2002).

The use of this tool will enable the organization to understand the business environment and gain understanding of itself by conducting analysis on data gathered in-house and externally (Davenport, 2006). The technology can, for instance bring about the ability to calculate earnings based on estimates pulled from historical data in an ERP system (Hribar Rajterič, 2010), or by optimizing supply chains to determine costs in beforehand (Davenport, 2006). In short, a DSS gives the benefit of analyzing data and measure performance which in turn improves the performance of the business processes (Surajit Chaudhuri, 2011).

2.1.2 DSS definition

With the decision being key in the DSS concept it is important to establish a general sense of what it exactly is and what functionality it encapsulates. The DSS itself is the response to a problem, sought to understand and clarify the data being of an organization (Kopáčková & Škrobáčková, 2006).

"A few firms and scholars began to develop and research DSS, which became characterized as interactive computer based systems, which help decision makers utilize data and models to solve unstructured problems."
(Sprague, 1980) p.1

The definition of a DSS can be approached from different viewpoints. The initial purpose of the DSS is to give options for solving a problem which involves the user putting in a set of parameters to which the system presents options (Kopáčková & Škrobáčková, 2006). The user is dealing with complex and unstructured parts of a problem and the DSS presents them back in a structured manner in which the goal is to make use of the returning answer (Arnott & Pervan, 2005)

2.1.3 DSS architecture and function

A DSS refers to a combination of concepts which emerge through technologies that aim to strengthen the decision making process (Warapong Boonsiritomachai, 2014). The fundamental process lies within the context of managing data while having the capability of storing, retrieving and manipulating it to service the user in the best possible way (Ariav & Ginzberg, 1985). In order to achieve a proper DSS structure multiple components are combined, which will be further illustrated in picture 2.1 below.

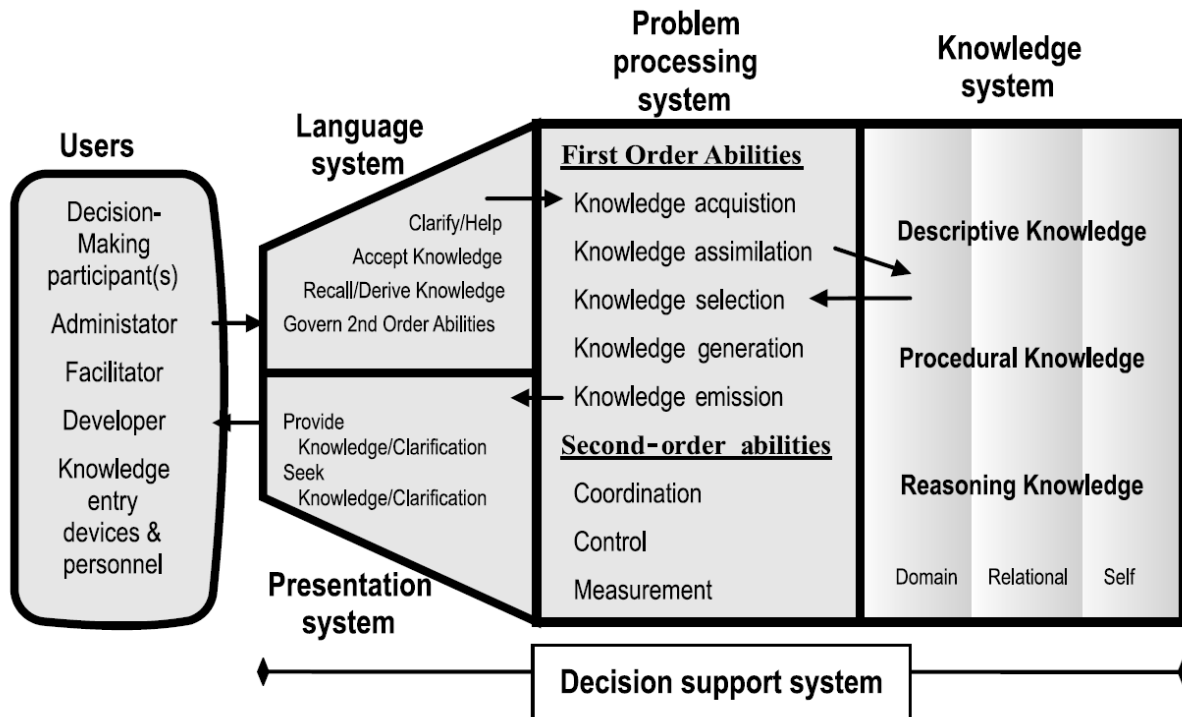


Figure 2.1 A basic architecture for decision support systems (Holsapple, 2008) p.166

According to Holsapple (2008), the general structure of a DSS from a generic view consists of a language system (LS), a presentation system (PS), a problem processing system (PPS), and a knowledge system (KS). Albeit technical, all of these components determine the general capability and behaviour of the system, and can together form a conceptual and comprehensible view of the general DSS architecture.

The language system is set in place to gather input from the user, where it is later compiled and interpreted in order to specify retrieval requests (Holsapple, 2008). It is also the first module to provide communication between the user and other components of the DSS (Ariav & Ginzberg, 1985). The presentation system is responsible for displaying the output that the DSS produces based on requests initially made by the language system (Bonczek, Holsapple, & Whinston, 1980). The knowledge system act as a repository for all the knowledge stored and absorbed by the DSS. The three types of knowledge known as descriptive, procedural and reasoning knowledge are stored in this section (Holsapple, 2008), and is exposed for use by the problem solving system. The three described systems will not make up a DSS by themselves as they only present messages or raw data that has been gathered in order to process it (Holsapple, 2008). The processing system is the active component in a DSS which actively communicates with surrounding components, and is used to recognize and solve the problems gathered based on input received. The problem solving unit has the ability to manipulate knowledge by selecting portions of the knowledge system contents based on the parameters extracted from the language system (Ariav & Ginzberg, 1985; Holsapple, 2008). Depending on the type of knowledge requested, different sets of functions are activated for retrieval of knowledge.

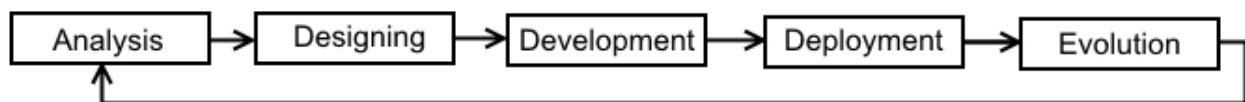
The above described components are what together defines the generic architecture required for a DSS to perform, but there is a need for clarification of what data, information and knowledge is. According to Courtney (2001) data is the basic facts or observations about the state of the environment, and information is data set in context when interpreted by a user. Knowledge of the user is defined by the possession of information with the ability of how to use the information with purpose, which in this case is the ability to make a decision with regard to that particular information (Courtney, 2001). Knowledge can be defined as tacit, which is learnt through experience and explicit knowledge is learnt through manuals and instructions (Bhattacharjee, 2012). With regards to this, Courtney (2001) argue that each decision maker uses the system differently based on personal knowledge.

2.2 The implementation of DSS

As the previous sub chapter gave an introduction of the various benefits, principles and structure of a DSS, this section will present the implementation aspects associated with a DSS. Just as the implementation of any IS follow a set of carefully planned phases in a system rollout, the DSS implementation does follow suit. This thesis emphasizes the case of an IS implementation between the perspectives of the customer and consultant, and it is vital to shine present the phases that govern all phases of the project lifetime.

Choosing the an appropriate implementation strategy for the right customer is essential for the DSS do align with business processes and the goals. According to Mora, Wang, and Gelman (2013), the methodologies for implementing DSS has throughout its history not been concluded into a single best framework, so naturally many different strategies are used for implementation. By selecting a high-level implementation methodology offers a general view of all the phases generally found in frameworks for DSS, as depicted by Gangadharan and Swami (2004) in figure 2.2. A brief explanation of each phase will be presented afterwards.

Figure 2.2 Basic implementation lifecycle (Gangadharan & Swami, 2004) p.2



- The initial phase of an implementation cycle usually consist of a requirement analysis that establishes focus on solving problems or taking advantage of a business opportunity (Gangadharan & Swami, 2004). This stage determines how the project will be accomplished by forming a plan from beginning to end. The goals of the project need to be cost-justified and benefits should be clearly summarized for all parties involved (Moss & Atre, 2003). It is important to put focus towards which user roles the system will serve and if the

organizational culture allows for a DSS tool to be implemented (Gangadharan & Swami, 2004).

- The design stage involves composing the database, ETL, and meta data repositories which will enable source data to be analyzed by the DSS intended DSS application (Moss & Atre, 2003). The use of prototypes will enable the customer to get an early glimpse into what functionality and appearance the application will have. The design schema will, after this phase match the information structure of the customer organization.
- Development of the solution involves constructing ETL processes, user application and data repositories (Moss & Atre, 2003). At this point the developer has gained knowledge of the customer needs from previous phases and can fully commit to building the system.
- When all components of the DSS are tested it is ready to be deployed fully into the customer organization. Education of the system will be offered to the business staff and stakeholders in order to set up for a smooth rollout without negative organizational effect.
- The last phase of the cycle measures whether the system implementation is successful or not. The developer uses this phase to evaluate all previous phases in order to learn and enable for adjustments to be made for the next release of the DSS (Moss & Atre, 2003). Its iterative nature enable the new versions to improve the product and further focus on aspect of the system that was not dealt with in the previous cycle (Moss & Atre, 2003)

2.3 Customer and consultant roles

A solid implementation plan with clear milestones is vital to succeeding in deploying the system into the customer organization. Having a framework does not guarantee any success though, and therefore both internal as well as external expertise is needed to ensure proper implementation of a DSS. This sub chapter is meant to shine light upon what type of expertise is necessary to have when implementing a DSS in a smaller organization which hold no internal DSS knowledge. J. Y. Thong, Cs (1995) conclude this relationship by stating that the consultant and customer need to form a coagency by sharing knowledge in order to successfully implement the solution.

2.3.1 External expertise

The smaller businesses organizations behind larger organizations in terms of IT capability as they do not possess the same financial resource strength and internal expertise (J. Y. Thong, 2001; J. Y. Thong, Cs, 1995). The lack of financial strength constrain the small organization to either keep using old source systems and clumsy spreadsheets without analytical capability as proper expertise is lacking (J. Y. Thong, 1999). External expertise can be employed directly which then enable the customer to have the strength for solving their problem (Gable, 1991). Roles generally associated with external consultancy consist of services such as conducting a business requirements analysis and supplementing the necessary software to achieve the goals of the business (J. Y. Thong, Cs, 1995). By following an implementation approach such as the one presented in figure 2.2, the consultant is able to gain a grip on the customer organization by frequently collaborating and getting feedback of each phase of the project which in turn ensure that the customer get what he needs.

The consultant is the subject matter expert on specific solutions and possess the necessary skills for implementing the solution (Metrejean & Stocks, 2011). Combining technical skills with knowledge on the business that the customer operate within enables an external party such as the consultant to quickly get a grip on the problem (Metrejean & Stocks, 2011). The consultant is able to focus on these particular areas and can thus provide value for the customer where they themselves could not do previously (Gable, 1991).

Metrejean and Stocks (2011) argue that it is important within the implementation phase to create an environment in which the consultants and customer can interact on a frequent and free basis, which is useful in order to reinforce the exchange of useful information regarding the solution. The consultant supplies users with adequate training as well as being aware of the developmental approach within the organization (Sprague, 1980). Metrejean and Stocks (2011) further support this by suggesting the interaction between consultant and customer is healthy when getting information from different hierarchical levels during any of the implementation phases. This ensure that the consultant get information on the needs of the customer from all levels of the business.

2.3.1 Internal expertise

When a DSS implementation initiative is taken by the organization, there is a need for internal leadership (J. Y. Thong, Cs, 1995). This leadership is vital for the success of the project, which involves the interaction between internal users and the external expertise (Fick and Sprague, 1981). Each team member is familiar with the capability required of the solution and is able to supply the consultant with subject matter experts further down in the business.

Having a group of individuals that interact with the consultant is necessary for success, but from an internal standpoint it is also important to have top management support and leadership to ensure success from within the organization (J. Y. Thong, 1999). According to J. Y. Thong, Cs (1995), a key factor for the successful management of IS in the organization relies on top management support in the customer organization. J. Y. Thong (1999) notes that although it is important internally with management support for IS effectiveness within the organization, the external IS support provided by consultants proves to be even more critical. The smaller business usually has a highly centralized structure in which the executive officers makes the critical decisions which directly affect the organization (J. Y. Thong, 1999). Mora et al. (2013) Further argues that top management support is critical to support the internal decisions and thus enable a successful implementation, but in the end external competence provided by the IS consultant is the additional force that is necessary for implementation success.

As described previously, internal project management is vital to ensure a success implementation from the customer part, but having internal capability of maintaining the solution in case problems arise after the projects end is also important. The smaller organization usually tend to employ people with a general sense of the IT environment which focus on maintaining functionality to ensure that

current business processes can continue (J. Y. Thong, 1999). The focus on broad and shallow knowledge base is hence the focus rather than a specialized one, which is due to the sparse financial constraints. This is further supported by Gable (1991) that acknowledge the consultants ability to complement this specific situation by ensuring that the system can be maintained by the customer after the project has ended.

2.4 The challenges of DSS implementation

Implementation of the DSS constitutes two risky characteristics, with the first one being the interaction between the consultant and customer (Gachet, 2000). In this relationship there are many elements that come into play, with some of them being managerial, environmental and socio-political issues (Mora et al., 2013). Secondly, the implementation span several cycles due to its iterative nature and business processes are prone to change during implementation. The choice of implementing a DSS tool is generally considered a high-risk and high-return project, and Moss and Atre (2003) concludes that as much as 60% of all DSS projects fail because bad planning, missed tasks, and lacking project management. As this subchapter present the general problems related to a DSS implementation it will divide the problems into two categories. Simple listing of challenges presented by previous research is incapable of providing context, so they will be presented within these categories; Human challenges and conceptual challenges as presented by (Gachet, 2000).

2.4.1 Human challenges

The human aspect cover challenges related to the people involved in the implementation of the DSS, which are both users and decision makers. This concerns the personal feelings that the actors pose toward the introduction of a new system.

The initiative of making a separate team for the implementation is supposed to act proactively and solve problems before they arise, but this however comes with a set of challenges. According to Sprague (1980) the initiative of adopting a DSS often comes from the user area, and not from the management level in the organization. The consultant is usually in contact with the head of finance in the organization but the person with technical knowledge is located further down the hierarchy (Sprague, 1980). Therefore, a major challenge is to collect enough good knowledge from the right employee in order to provide the consultant with proper information.

Organizations that are unfamiliar with the concept of DSS are having a hard time getting the user of the DSS to utilizing the full extent of its functionality (Gachet, 2000). If no one take part in promotes the usability and positive effects of the tool to the employees they may not use it, which might be more evident in organizations where the DSS has previously not been used before (Druzdzel and Flynn, 1999). When the consultant collaborates with the customer it is vital to establish appropriate user profiles which cater to the needs of each type of user. When choosing the implementation strategy, it is important to know what organizational role are to be included in the application and some users in need of decision support cannot benefit because it is not adapted for their business

needs, and the same problem of users refusing to use the DSS arise (Scholz, Schieder, Kurze, Gluchowski, & Böhringer, 2010).

2.4.2 Conceptual challenges

The conceptual factor refer to problems related to approaching the DSS from angles that are not fit or doable based on organizational structure. These problems arise when the wrong development approaches has been chosen, where for instance the phases prior to implementation do not fit the organization. These could be planning and business analysis or problems related with internal leadership (Gachet, 2000).

In order to facilitate the adaptation of such a system, the organization is required to embrace the new information infrastructure that a DSS constitutes (Gangadharan & Swami, 2004). Sprague (1980) argue that the approach for understanding the needs of managers in the organization is not very well understood, which further depend on a number of issues. Often there is an issue that point towards the understanding of the relation between system capabilities and the managers information requirements to support business processes (Gachet, 2000; Sprague, 1980). This further reflects itself into which understanding that the developer has of the business and the way that the user can convey useful demand specifications. The lack of internal leadership does prove a significant hardship for a DSS implementation even if the consultant provide the right external expertise (Fernandez & Rainey, 2006). In context of leadership, strategic alignment expand upon the issue of getting employees to realize its use (Mora et al., 2013). The strategic alignment determines to which degree the DSS strategic implementation relates to the organization's overall business strategy and goals (Mora et al., 2013). Top sponsorship is vital for the project to make users realize that the DSS is not another system in the stack of other source systems, but an important part to alleviate the workload (Jarrar, Al-Mudimigh, & Zairi, 2000).

According to Kraemer and Dedrick (1997) another issue arises with the investment of IT in smaller organizations which relates to the fact that it is hard to measure the return on an IT investment due to the organization structure not being fit for measurement. It is hard to measure post-implementation environments whether the organization actually achieved something due do data quality previously collected is not adequate (Scholz et al., 2010). As small organizations generally have inadequate understanding of IS especially if the system is previously unknown, would pose a great factor into the failure of IS implementation (J. Y. Thong, Cs, 1995). Many failures of such IT solutions relate to the fact that managers cannot facilitate the information needs of the future DSS application user and therefore the new system has a high risk of generating bad or raw data rather than useful information Kraemer and Dedrick (1997). Therefore, small organizations tend to have problems with IS implementation as their business processes and ways of conducting work dont support the application, are thus dependant on the external expertise that a consultant can provide.

2.5 Compiled theoretical base

To enable the research for consistent investigation I have established a compiled theoretical framework which holds the fundamentals concerning the implementation of DSS and its accruable challenges. The framework fills a number of purposes, such as demonstrating the key conditions for implementing the DSS which lead up to the factors on expertise and understanding;. The roles of external and internal expertise will explain the purpose that they fill. Lastly, the theoretical grounding will present the various challenges that accompany the DSS implementation.

Table 2.1 Compiled theoretical framework

Factor	Topic	Authors
Customer and consultant roles	Internal expertise, External expertise	(J. Y. Thong, 1999; J. Y. Thong, Cs, 1995) (Gable, 1991)
Challenges	Human challenges, Conceptual challenges,	(Gachet, 2000; Kraemer & Dedrick, 1997; Mora et al., 2013)

3.0 Research Method

In order to complete the intentions of this research, this thesis tailors and documents its research method to the question at hand. This chapter provides an overview of the research methodology by presenting the research strategy, research approach, data collection, analysis, how to ensure research quality, and reporting. These choices are a high priority for any researcher in order to satisfy the needs of the research at hand, but also to be generalizable and replicable for further researchers.

3.1 Research strategy

The choice of research strategy for this research is based on a method to best facilitate data collection that fit the objective of the thesis, which is to answer the research question (Bhattacharjee, 2012). This research aims to identify the practices employed by consultants into a DSS implementation project, and in order to investigate this accordingly an appropriate strategy must be chosen. The chosen strategy is meant to capture the opinions, perspectives and thoughts of both consultant and customer, consequently by people who are in contact or can be associated with the DSS implementation. The theories brought forth by this thesis will be supported by qualitative research, which aims to be descriptive and exploratory in nature (Bhattacharjee, 2012). Furthermore, the strategy of collecting data is meant to best mirror the environment in which the phenomena appear (Jack J. Baroudi, 1989). In addition, the goal also consist in creating a cumulative build of the understanding of the subject area by being critical of interpretations as interviews build on each other and expose areas for further inquiry.

The choice of adopting a qualitative instead of quantitative approach is justifiable for this research since the quantitative one won't offer the same flexibility. If the quantitative approach was chosen it would mean that the research were to be done within previously tested frames, and the flexibility of establishing factors beyond what is previously tested would not work. As quantitative research also require considerable previous research on theoretical frameworks it makes more sense to first get a general sense on what kind of theoretical aspects suits the research and then collect data with a flexible approach, which qualitative strategies allow for. This is further supported by Creswell (2007) who pose that qualitative approaches are appropriate to use in order to gain a deep understanding of the issue or case that is being studied. As the thesis deal with the implementation environment of both the customer and consultant, the literature review was adapted fully after the data had been gathered from both parts. This enables theory to support the thoughts, expressions and situations that has been brought forth by the interviewees.

3.2 Research Approach

The descriptive format of this thesis with its qualitative interview strategy gives the researchers space to grow the understanding of the research area, consequently by describing the "what" of DSS

implementation. As this research seeks to grow in understanding of a case that present problems which arise in the implementation, the general interview guide approach was used to provide flexibility in order to better personalize the analysis, not only to each respondent but to the perspectives from the customer and consultancy (Turner, 2010). The intention was to establish the various conditions for this case which explain the factors that influence what makes the DSS implementation suffer from hardships. This flexibility was pursued while maintaining coverage over the same general areas for which the general interview guide approach is a good choice (Kvale, 1996; Recker, 2012). Furthermore, rather than trying to prove hypotheses which demonstrates absolute variables that influence the DSS implementation, this research looks to show certain factors that are evident and test them with previous literature (De Mast & Bergman, 2006).

3.3 Data Collection

This thesis strives to identify the various phenomena which occur as a hindrance when implementing a DSS. As mentioned in the previous section, the thesis is based on qualitative interview strategy and therefore it is vital to select a data collection approach which enables the exploration of the case of a DSS implementation from the consultancy to a customer. The goal of interviewing people from both organizations is to get a concrete foothold on the experiences regarding the area of inquiry. This thesis investigates a single case of implementation, and while the data which comes from this thesis hold the views and perspectives of several key individuals, it all relates from involvement of a single phenomena. Furthermore, this means that the outcome of this thesis is a presentation of a separate event.

According to Myers and Newman (2007), qualitative research can be performed either in a structured or semi-structured manner. The literature review in previous chapter presented a compiled theoretical framework on which the interview questions are derived from. For this thesis, the semi-structured approach will be applied for interviewing the consultants and its customer on the area of inquiry. Using a semi-structured approach will enable us as interviewers to further investigate, elaborate and build a debate on the phenomena concerning the chosen scope and research issue (Myers & Newman, 2007). The semi-structured approach will allow for following up the various arguments when interviewing the respondents, which in turn will set up the discussions to find hidden information concerning the research area (Myers & Newman, 2007).

3.3.1 Interview Guide

This thesis' choice to use a semi structured interview approach necessitated the creation of an interview guide in order to ensure the major thematic areas were covered in the interview discussions. This guide enables an appropriate level of control to which exploration of areas relevant to the research can take place. The interviews consisted of open ended questions regarding DSS development which focused principally from a "what" and "how" perspective rather than "why" which tend to be speculative and not as definite (Kvale & Brinkmann, 2009).

The various themes in the interview guide consists of sets of questions based on the literature review (Bryman & Bell, 2011). The literature review started with a short introduction on the DSS environment, later moving on to DSS implementation, the consultant role in implementing such a system, and lastly the challenges related to DSS implementation. The literature review was concluded in the theoretical framework as shown in the table of chapter 2.7 that consist of factors that were deemed to reinforce the area of inquiry. Furthermore, for each of the presented factors in 2.7 there will be a theme in the interview guide. The following themes frame the interview guide as presented below, and the questions used for open-ended interviewing appears further in Appendix 1:

The interview guide was created to tackle the explorations and description of the thesis question in this research has seven areas of inquiry. These comprise introduction, the decisions around the DSS, the steering committee, DSS challenges, consultancy involvement, and finally the talking points, extracted from the Mora et al. (2013) during implementation. The interview guide can be found in appendix 1.

3.3.2 Interviewee selection

Since the study's focus lies within the challenges associated with the implementation of DSS, it is crucial that the interviewees are strategically chosen. To find interviewees, emails were sent out to various companies working with DSS implementation, stating the purpose and intentions of this investigation. Finally, a smaller consulting company expressed their interest on having interviews regarding the subject of DSS implementation. Furthermore, the consulting presented an opportunity to also interviewing one of their clients that they are currently implementing a DSS solution for. In total, there have been eight interviews done both at the consultancy and customer. All interviewees have been part of the DSS project in any way and should thus be able to provide information regarding the area of inquiry.

The table below presents a general view of the organizations chosen for inquiry, as well as an overview of all the interviewees in table x further down. Due to the a majority of interviewees requesting to be anonymous the names will be coded accordingly. If the interviewee is a municipality employee the name will for instance be coded as ME1 (Municipality Employee 1), and if the interviewee is a consultant the name will be CE1 (Consultancy Employee 1).

Table 3.1 Overview of organizations

Organization	Perspective	Size
Consultancy	Consultant, implementer	11 employees
Municipality	Customer	433 Employees

Table 3.2 Overview of interviews

Name	Role	Organization	Method	Transcription/ Language	Time Total 8h, 46min
CE1	Partner, Consultant	Consultancy	Face-to-face, recorded	Appendix 1 / English	[01:03:10]
CE1	Partner, Consultant	Consultancy	Face-to-face, written notes	Appendix 9 / English	Approximate >[00:30:00]
CE2	Partner, Consultant	Consultancy	Face-to-face, recorded	Appendix 2 / English	[01:08:12]
CE3	Consultant	Consultancy	Face-to-face, Recording	Appendix 3 / English	[01:08:33]
ME1	Finance Officer	Swedish Municipality	Face-to-face recorded	Appendix 4 / Swedish	[01:15:45]
ME2	Head of IT department	Swedish Municipality	Face-to-face Recorded	Appendix 5 / English	[01:06:08]
ME3	Senior HR Officer	Swedish Municipality	Face-to-face, recorded	Appendix 6 / Swedish	[01:17:26]
ME4	System Admin	Swedish Municipality	Face-to-face, recording	Appendix 7 / Swedish	[01:16:57]

CE1 is part owner and works with various tasks at the consultancy firm. He is the one that makes initial contact with customers and show what the consultancy can offer. His experience with the DSS environment goes back over ten years, with the supplier where he worked the majority of those ten years.

CE2 is part owner and works at the consultancy firm, with a role specifically oriented towards direct contact with the end users of the system, planning with key stakeholders, project managers, and solution development. CE2 has been working with DSS tools more than ten years. He started working at the DSS supplier, but later on switched towards offering the same DSS tool in a consultancy organization.

CE3 works specifically with consulting services for municipalities. Up until now he has been working in the consultancy firm for two and a half years. Prior to being a consultant CE3 worked as a DSS internal developer in a public organization. He has knowledge of the environment in which the DSS tool is generally deployed, with tasks ranging from deployment, presales, case studies.

ME1 is a senior finance officer of the municipality. She is tied to the consultancy since the DSS is to be deployed with main focus of data finance and people registered in the county. She provides the consultancy with subject matter experts so that they can convey their expertise to the consultancy.

ME2 is head of the Service and Technology department in the municipality and is responsible of the acquisition of new systems. He's had a wide range of managerial roles within apartments, being a development manager of city planning but also within geography.

ME3 is a senior human resources officer with an educational background in human resources. He was been involved with the early DSS initiatives in the municipality and has specifically been in contact with the developers of the early application that was an initiative back in 2007. He started working in the municipality in the year 2000 as a personal secretary but then went to work in the Swedish government for some time. ME3 returned to the municipality in 2007 and got a position in the finance department. At which time, he was working directly with the supplier company of the DSS tool.

ME4 is a system administrator of an enterprise system in the municipality that handles welfare data. In context to this case with the DSS project she is in contact with ME1 who is her link towards the consultancy firm. ME4 was a social worker within the municipality and came into the DSS project as there was need for a project manager with knowledge of the enterprise system used in ME4's work. In context to the implementation of DSS in the municipality, the enterprise system is one of the sources being extracted for analytical use.

3.3.3 Interviewing

All the interviews were carried out in the same manner, face-to-face at the location where the interviewee was working. Other than digitally recording the interviews, hand notes were also made which set up the transcription to be accurate to how it actually happened. The interview generally begun with an introductory monologue where purpose was stated and the interviewee was asked to introduce themselves. The interviewing strategy itself involved attempting to create an open conversation around the area of research. The interviewers attempted to create this by approaching the conversations semi-casually with open non direct questions and using direct questioning as a form of follow up to create clarification or specifically address an issue that had not been address in open conversation keeping in line with the semi-structured approach and ensuring attempting to not direct. After this dynamic conversation had run its course through the guide for an open interview, the interviewers showed the interviewees the list of top five inhibitors and facilitators by Mora et al. (2013). This was done in order to enable the interviewees to individually contrast, confirm, and further discuss what they had previously said on top of a relevant theoretical foundation with an added purpose of collecting perceptions on how much that theoretical foundation applied in this case and the public sector in general.

3.4 Data analysis

The qualitative analysis of this part will focus on the concept of open coding as it is a process aimed at identifying the concept or key ideas that are hidden in the textual data provided by the respondents (Bhattacharjee, 2012). The key aim here is to identify the key events, incidents, ideas, actions and interactions (Bhattacharjee, 2012). The first phase of the analysis consists of reading the data provided by the interviews and then mark these key events into large categories. Each category will then be filled with relevant thoughts from the interviews which will provide consistency and validity. The categories themselves have the purpose of reflecting the interview in a best possible way, which further gives us the ability to put all the respondents under each responsible category. The variables that are decoded from the interviews will be directly fit into the model, but those who are deemed independent of the model will suit as possible “independent variables”. Unknown statements without a corresponding code will serve as a basis for decoding the remaining data while simultaneously looking for additional categories which are not found yet (Bhattacharjee, 2012). This process is of iterative nature and enables us to find new concepts, categories as well as refining the old ones.

The table below will serve as a map for describing the different contexts and research variables that appears in the interviews. As the interviews have followed a semi-structured approach the variables will be dynamically created depending on whether there are unknown and undetected facts that have not risen prior to interviewing. The variables detected in the table below are determined by the chosen problem of this thesis, as originally depicted in table 2.1 which presented the four theoretical factors.

Table 3.3 Coding scheme for the data analysis

External expertise	Internal expertise	Human challenges	Conceptual challenges
CE: Consultant engagement CT: Consultant tasks	IL: Internal leadership UU: User understanding	SR: Solution rejection UK: User knowledge	MS: Management support OS: Organizational structure

3.5 Research Quality

3.5.1 Reliability

In order to provide a reliable source of knowledge I must, regardless of research type provide sufficient explanations as to why and how the research is conducted. Both qualitative and quantitative research aim to form correlations and investigate relations in the data that has been gathered. Quantitative approaches do all that, so Kvale and Brinkmann (2009) state that a qualitative approach build on to that principle also by reflecting whether the data actually fits the described area or not. In this thesis, selection of employees from both the consultancy firm and customer, of which

all hold a diverse background as possible in order to gain a broad spectrum of executive opinions on DSS. Furthermore, open ended questions were used rather than fixed for the interviewees as it will allow for potentially diverse answers that no precise questions could bring forth. The use of open ended questions and interviewees in executive positions of both consultant and customer allows for the discovery of complementary data. All interviews has been digitally recorded and transcribed into appendixes in its raw form which reflect the direct thoughts and interpretations brought forth by the interviewees.

3.5.2 Validity

The thesis work is based on data from interviews, and in order to ensure validity of the study there are a number of methods to employ. Before doing interviews based on the interview guide, a brief meeting was done with the first contact at the consultancy firm. The meeting consisted of stating the intentions with the research and what kind of result was expected, and by the next meeting with the consultant the interview questions were presented and discussed upon. The input of the interview form for the customer that the consultant is tied to made us restructure a few questions but also resulted in a couple of additions which proved useful when interviewing both the customer but also the other consultants tied to the same project. Furthermore, the a few of the interview questions were made based upon the input which were gained from professional expertise which were not directly derived from academic literature.

There are additional key points to consider in order to achieve research validity, and according to Rowley (2002) internal and external validity are important to consider. Internal validity suggest that the research will be grounded on literature which will be explicitly compiled into a coherent base of knowledge from academic papers. The internal validity questions whether the body of the thesis actually correlates with the stated research question, which in turn also demands that empirical data is in line with literature (Rowley, 2002). The external validity deal with the area of generalizability, the degree to which other researchers can take the provided body of knowledge and make further use of it. In this thesis the ambition is to limit this aspect to a strict relation between consultant and customer in the implementation phase of a DSS as it will offer a sharp scope on which the thesis will be written according to.

3.5.3 Ethics

As the empirical data is originates from interviews it is necessary to address the components that increase the validity of an interview. A few helping basic ethical viewpoints on data collection are, according to Bhattacharjee (2012): Informed consent, voluntary participation and confidentiality. This thesis is collecting data using interviews with professionals both in DSS implementation and the customer which retain public sector expertise. Prior to interviewing, the outline and purpose of this research was informed for each interviewee as well a request to record the session and thus informed consent was reached. Furthermore, each interviewee must be aware the their participation in the study is purely voluntarily and it is possible to withdraw at any time. Lastly, in order to remove

potential bias from empirical evidence, the respondents are anonymous which enables the use of coded names. As this report investigates the intricate details of DSS implementation and collaboration between the consultant and customer it is vitally important to keep anonymity of both parts. This is due to the fact that the thesis investigates strengths but also potential flaws in how the customer as well as the consultant works, and the reader could possibly capitalize on knowing who both organizations are. As two thirds of the employees chose to remain anonymous during the interviews, everyone will be presented anonymously to keep consistency.

3.5.4 Source criticism

In this implementation there are two parties involved: the external expertise provided by a consultancy firm, and the municipality that acquired the DSS. In order to get a comprehensive overview of the DSS situation and relation between the buyer and implementer I strived to obtain interviews from employees on both sides from various areas of expertise. Furthermore, with the field of application in mind I wanted to interview professionals in the various sectors of the municipality and consultancy firm. I managed to acquire interviews from all the consultants that dealt with this specific municipality, and thus a 100% attendant rate from one side was achieved. As for the municipality I set out with the intention of covering a wide area as possible in terms of expertise. Interviews from the head chief in economy as well as a system administrator in the economy department was acquired. The last two interviews were done with the chief of IT and the person that started the DSS initiative from the beginning. Since the consultancy firm was small and they divided projects on few persons, it wasn't hard to get in touch and do interviews concerning a single customer. The customer does, on the other hand present a difficulty as to how well I can understand the problem of this case depending on who I got interview access from.

3.6 Reporting

The empirical findings are narrated using quotations contextualized and related to the broad theme in each subchapter of the empirical presentation, which will be further explained in the beginning of the next chapter (Kvale, 2006). It is necessary to provide the adequate scope and thesis structure for the reader so that it is possible to weigh its quality which in turn offers traits such as being replicable and transferable (Seale, 1999). In order to do so, previous theses have been explored in order to give an insight on how to structure this thesis.

4 Empirical presentation

The empirical findings will be presented in this chapter. As the previous chapter aligned the data gathering method to a semi-structured one, the data presentation below will be presented according to the structure presented initially by the theoretical framework in 2.5. The responses will be summarized from each interviewee in the various subjects where their answers apply.

4.1 Deposition of empirical findings

The empirical findings in the study will be presented according the key themes as described in the previous chapter. Each theme will be filled with information that have emerged in the process of gathering data from the interviewees. Each theme will be divided into two sections where the first section exclusively presents the consultant view and secondly the customer opinions. Beneath each set of tables related quotations will be discussed with accruable data and a general comparison of textual form will discuss each of the interviewee's views on this specific topic. The presented empirical findings will be referenced to the actual interview transcriptions by using the appendix number and its corresponding line number where the statement occurred. A statement by an interviewee can be referred as 1:35 as it points toward appendix one and line 35.

4.1 External expertise

4.1.1 Consultant view on external expertise

Table 4.1 Consultant view on external expertise

CE1	CE2	CE3
<p>"...we educate people with the DSS Tool, we are running workshops, we are introducing them to the DSS Tool to new beginners and also we are expanding the knowledge they have." (1:12)</p>	<p>"We make an application that is organization wide and we want a lot of people to use it but sometimes we do a more narrow application toward solving a specific problem for a specific person." (2:27)</p>	<p>"...there is often an issue that the system administrators or the people involved with the project does not really know what they want in the end. They have this idea, now we are getting all this information that is hard to get with their built in tools..." (3:15)</p>

CE1 present the main focus of their organization which is to implement DSS for smaller organizations as such expertise is greatly needed (1:10). Many customers are not used to what a DSS is, so their purpose is to implement solutions and follow up with training (1:12). According to CE1, a lot of smaller customers cannot implement big DSS solutions containing i.e a data warehouse for

instance, and the focus is on developing smaller applications which runs easily (1:20). Providing the customer incrementally with small and functional applications ensures that the development process does not focus on large problems in the organization too quickly (2:86). The focus is often to gain control with a functional application and if it is deemed successful, additional features can be added and the area of use expands (3:52).

CE3 has the responsibility of developing applications to both the HR and finance department with regards to low level managers, at this specific stage in the implementation process. The demand of these applications usually come from a central area of the organizational structure (3:34). But this is not always the case, and CE2 state that the higher executives aren't often the ones that he is collaborating with when forming a solution (2:128). People lower in the organization are the subject matter experts on their own system and the data that they govern, so they are in a greater position to share important knowledge regarding the DSS. Both CE2 and CE3 are working together in extracting and discussing the KPI's extracted from employees in the organization, but users on different business levels are approached depending on the level of the application (1:34). Approaching executives and lower level employees can give different answers which relates to their various organizational responsibilities (2:128). Lower level employees can generally give more technical information as compared to an executive (2:128).

4.1.2 Customer view on external expertise

Table 4.2 Customer view on external expertise

ME1	ME4
<p>"we are regularly keeping in touch regarding the applications"</p> <p>"Usually, it is small changes we want to make.. and i'd say there's a constant dialogue with them as we have this system now and we'd like to further develop it to increase its efficiency"</p> <p>(4:35)</p>	<p>It is CE2 whom I have a lot of contact with regarding development and the I am the coordinator here at the municipality regarding Treserva, so I collect the ideas, and thoughts of our needs, and present that to CE2."</p> <p>(7:24)</p>

ME1 is the head of the economy department and is in frequent contact with the consultancy regarding application development (4:3). ME1 is also the person that delegate the consultants to different employees if information from a lower business level is requested (4:75). She has been

familiar with the DSS tool since before and uses the DSS herself in order to support the business needs (4:139). CE4 is the subject matter expert of a source system that is being connected to the DSS and was appointed to CE2 by ME1 with the purpose of providing KPI's from a lower level in the organization (7:26).

4.2 Internal expertise

4.2.1 Consultant view on internal expertise

Table 4.3 Consultant view on external expertise

CE2	CE3
"You need to have a person responsible otherwise it can just get out of hand" (2:67)	"...the steering committee involves the administration leader. You can say, if you run an HR departments, the head of the HR department is in the steering group along with the head of their system for each departments..." (1:19)

The consultancy is aware of a steering group that handle DSS tasks specifically in the municipality. Within the DSS steering group of the municipality key specifications such as KPI's and layouts are decided (3:19). Below the actual steering committee there are project groups that are directly involved with the development of the applications, so CE3 is able to make adjustments of the product without having to consult the steering group (3:19). The steering group involves the administration chiefs, which in this case are people of the HR department and financial department since the application is governed towards municipality employees in those departments (3:22).

4.2.2 Customer view on internal expertise

Table 4.4 Customer view on internal expertise

ME1	ME2	ME3	ME
<p>“This group is for the central control and so that we can have a county (oversight) on DSS systems. The group is put together with people from economy and other departments.” (4:10)</p>	<p>“ME1 have meetings with this steering group, and it is also every manager of each department and the manager of finance, so that is her steering group.” (5:58)</p>	<p>“The IT steering group are responsible for all the systems in the municipality, to see what we need. so The DSS Tool is part of that, the municipality I believe we have a few hundred different systems.” (6:53)</p>	<p>“..it’s enough that I know which channel to use. And that they...So that I know who to turn to put forward what I see from our needs so to say...Because as a Coordinator I have no mandate to make decisions., therefore I don’t believe I’m the right person to sit in the steering group I think that that is for some Manager that can make decisions.” (7:54)</p>

As the municipality is introducing an organization-wide license for DSS there needs to be transparency so that decisions and information is conveyed properly (6:61). The group itself are managers of all the departments that could be in need of data from a DSS (5:58). Besides the steering group, according to ME3 there is an IT steering group which handles all the systems in the municipality and the DSS steering group exists as a smaller group within (6:53). The DSS steering group’s intention is to connect other reference groups with knowledge of other systems so that they could also benefit from analytical capabilities that the DSS manage (6:55).

An important aspect to note with regards of decision hierarchy and how decisions flow through the municipality is, according to ME3 the fact that it is neither strictly hierarchically nor horizontally made (6:61). ME3 describes the structure like the one of a spider web where decisions regarding i.e. the acquisition of new information systems are supposed to be handled by the assigned IT strategic group, but the fact that it has not had much significance in general proves that departments are quite autonomous (6:61).

The role of the internal IT department is univocal from all the interviewees, which implies that the department only serves as a support asset to the organization. Even though the department only handles service and installation tasks there is no single representative from the IT department in the DSS steering group (4:111). According to ME2 the IT department has the capability to analyze

requests of systems and further judge whether it is feasible from a technical standpoint to acquire that certain system to the municipality (5:88).

4.3 Human challenges

4.3.1 Consultant view on human challenges

Table 4.5 Consultant view on human challenges

CE1	CE2	CE3
<p>“...they are not used to getting this information and steering things.” (1:40)</p>	<p>“...they didn’t directly see the use and where they could save time...” (2:5)</p>	<p>“...there is often an issue that the system administrators or the people involved with the project does not really know what they want in the end.” (3:15)</p>

From the consultant perspective there seem to be a lack of understanding from the municipality employees of the capabilities and processes that a DSS could support (2:5). To further build upon this, CE2 mean that organizations without DSS knowledge are not used to measuring effective time reduction on processes and effectively spent money, which is hard to gain knowledge of from the external point of view (2:7). CE1 argues that these organizations tend to not solve their problems because they for instance have weak leadership, and even though the consultancy ventures out and shows good applications, the customer tend to not solve their problem that the DSS was supposed to do in the first case (1:51). According to CE1 they try to solve these problems by introducing workshops and training, which in turn is meant to make the DSS user realize the potential benefits and how it can be achieved (1:51). CE2 notes the importance of having top sponsor support when in the process of introducing new users to the system (2:29)

CE1 pointed out that employees tend to believe that they know the system well but it turns out that they are inexperienced of the DSS and the consultant takes on responsibility to have workshops and educate the customer on each new application (1:12).

4.3.2 Customer view on human challenges

Table 4.6 Customer view on human challenges

ME1	ME2	ME3	ME4
The system must be able to be easily used by the user, and henceforth may bring better acceptance. If the operation people are to use this kind of system they must be able to work fast and easily...” (4:16)	“...i am not really a finance person so that is not my main expertise. I have finance people under me, and we have 5-6 finance people in this department so they are using that.” (5:48)	“...preferably people want to hold on to the way one has always had things, and not until one sees the finished product, do you understand the benefit of it.” (6:35)	“...there is problem with the education and the fact that people don't see the use like the positive effect of decision support. (7:111)

ME3 argues that employees who would benefit from the solution have had a hard time adapting and accepting the new system due to their current working habits (6:37). Despite being situated at different levels in the organization, both ME1 and ME4 indicate that there is a lack of infrastructure regarding the training and education of the distributed DSS applications (7:112, 7:42). According to ME1 the focus of the applications is that they should be easily understandable so that self-teaching should only be necessary to learn how to use the DSS (1:73).

ME2 is not in contact with the DSS tool as it focuses on employees of finance and HR background, and he was neither aware of the fact that a municipality-covering DSS license is to be bought, despite being head of the IT department (5:50). However, when asked if he is in need for actually analyzing data based on the systems he uses he responded that the municipality recently bought the license for a geographical information system (GIS) in the municipality (5:46).

The system administrator ME4 uses the DSS because source systems does not have analytic capabilities, but a general lack of DSS knowledge regarding its capabilities are lacking and end users continues to work only with the source system (4:154). Instead of a DSS, people supplemented the use of the financial system with extracted excel reports, which of course was a painfully slow process (6:33).

4.4 Conceptual challenges

4.4.1 Consultant view on conceptual challenges

Table 4.7 Consultant view on conceptual factors

CE1	CE2	CE3
<p>“...these organizations has weak leadership. Then we can sit with our very good application and they don't do anything to solve their problem. That is a pitfall for things, I can tell you. quite a lot. We are working quite a lot with that and that is why it is very important that these workshops are done. To agree on problems, to really agree on problems, to make the applications, and follow up. (1:51)</p>	<p>“...If they have a person, does not necessarily be a person that works 100 percent on this. They can work 50% so they can pick up all the needs the organization has and ok we can do that in the DSS Tool.” (2:23)</p>	<p>“...the DSS Tool is atop all of these systems, and no one actually takes full responsibility for the deployment, that is the issue really.” (3:15)</p>

All three consultant stress the issue of leadership of the customer when it comes to getting feedback for clear requirements, needs and so forth when developing the applications. CE2 argues that the development of DSS is fast paced compared to other IS and if there is no clear strong leader that supplies the consultant with good specifications as well as cooperation, the project will get out of hand (2:66). Since DSS according to CE3 is situated on top of the many sources from enterprise systems there is a need for a leadership that is capable of managing the project (3:15). The management of a DSS project comes with more risks if the customer is new, which implies that they are unfamiliar with the DSS environment and the fact that they do not know how to manage the project internally in the organization, but also that they do not know what to ask for (3:17).

4.4.2 Customer view on conceptual challenges

Table 4.8 Customer view on conceptual challenges

ME1	ME3	ME4
<p>“There was really no one that had mandate to take decisions, so therefore it has not been easy to steer for instance DSS decisions of the county” (4:12)</p>	<p>“...I feel that we didn't really have somebody to, a person to take care of the DSS Tool, since 2009 to present, and that's why we stagnated the development, and that is one of the most important piece when you are dealing with a system like this...” (6: 41)</p>	<p>“...we noticed that, or I did, when we were going to start with the DSS Tool, that it was somewhat unclear. Who has...is there a system administrator for the DSS Tool? Who is the System owner for the DSS Tool, and who is in charge if this. (7:102)</p>

The initial demand did not come from the central part of the organization, but from the financial chief in 2007 which was a reaction due to the inability of the financial systems to retrieve and analyze the data (4:33). The interviewees indicate that there is a need for leadership and clear baselines regarding DSS in the organization (6:113). ME3 was the initial project leader and since vacancy of the project leader position he has merely been involved in the development of the DSS initiative from a strategic standpoint and not as a direct decision maker (6:41). Since ME3's absence the leadership of the DSS project switched leader two times where each one only stayed on the position for short periods (2:23, 4:137). The project stagnated and there was no person that had enough strategic overview to develop the project further, such as adding and integrating more enterprise systems (6:43). As of spring in 2013 the municipality created a steering group that specifically deals with the DSS initiative, which is something that did not exist before in the municipality when the initiative started in 2007 (5:74).

ME4 is not a member of the steering committee but is in direct contact with ME1 which is part of the DSS steering group, but also ME3 which is the primary consultant for the municipality (7:18). As ME4 is the coordinator for this specific enterprise system she collects the ideas, thoughts and needs from the users and conveys them to CE3 which creates applications based on the desires (7:24, 7:26). There usually are no single representative of strategically made decisions regarding IS in general, and even less on DSS (3:79). This indicates that the finance department is managing a strategic information systems project for the entire municipality strictly without any considerable IS expertise (3:82).

5 Results and discussion

This chapter will provide a discussion of the structure detailed in the empirical presentation chapter. The discussion itself relies on relating the empirical data to our theoretical framework in conjunction with the selected analysis in the research method. The chapter is presented according to table 2.2 which summarize external expertise of consultants, the internal expertise of the customer, human challenges and conceptual challenges of the implementation.

5.1. External expertise

Organizations work in business environment that requires their employees to be able to gather information and act upon it in order to solve a specific problem. In today's environment, businesses rely on information systems to carry out tasks that are in line with the goals of the organization (Gable, 1991). But as the load of information is steadily increasing it can prove difficult to properly mitigate such a problem (Surajit Chaudhuri, 2011). Employees in the business are in need of a solution that enables them to work and make the right decisions, despite having a heavy information load (J. Y. Thong, 1999). The DSS system which possess analytical capabilities is generally complex and takes a great deal of resources from the customer organization to implement successfully, and yet a majority of these implementations do not fully meet the needs of the customer (Moss & Atre, 2003). It is even harder for smaller organizations who do not possess the resources nor knowledge to single handily implement a system to cater for all their needs (J. Y. Thong, 2001). The study reveals that smaller organizations can also benefit from a DSS with the help of external expertise which provide the expertise necessary (1:20).

The choice of hiring external expertise to ensure implementation success lies within the fact that the business does not possess the internal capability to do so by themselves. By bringing in external expertise is a step towards ensuring that the business can reach a solution to the problem. The consultant is in this case knowledgeable of implementation plans and what type of software is required to solve these specific problems. The consultant possesses knowledge of the various aspects that constitute the project life cycle and solutions is the main expertise, but it is vital for the consultant to create a project environment where it is possible to extract what the customer actually needs (Gable, 1991). CE3, which is in direct contact with the customer regarding development of the solution argue that initiatives regarding the DSS usually come from a centralized point in the organization (3:34). CE2 also state that even though the decision may come from the top manager in the beginning it can prove more fruitful for the project if the consultant keep regular contact with employees on lower levels in the organization. By realizing this, it is important to know what roles the system will be implemented for and the type of information that will support it. Higher executives are often the ones that bring up the need for DSS capabilities, but consultants are most likely to seek the knowledge of lower level employees who are subject matter experts in the organization as they are in direct contact with the source systems. As the project develops, employees of different hierarchical expertise are approached to form a general sense of how the system should look like and

the capabilities it shall possess (2:128). This enables the consultant to create the DSS which will cater to the different needs of the employees which can vary greatly depending if it is an executive role or an operational one. The notion of having interaction of different organizational levels is supported by ME4 which supply the consultant with valuable KPI's that will support the DSS application both on lower and higher levels.

As mentioned in the implementation framework in 2.2, the importance of regular interaction and iterative development enables the consultant to develop the DSS in cycles where each new cycle consolidates issues, successes and new ideas based on the previous one (Moss & Atre, 2003). According to CE2, this iterative cycle can start out as a small application with a narrow scope adapted for a single type of user to ensure success (2:27). This solution can in later phases be expanded to cater a greater scope for the business if early versions are deemed successful by both parties. The customer support the notion of having frequent interaction with the consultant which suggest that information flow between both parties as should. The consultant is in this case able to communicate on several levels of the organization which suggest that information necessary for adapting the scope of the DSS solution is present (Metrejean & Stocks, 2011).

5.2 Internal expertise

Given that of external expertise is a vital asset for smaller businesses, it is equally important for the customer to possess the necessary internal competence to work together with the consultant. The consultant provides the service in form of a solution and education to ensure that it is being used to as is intended. The customer is also required to take the necessary steps in order to ensure that the solution is well received by the end users and properly implemented to the best of its internal abilities.

As mentioned in the previous part it is vital for the consultant to be appointed the right employees to facilitate proper transfer of useful information which can be used when constructing the DSS. A key factor to ensure that the consultant reaches the right employee is to form a group within the customer organization that handles internal DSS affairs as well as communication with the consultant (J. Y. Thong, 1999). This group consist of managers, preferably high up in the business hierarchy which possesses an overall awareness as to what the consultant is asking for. The findings regarding internal expertise from the view point of the consultant support this argument, which indicate that it is easier for an external party to gain the right kind of information if the customer has a group that focuses on i.e. DSS specific issues (3:19). The customer is aware of the importance of a specific group to handle DSS issues and has gathered managers from each department with ties to the DSS (6:63). This group is also responsible for supplying the consultant with user views and notions regarding the functionality on different levels in the organization. This facilitates the development of the system as the consultant is aware of who to turn to and which expertise that the customer possesses (Gable, 1991). By having the manager of each department present in the DSS implementation ensure that the internal leadership of the DSS consist of people with a general knowledge of the solution and the functionality that they seek from it (5:58).

A finding regarding the organizational structure also suggest that the customer, due to its small structure tend to execute internal decisions neither hierarchically nor horizontally, and tend to deal with decisions directly (J. Y. Thong, 1999). This suggest that even though the organization has a group comprised of executives from areas associated with the DSS, decision are prone to go outside the general protocol. According to ME3 who was the senior HR officer, departments in a small organization tend to be autonomous as the DSS initiative initially was a decision by the financial department and was managed from key financial people for a long time (6:61). The consultancy also present the fact that they do not always have to go through top managers when interacting with the customer on a lower level, which in turn further proves that smaller organizations do not always follow protocol even when having something as significant as new system implementation.

Another important finding regarding the internal IT department suggest that it has no direct involvement in the DSS implementation, and only exist to support and maintain the application during use (4:111). This correspond with (J. Y. Thong, 1999) which state that smaller businesses generally tend to employ people with a broad and shallow expertise of the IT environment. No single employee of the internal IT department is present in the DSS steering group which point towards the fact that the customer is fully reliant on the development of the system from an external point of view. ME2 who is head of the department further build upon this by stating that the main task of the IT department is to judge whether it is possible to acquire new systems, such as a DSS, from a technical standpoint.

5.3 Human challenges

It is clear from the theoretical framework that several factors of a DSS implementation that affect the outcome of the product. These factors are also reflected in the opinions from the interviewees, which have been deemed to be obstacles in implementing the solution. The personal feelings that users pose when interacting with the DSS are important to consider both internally and externally also. Even though the initiative of implementing a DSS project is intended for users to benefit, that may not always be the case.

As mentioned earlier in 5.1, the customer is generally not used to having these kinds of systems nor uses them to their intended purpose. The major theme regarding the user opinions of the DSS according to the consultants point towards the user being unfamiliar with the system as they didn't encounter this previously (1:40). This puts pressure on the consultant to acquire the right kind of information to solve the problem which is problematic when the customer does not know what he needs and the wrong kind of information is conveyed (Sprague, 1980). While the system is required to have a large array of functionality it needs to be easily used and have an interface which is easily navigated by the user (4:16). The customer agrees on this issue with the consultant and poses the importance of an intuitive application which minimize the effort of a new user to utilize. The acceptance of the system can be achieved through top sponsorship, which the customer also note to

be a challenge (7:112). ME4 which is the source system administrator specifically notes that there need to be proper training and education of the DSS, as users are prone not to use it.

As mentioned previously, it is important for the customer to have intuitive and self-learning DSS applications, but also to have a scope adapted which cater to the specific information needs of that user. System rejection is apparent for ME2 who mentions that the DSS is used strictly for HR and financial data. This points toward the fact that the system is not designed with the intention to cater the needs of ME2 who is outside HR and finance departments, while specifically stating that he, as the head of his department is in need of functions possessed by the DSS. This mean that users in the organization encounter the DSS but reject it simply because it is not adapted towards the information needs of that particular role (Druzdzel and Flynn, 1999). The summarizing image given by the customer indicate that training and workshops can be deemed futile in getting employees to use the system because they actually don't have any use of the application, due to its scope being outside their own information needs.

5.4 Conceptual challenges

It is clear from both the consultant and customer views that the key issue in terms of conceptual challenges lies within the internal leadership of the DSS (6:41). The customer has prioritized its functionality towards specific functionality in HR and financial branches rather than enabling the introduction of additional scopes. As mentioned previously, the consultant will act on information supplied and produces then an application according to the information acquired from the customer.

The fast paced development of a DSS emphasizes output of small working versions which then are tested in the business. The consultant state that the customer is usually content with the initial result and further development of the application continues and system grows increasingly complex as more features and sources are added (2:27). The issues that arise need to be governed by a strong internal leader, which the customer refer to as the steering group. The group contain managers from all departments involved in the DSS implementation and is meant to gather opinions and consolidate issues regarding the DSS solution. This correspond with Mora et al. (2013) who mentions the positive impacts on top management support throughout the project. The DSS implementation has been an ongoing process for several years and the group of top managers that govern the DSS was unfortunately not created along with the project start. Frequent switching of project leader has led to the project to be restarted and stopped when each leader left (2:23). As stated by ME1 the initial DSS requests came from the financial department, which naturally handles financial and HR data. This further suggest that the absence of leadership does not enable the DSS to expand to other areas other than financial and HR which was the initial intention. The initiation of a steering group after implementation start propose that the customer want to restart the DSS initiative and expand capabilities outside of the ones already in place. As stated in the theoretical framework, it is vital for the project to have top management support throughout the lifespan of the implementation and without it, the consultant is unable to provide solutions solving the actual problems of the organization (Moss & Atre, 2003). The problem remains due to a lack of vision in realizing that the

DSS can be used by users outside the use of financial and HR departments. Transparency is vital in sharing information throughout the organization, and as pointed out in 5.3, ME2 who is in need of analytical functions is unable to use the DSS due to its scope being restricted. The intentions expressed by ME2 to apply the DSS for personal use, and use business wide is inhibited due to lack of strategic management and expansion of vision.

One way of enabling the organization for a DSS with covering functionality is to expand the vision that the system can be applied outside the scope already set in place (1:51). As stated in the theoretical framework, a general issue is to understand the relation between system capabilities and the needs of each area in the organization (Sprague, 1980). The consultancy argues that a DSS is to be applied as a layer atop of source systems, and the current scope of is rather focused on solving a specific problem in the organization. These problems are often apparent when the customer has no previous knowledge of how to internally manage a DSS project.

The findings regarding internal the conceptual challenges can be summarized by stating that the customer is in this case unaware of the expertise that is required of them when taking on a DSS initiative. As the external expertise supplied by consultants develop the applications, they can only act on the information that the customer is able to provide. When internal project management is lacking, the consultant is unable to solve the problems as well, and the interplay between the two parties fails.

6 Conclusions

This chapter will conclude the efforts put into this research and it will summarize the findings and discussions made. First off, the research question will be answered and afterwards the empirical findings will be discussed. Lastly, the contributions and proposals for future research will be presented.

6.1 Empirical findings

The thesis purpose is to identify the phenomena that consultants and customers are faced with when implementing DSS, which includes discussions on expertise required and the challenges accompanied in that situation. This framework, initially presented in 2.2 is comprised of four aspects: External expertise of the consultant, internal expertise of the customer, human challenges and conceptual challenges. A qualitative approach has been selected in order to properly describe the ideas and feelings of both consultant and customer with regards to this specific case. The findings of this qualitative approach, joined together with theoretical grounding resulted in the discussion in the previous chapter, and can be summarized as:

The external expertise of the consultant is vital in enabling the customer to form a vision and to solve the problem. By letting the consultant construct applications in a iterative manner enables the customer to give frequent feedback whether the solution fit the needs and solves the problem. Both consultant and customer are aware of the interplay required to solve these problems and form plans for further development of the solution into the organization, and finally solving the problem.

Internal expertise puts focus on the customer to ensure that the project, from an internal standpoint, meet the requirements. The findings reveal that the customer has assimilated a group of individuals which specifically deal with DSS issues, which enable the consultant to have a channel to which information needs can be delegated. Though the literature also present that internal leadership is necessary for implementation success, findings reveal that the consultancy frequently work with users outside of the steering group.

The findings regarding human challenges present a similar notion from both parties which is that the users are not aware of the capabilities that the DSS brings. The belief that the system cannot provide the user with useful information is apparent due to a lack of vision outside the current capability of the system. This suggest that consultant efforts that are being put into education and workshops of the DSS tend to be futile in bringing the user to use it as the system cannot accommodate the information needs of every employee.

The last point regarding conceptual challenges reveal that the customer organization failed to create a steering group when the DSS project started, and the scope of the system does only cater to a specific user group. The customer was initially unaware of the internal efforts required for the DSS to be

implemented and is struggling to solving the previous issues of the DSS as an organization wide solution of the system is needed.

6.2 Proposal for further research

As the thesis identified practices from the point of view of a customer and consultant in the event of a DSS implementation, a couple of areas for further inquiry can be presented. The proposals for further research are presented with regards the findings presented in the thesis.

The thesis presented an approach in discussing two sides of the same story from the perspective of an external consultancy and a customer with the need of implementation help and strategic guidance. The conclusions drawn by the thesis, from the perspective of two parties can be used as basis for future research. The potential future research can for instance focus on the measuring of which party that impact the implementation most, from a quantitative standpoint. As the study revealed that external expertise plays its part in deploying and educating the customer of the DSS, it is also important that the customer deal with issues that arise during the project lifecycle. A quantitative approach can measure the impact that each party pose during the implementation cycle. Furthermore, by conducting a qualitative study based on another case where a small organization acquires external expertise can prove useful to determine if lack of strategic leadership is a great challenge when implementing a DSS.

Appendix 1 Senior Consultant/Sales (Interview Transcript)

Interview conducted 2014-03-03

I1 Mikael Persson
 I2 Amed Martin
 O1 Senior Consultant/Sales - CE1

Length: 01 Hr, 03 Min, 10 Sec

N	P	Text	Code
1	O1	In order to do that is based on, you have a marks building kind of a structure, and so on combining sources and that takes a lot of a time. in the end it leads to you getting 1 to 10 reports. that is business intelligence in general. and so Qlikview or qliktech is getting away from that and that is why they are calling it business discovery.	
2	I2	So going beyond that, I guess a pitfall of just being a report building infrastructure right? That it has gotten a little dirtied up in the business.	
3	I1	Yes	
4	O1	I am going through these (questions) ones ok	
5	I1	Yes, I guess we can just start on the first one. We looked at your profile on the homepage and saw what you have. What can you tell us about yourself and your position at the company?	
6	O1	Well, I am a business developer, solving problems mainly, for customers. So its kind of focusing on solving problems and using the best tool for it which is Qlikview. That is what we are doing here. My role is to take the lead into customers and help out our people and pinpoint problems. We are just a small company just ten people and so my role can be a lot of, one can say I am a manager or director, kind of.	CT
7	I1	So How many years have you worked at the company and BI field in general?	
8	O1	This company was started in the year 2000. and a, sorry 2010 we started it in October. So it has been more or less three years. And I started at another company in the year 2000. So I have been in the BI field for, its fourteen years.	
9	I1	So I guess we have kind of answered question three. What was the reason for creating this company?	
10	O1	Its a little bit about what kind of process, what kind of person you are and what you would like to do with things. Qliktech is a fantastic company with a fantastic product. And I had been there for ten years and I wanted a few changes in a way. And I think its the way we are acting in our company. We would like to solve problems and I	CT

		think we are more allowed to do that with a smaller company. So that is the reason why we changed.	
11	I1	Ok so, Question four, What services do you provide that help your client implement Qlikview and their overall BI strategy?	
12	O1	Its several Services, one is of course is to a, mmm, maybe we have a this mentorship with helping customers to truly run the kind of Qlikview app for customers, they are not used to these kind of systems. So you know, they need to, we need to train them to do that so that is what we do. We educate people with Qlikview, we are running workshops, we are introducing them to qlikview to new beginners and also we are expanding the knowledge they have and so on. There are different kind of courses we are running, workshops we are of course consulting, we are supporting customers, but of course it leads to a running a kind of process, kind of expanding or coming into customers. We always start with a kind of workshop to find out the problem they have and it is why we are successful in our company. We are using our knowledge. we know more or less where they have their problems already. Because we have been working with organizations that are well known to us as well.	CT, CE
13	I1	So I guess question five, is more of a technical question. So basically do you provide services such as ETL, Data cleansing I mean cleaning their data sources, from their systems	
14	O1	We are not using tools for that, data cleansing. But we are using other kind of, they are kind of a... There are tools for that as well. We are not using that. Normally we are presenting applications where some dirt ought to be seen and also equal kind of a good strategy. When the customers see the dirt, they change the way of kind of using the system in a better way. So that is kind of a good way that Qlikview can see the dirt. Of course in some cases, we are kind of cleaning the data as well. But by using or expanding, adding fields and so on... Using Kind of excel sheets and so on so it can help out there. We are not using an ETL or a kind of data cleansing product for it.	CE
15	I1	OK	
16	O1	Data warehousing can also have I see here... we are not using data warehousing.	
17	I1	So you just grab their sources from their legacy systems? kind of.	
18	O1	Yeah, we do. And we believe that has been a success story for qliktech as well very much. We are going out to customers where we are meeting competition and the competition is saying to our customers that you need to have a data warehouse. In many cases you do not. That has been the story for BI for 30 years that you need a data warehouse. In some instances you do need a data warehouse. But in many you don't need it and it takes up a lot of resources, costs a lot of money and it leads to a structure that is very difficult to change as well in some cases. So, it is being the competition is using this kind of strategy as well for their own sake we feel. To create more business because it leads to more consulting for them. So that is why qliktech would like to go away from Business Intelligence name into Business Discovery. It is also why we feel that it is very important that... In many cases we are working with municipalities and they have for example... The typical thing for municipalities is that they are using some 40-50 different systems. So an expert there would of course say, you need a data warehouse. To run this information and to get out the correct data. Well we have 85 municipalities right now and we are combining all the time new data sources without a data warehouse. The advantage for that is because it is cheaper, it needs less consulting, its flexible by allowing for new sources (on the fly). So if you	CT, CE, UU

		do it in the right way you can add and drop sources, and that is what we do.	
19	I1	That is very interesting because we have the general notion that a data warehouse is always needed when you are going to implement a DSS tool.	
20	O1	We see that all the time. We have seen these larger county councils, that are using data warehouse. We have noticed for example that you are using an accounting system and the HR system. They are the two largest systems in a municipality or a county. Employees being the most costly. Having these two systems in a data warehouse is the most common thing for our competitor to do. We have these customers, that have a data warehouse and as we try to take data from this data warehouse, we have been stopped because they have not build the data warehouse in a way that is free to get what you want. In some cases you have the source system where you have loaded some data and you do not get everything you need out of it. We are now talking to some public sector client to go directly to the source system to get everything out of it (and bypass the data warehouse or use it as a supplement). From our point of view, we can combine these two sources in ten to twelve days. Our competitors would have not even started with the data warehouse in ten to twelve days. This example shows the problem with the market a little bit and also the advantage in using qlikview for it. So that is what we are doing quite a lot. This is also quite typical for the market, these big (projects), it has been built up using these data warehouses. The big firms out there are having their strategy of talking about cleansing data, quality in the name of that. They are selling these data warehouses. That is how the market looks like.	CE, OS
21	I2	We can skip question six since it has already been answered. By seven we mean, you have talked a bit about the public sector customers, other than the public sector in the private sector... What are the types of businesses or industries that are your customers.	
22	O1	Ok, What we are doing first of all. We are ten people. We are solving problems in the public sector municipalities and county councils, police. We work with quite a lot. We also deal with some private customers. The retail segment is strong for us. Generally speaking we are quite skilled when it comes to qlikview and we are focused on doing the right thing. We are not just building up consulting with the customers using 40 or 50 days. We would like to solve problems, so that is the base. But, 80% of our business is in the public sector. Examples of that would be the police force. I had done work with police while at Qliktech, for many years. You know Magnus Mags in Malmo, the shooter?	CT, CE
23	I1	Yes.	
24	O1	Qlikview was used to seek him out in a database. The database at the police force was a kind of journal. A witness saw something... "A guy, 1'80", white car,..." and so on. So what they did with Qlikview was search into a database of written journals. It contained somewhere around 7 or 8 thousand records. In five, to have found 25 people out of seven hundred thousand. Just like that. Then they hurried to different places.	
25	I1	That is really cool.	
26	O1	So that is one of the type of tasks for it. Normally it would be more like accounting information, safety information, HR. But in this case it was an interesting case in finding people. And it take a search you can do using qlikview is quite good. I can show you some application if you want. Of how it looks like for a municipality if you want. It is much easier to tell you there.	CT

27	I1	Yes.	
28	O1	We can see how it looks like and how they are looking for things. When it comes to qlikview we are making applications because we are solving problems. It could be an application that combines two sources and solves a problem for 5 people or all the managers or what ever. It should be solved. It could be purchasing info, it could be finding out who is filling in for sick leave of an employee, so sick leave, finance, safety, cost, etc. The important thing is to find out the issue they have and solving it. Not just building a Business Intelligence thing, but solving problems that is important.	CT
29	I1	So you approach the problem first and that is the application depending on it (the problem).	
30	O1	Yeah, I can show you here. On this it looks like. So right here, it goes like this. This is a process. We are making a SIB (seeing is believing proof of concept) before they are a customer. OK?	CE
31	I2	Yes.	
32	O1	The SIB is seeing is believing. Have you heard of that before?	CE
33	I2	Yes.	
34	O1	So they told you how this is being done in qliktech?	
35	I2	In passing.	
36	O1	We are using strong things that we have with qlikview. The strengths are that it is quick and flexible. If we are like that then we can also prove things. The things that we are saying, that we are fast, good, knowledge, etc. Everyone else is saying the same thing. So we can prove what we are saying is true. So we are using that as a strength. That is why we use the SIB. So when they are interested in having a discussion. They say, What do you have that can solve our problem? We say, Do you have three days? They say, Yes we have three days. We, say it cost you 30 thousand SEK. That is the whole thing and you can test this for one month. And then they say yes or no.	CE, CT
37	I1	If you continue with your...	
38	O1	This is a test. The SIB. To try out on their own data. Ok. On their own data. For instance, we can connect accounting data, and then they can see for themselves... Yes this is much better than Excel, or much better than the report we have, etc. Then they see for themselves and they say yes 95% of the time. When we are here they say yes to test. From there, we more or less have a customer. The what would happen is that we would make several applications after that (depending on the problem and size of the implementation). That is going to happen. And what we start with is a workshop to find out problems (the client could solve).	CE, UU
39	I1	This brings me to a question on the paper. Maybe, I have addressed it before but. What are the major pitfalls and challenges when working with a customer? Do they ask for solutions that they do not need? Or...	
40	O1	There are some pitfalls and so on definitely. But I would say this. The problems we have with customers... Now, I am talking public sector. Quite a lot... In the private sector the problem is less... In the public sector they are not used to getting this	

		information and steering things. If you look at... what we are trying to do is that we are trying to find problems. So we need to find and solve a problem here. That is what we need to do. We believe that if people see the problem they would do something about it. OK?	
41	I1	Yes.	
42	O1	But lets say that we are presenting a problem and they don't do anything about it. There you have a pitfall.	SR, UU
43	I1	Such as changing their processes? Or?	
44	I2	Not Recognising a problem that exists?	
45	O1	It could be for instance, that you have weak leadership. You have people in an organization. If this is an organization, it looks like this. And if they have worked... This is the municipality... In different...	IL
46	I1	Silos?	
47	O1	Mmm. If they have worked by themselves before and be kind of strong. In the way of taking decisions and "no one should act with out me" and "I know what to do".	OS
48	I1	They protect their area?	
49	O1	Exactly. So whats going to happen then if they are going to say that they are going to be taking qlikview and we are going to give all these people information.	SR
50	I1	Introducing transparency.	
51	O1	We are going to give these people information, politicians, teachers, etc. For instance, ten to fifteen sources. Suddenly we gave them information they have never seen (or were able to easily access before). Because it has not been seen. That would be the problem they had before, because they are using excel. Excel is slow, and it can't combine information easy. So they have not seen it, so they are making assumptions on it (the data) or things (affected by the data). Now we are getting, information on how things look like ok. We are presenting the information in four applications for instance, going out, and they solve problems. We can see afterwards that... Ok so these areas in the organization need to improve things. But these organization has weak leadership. Then we can sit with our very good application and they don't do anything to solve their problem. That is a pitfall for things, I can tell you. quite a lot. We are working quite a lot with that and that is why it is very important that these workshops. To agree on problems, to really agree on problems, to make the applications, and follow up. We are following up like this. If you don't do that it could be that they are falling some times and if they are failing. They would not see the advantage of using qlikview.	OS, UK, SR, IL, CT
52	I2	Of course.	
53	O1	So it goes back, so that goes back to qlikview. That is one thing. Another thing could be that the application could be.... Not rolle based. In a good way.	
54	I1	So, Its not adapted to a leading role? Business manager?	
55	O1	It could be that, we have been developing and application with the controller. Who is	OS, UK,

		very smart, and very into figures. Knows the data because it is this person's job. Now suddenly, we would like to send out information to managers, because this where you get the power/force of better information. If they don't understand the information because its not for them (The application, data, layout is not customized for their role). It has been built together with the controller. We need to educate people really about what this information stands for. This kind of lack... They don't fit each other. We need to make it more simple for the people.	MS, CT
56	I2	So it is more relevant and useful to the individual?	
57	O1	The controller. What they do is to seek problems, to solve problems, dig into figures, like that. that is what they are doing. The manager is trying to run their business. So, that is kind of a problem to really gain out of the information and get better. Do you understand?	MS
58	I1/ I2	Yes.	
59	O1	So this is very important. I would say that this is less of a problem in the private sector because they are very much... Money that steers things (profit oriented). it is like that. If you are running a segment and you have red figures. Someone up there is going to knock on your door.	
60	I1	Because money is important?	
61	O1	Exactly. Because if you don't earn money. You have to close the business.	
62	I2	Versus having a relatively flat budget in the public sector?	
63	O1	Exactly. There is this difference. On the other hand, this is more... in the public sector you have more parameters. You have money of course, but you also have quality. you have to find out if better information leads to... This means that you need to get to ask people, "Are you better now?", "Are you making better decisions?", "Are you saving time?", and so on. Because its more kind of... There are a lot of other factors. You can not base everything on money in municipalities. Because of the other factors as well. What was the other part of the question? Pitfalls and what else?	OS, CE
64	I2	The advantages goes along with that. We talked about money, we talked about saving time, improvement of business process, and them actually seeing the benefit through an example through the SIB.	
65	O1	That is a strong advantage for qlikview. Because sending out a letter or whatever (marketing) saying flexible, user friendly... Everyone is using the same buzzwords. There is no difference. We need to use what we are strong on. So that is what we are doing.	
66	I1	Could you address question eleven? What are the trends in BI? Which you have picked up as a result of your market.	
67	I2	We already talked about one of them. We talked about the trend of going away from the term BI because it is viewed as a reporting tool and going beyond that into business discovery.	
68	O1	That is definitely a trend, I can tell you. Everyone knows that this leads to... This is the data warehouse. And its time consuming. It takes for instance... Working at Tetra	CE

		Pak it could take six months to get another report made. Come on!	
69	I1	That is crazy.	
70	O1	That is crazy. There are things that affect this. We don't want to wait anymore. We don't accept this. That is for instance, that we are living in a different world than we used to (the world has changed). So if we are using... "Google that". If you are discussing things, you can always find out you know. What is. Wikipedia or what ever. And you do like this, you don't need any training on it, it's not difficult, you just do it. So this way of thinking, leads to other ways, and that is business discovery. You don't want to wait (responsive apps, speed), should be easy (intuitive design), no training, etc. That is definitely a trend. So, of the big players out there today, Qliktech is leading this way today. The change, so now we are/have these other ones. Like SAP, IBM, and so on. You also have... Which other ones did you mention?	
71	I2	Oracle, Tableau...	
72	O1	Oracle, ... Tableau, yeah exactly! Tableau... That is a little bit different, slightly odd compared to these ones. Because they (Tableau) are seen as new as well. Like qliktech. We think that they are still slow. they are not as flexible as qliview. You cant change things and so on. So they are not in the same kind of level. But they have some advantages. How it looks like to the user (Visualization of data).	
73	I2	The visualization possibilities?	
74	O1	Exactly. So these guys are going after the business now. That is what people are talking about quite a lot. That is quite good to be leading it. That is a trend. They have not done so before in a way before because this business they are running... If you look at a normal business... This is the market. This is consulting. This is BI consulting. It never ends and takes a lot of time and creates a lot of business for these guys. If we had a job and went from this to this. Everyone would understand that it would be a problem for them to earn money. That is the reason they are not jumping over. What does the "L" mean. Share of licence revenue for the each business model. Licence fees for the customer. So when we go in there, very often. The fee is very much lower than qliview. So qliview is higher than licenses than their competitors. So we can describe it like this.... Have you seen this before?	
75	I1 I2	No	
76	O1	This is the market. So when people are looking at the costs of this. In some cases they see qliktech and qliview as more expensive than the alternative. Because licence cost are higher. Do you see what I mean. So this could be IBM, Cognos reports, Licences for them are small, but the total cost for that solution with the cost that they don't see up front is far more.	
77	I1	(Describing the drawing) It is an iceberg of costs.	
78	O1	So what we have chosen is qliktech, focusing on problems, and the SIB. To really see and prove that you are not going to get a lot of costs afterwards on consulting. Ok. If you don't dig deep enough as a customer you will find them cheaper. If they (the big players) are going to jump from their current business model to this model. They would have a problem. Because we have been doing this for quite some time. they don't see that the customers don't want this because it take too much time. Qliktech has gone from smaller customers, to mid, to large. They are now at large customers.	CE

		They are taking large customers from these guys. So now they have to jump from this to this.	
79	I1	So, I guess they do not yet know how to handle it?	
80	O1	I think they are going to do a combination. If I were them, I would go in with this (Shorter/simpler solution) and then I would try to expand it to this (More comprehensive solution). If I could. So the trend is they are following here. There are going... These guys are going to have more of this. Business discovery (the problem driven, quick, simple implementation). What else?	
81	I2	I think you kind of covered the differences from when you started to today in the business intelligence industry. I don't know if there is anything else that you would like to touch on?	
82	O1	The difference is of course that, we have always been the underdog and the competitors did not see us. I would say. And they did not believe what we could do it. Today, in the Swedish market, qliktech has 48%, leading the market since 2007. Today people are more, they seek faster solutions than they did before. Today it is more "Google". These guys who were managers ten years ago have retired. Thank god. So we have a younger managers who are more open and would like to have better information. The market is demanding more. The databases are larger, we are talking big data. So the need today is more is more focusing of actually getting better information out of the databases than it was before. Before it was more, "what did you say, you have an analysis tool, we are using reports". Still there in some cases, but not as often. There is more demand from the customers.	
83	I2	Going forward in the future, what do you see in the industry?	
84	I1	Question 30 kind of.	
85	O1	Yeah. I think information is going to be easier to handle, no training. Of course KPI's and mobile.	
86	I1	Would you argue that people would see BI/DSS tools, good DSS tools as a commodity? They would be used to them.	
87	O1	O yeah. O yeah. Of course. We are already there today. The platform qliktech is building today is also based on that. That thought. It is going to be an everyday tool. You know. That you have several applications in your mobile devices and maybe a manager is going to have 5-10 applications where you can access information on different sources and it is not difficult to do that. You can seek out information and so on. It is going to go that way.	
88	I2	The last question is more, do you see any market or industry that under utilizes BI for reaping its benefits?	
89	O1	How do you mean?	
90	I1	That there are market segments that don't use DSS tools.	
91	I2	Either because it is in their culture (work culture) to just be distant from technology (Construction...) or other reasons.	
92	O1	I would say that generally speaking, the business intelligence as it is as well has been	OS, UK,

		<p>so that it has created reports for managers. Very much in the top of organizations. Meaning that as a manager, you got information from different sources, based on a data warehouse and you reach 5% in an organization. That was kind of how it looked like and in some instances still is. I would say we are reaching much more with qlikview, than the other way of looking at it. But still, you can look at a municipality where you have 3000 thousand employees. I would say that there are 2200 that are not reached at all today. I think that is quite common generally speaking. I think that these groups, are going to be attacked with more information than they have access to today. That is one thing for instance. You do not see a teacher today that... There is talk of teachers having too much information or that they don't have time because they have to be with the pupils. They are going to have better information than they have today. They are going to be reached as well. For instance. Doctors in some cases are not being reached. They have some assistants that help them with that. There are going to be applications, that are being built, that are focusing on doctors. But generally speaking, I would say that taking the information further out in an organization. There you have a hole today. If you can get... I heard a bank manager say. If you can get all our ten thousand employees 20 min better than before. There you have a big force, the power if you can use it. You need to reach out with the information to more people in an organization.</p>	IL
93	I2	<p>With in the financial industry, retail industry, the public sector, BI, these technologies are becoming common place. Have you seen examples of.. Maybe in the construction industry, BI being used successfully?</p>	
94	O1	<p>Construction has been kind of... In small companies or in construction, in some cases they don't use business intelligence. They don't use that quite a lot. I would say. It has not been so and it is going to reach there too, but I can't say too much about it. In some cases they are not used to (using BI)... You can go to shops (grocery stores), normal shops like ICA, COOP they do not use qliktech. Sorry, I mean they do not use business intelligence out there.</p>	
95	I1	<p>Because they do not have to?</p>	
96	O1	<p>Exactly, because they do not see why they should use it. But if you can reach out to people better. For example, that all employees getting information in the mobile, saying that today we are low on this, or high on this cost we need to improve. As I said, going back to the bank manager. If you can get them to. Because they are making a lot of decisions, small decisions out there in the organizations. Small decisions and of course much more powerful decisions. Are being taken by people in higher up in an organization. But still if you can make their work much better. So I would say that it is going to be spread and also the people a more and more using mobiles, today. Better than before. They are going to see and advantage to that. I think we have just scratched the surface, as you would say. On what we can do here. It can not go on as we have done before. We need to help people. It was actually on the television today or yesterday. They discussed health care and talked about people being steer on much more things than before. Then talked about whether that is good or bad. Of course there are people that are working against it as they always are and there are people that are working with it. Because we need to measure things. If we do not measure things we do not know if it is good or bad. So, people are going to be measured more out there. That is also a trend, I would say. Like teachers, where you are today, if you go and ask them in the university like Lund. They are not measuring their teachers as well as they should. How good they are, how bad they are, what level of points are they giving the pupils, and why some teachers are better. They are not (doing research on this), as (well as) they could today. And that is kind of a change in the way of leadership as well. So there you have another. I mean you have someone close to you.</p>	IL, OS, CE

		The professors. They are not using business intelligence where you are today. I do not think so. Also in the area (faculty) were you are. You are going through a course now.	
97	I2	In business intelligence.	
98	O1	Yeah. So the professor they have there should have information about things as well. They should have information about the pupils, what points you have gained before, where you were weak, where you were strong, if you need some extra help, and so on. They don't have but they should, if they will run you (the students education) in the best way. And it does not take them too much time to make the lessons better if they know much more about you. That is definitely a group you can go on (group that could use BI) and push.	IL
99	I1	I guess we are satisfied.	
100	I2	I want to talk to you separately, I found really interesting what you told us with regards to... (Recording stops...new recording starts) ...that. Part of this is a case study that we have to do as an assignment for the business intelligence class. This kind of satisfies that. But, looking forward we are simultaneously doing exploration on what to do our thesis in. We were thinking about exploring maybe industries that underutilize BI, but you have presented a different perspective. That is, industries that are using BI fully expanding the use of BI within the enterprise. That is one area and this concept of bypassing the data warehouse by going directly to the source systems. Maintaining an agile BI structure, where you can go directly to source systems, the data sources are not an impediment, and actually using them is an advantage because it provides more. It is a kind of hypothesis that you present to us. That might be interesting for us, maybe, to explore. Maybe allowing for a series of case studies. If that could be something that we could work on. I think that would be amazing for us.	
101	I1	Exactly.	
102	O1	No problem. We have good accounts with our customers. That is the issue here. This kind of database, or data mart, building this type of structure. You need to think twice before you do it. You need to say to yourself. Why do I need a data warehouse? Usually, it is two things (arguments) that are in issue (about a data warehouse). One is that you need to have clean data. The other argument for the data warehouse is that you would combine sources (one single truth). They might say some other things. When you are looking at data cleansing/having clean data, then you are looking at for instance changing the organization and so on. If the organization five years ago looked like, you know in a certain way than it does today. You can not measure because it is not the same as five years back. So therefore you need to ... data warehouse. Well you're ... I can show you a picture here of what we are doing with qlikview. Again... what we are doing with qlikview is. Lets say these are five sources. And what we are building is that we are taking out qvd files from these sources. This can be an accounting system, this can be HR, what ever, so five systems. We are collecting everything from these source systems individually into QVD files. Do you know what these are?	CT, CE
103	I1	Yes. They are the files for qlikview.	
104	O2	Exactly. We put these into QVD's because it is much easier to work with. It takes like this (snaps fingers) to update. When you are making new applications. So then we are saying to each other. OK. We need to build an application here. Yeah, ok... What type of application? Well, it is for managers and the application should be based on three sources. So it is the education, hr, finance. So we make an application with a qlikview	CT

		files. In this part we are looking at data cleaning, we are combining, as we work with the QVD's. We are not combining these here. Because if you do, we are going to run in to problem because they are a part of a structure(organizational). The structure, we need to maintain the structure. so we are having this data. I can call it this if you want to.	
105	I1	But separate for each?	
106	O1	Yes exactly. Clean and then we are combining them here.	
107	I1	So if you combine the QVD databases. Then if the source system changed you would have to change the qvd files again?	
108	O1	Yes, but they also need to do the same thing with a data warehouse. Because you have a structure. You have a problem. So we are combining for instance, that one, that one, and that one in to another one.	
109	I2	So they are only combined at the application level?	
110	O1	Yeah, broadly speaking.	
111	I2	And this provides agility with the BI system?	
112	O1	They are, normally speaking, works like this.	
113	I2	Do you see any drawbacks? Maybe when you go in to higher volumes of data, or larger organizations.	
114	O1	There could be. I would say that when it comes to larger customers, they we are talking that we need to update the information you have, over many sources, you need to have data cleansing stage, and there is a problem that is coming from qliktech. Doing that as well. But it is very important that this part here needs to be flexible, fast, and so on. Because that is the whole idea. On the other hand if you do this, in a large company, you can do this in six months. And the competitors can't do it, or they are doing it in two years. (Implementation) is going to be quicker/faster and it is based on this. In the beginning. It is a simple picture and there is more to it, but that is the whole idea.	OS
115	I1	(Sounds like) It is a good concept.	
116	O1	Then you can add, another one (source) here.	
117	I2	Without an issue and at a low cost?	
118	O1	Yes.	
119	I2	Resources, money, time?	
120	O1	Exactly. And if it is so, that you see that the data warehouse concept is more efficient... I do not know why, but then you can go into it if you want to. What customers sometimes tend to say is that they would like to be not focusing on qlikview. They would like a neutral place where they store data. That could be (an issue), this is steered into qlikview as you can see. If you see that they would like to have a neutral type. They should not have this one. But in many cases they see that this (implementation) goes too fast. We have seen many larger companies that have a data warehouse and going away from it because this is faster and secure. What we	

		found out, when we were younger at qliktech. We saw a problem that we were not as known as our competitors, so they did not believe in us.	
121	I1	So you did not have validity (in the market)?	
122	O1	We did not have references, and they did not believe what we said we could do. "Yeah, that is good for smaller companies, but this... and so on". So what qliktech has worked with quite a lot in the last five years is to come up. To the (level of the) larger/big boys. What they have also done there is that they have bought a product that I think is kind of helping them to discuss things and so on and solving problems when it comes to this stage (points to part of the drawing). The municipalities and county (regional) councils, they do it like this (pointing to his implementation drawing), and they are quite big.	
123	I1	I think we actually got way more than we expected.	
124	O1	Yeah, Ok.	
125	I2	Definitively thank you and would you be open in working with us if we choose this for our thesis as we go forward? As we try to do these, maybe, case studies. To research this concept from a theoretical basis.	
126	O1	Yeah, But it depends on how much time it takes for me.	
127	I2	Of course.	
128	O1	An interview, and I can help you with (access) customers. That is no problem.	
129	I2	To maybe look at places it has been implemented so that we can do case studies with them.	
130	O1	Yeah. We started working with another municipality and they are making a decision this week. Saying yes hopefully. So we would land applications for them, for the whole municipality. It is based on success. And they say, this and that is good. They have been using cognos before. Cognos reports and Cognos cube technology. You know about that are you familiar with that?	MS, CE, IL
131	I1	Yes, the data cube	
132	O1	Yeah. Have you gone through that in school?	
133	I1	Just briefly.	
134	O1	It is a... When you see the structure. It involves a data warehouse, with data marts, and from the data marts you are building cubes. The cubes are three, four, five, six dimensional. You can run... and its been pre calculated as well. This means that with that technology, we have to know beforehand whether and what you need to know then (after implementation) to run later on. That is so, so because we do not think or work like that. It is like "google". You are just interested in this source and you like kind of "google at it.	
135	I2	Play with it (the data)?	
136	O1	Exactly. I can show you an application before you leave.	
137	I2	Absolutely.	

138	I1	That would be nice.	
139	O1	Ok. Do you see what I mean?	

Appendix 2 Senior Consultant (Interview Transcript)

Interview conducted 2014-04-22

I1 Mikael Persson
 I2 Amed Martin
 O2 Senior Consultant - CE2

Length of recording: 01 Hr, 08 Min, 12 Sec

N	P	Text	Code
1	I2	Can you start by telling us a little about yourself and your role in the company? We can start there.	
2	O2	My name is CE2 , I am part owner of this company. I have been working with Qlikview for over 10 years now. I originally started at a company that has Qlikview and uses it. Then I got recruited to Qliktech, who does the product Qlikview; and I stayed there for five, six years. Then we started this company, because we felt that working at Qliktech you didn't really have time to help the customer forward so we started The company. Basically doing the same thing we did in Qliktech, selling licenses and doing consulting, but now we can do more consulting. At Qliktech we sold qlikview to a new customer, the mission was just to do a basic install and point to a partner. Who should then take the customer forward and develop it. Specially in the public sector, we were really focused on the public sector. We basically only worked with the public sector in our team at Qliktech and no partner had the patience to work with the municipalities . I dont know what that is called in English. So we decided to start The company with a main focus on the public sector. Because then we could really help the customer forward because we had noticed that a lot of customer who would be turned over to a partner did not really move forward. The way we wanted them to do because the partner did not really have the knowledge to. Yeah, mmm....	CT, UU
3	I2	That sums it up?	
4	I1	Could you just say briefly what are the major differences between public sector organization and private sector organizations?	
5	O2	The first thing that springs to mind is in the private sector, its much.... people really see use for this product. I have the perfect example . A colleague of mine, one day was at a private company and showed Qlikview and in the afternoon he went to a municipality and showed qlikview. Basically, the same set up and in the first meeting it was a sales application and there was a lot of salespeople. Looking at the presentation. They directly saw the use where they could save time and save money and all that. They were really engaged in the presentation. They stood up and	OS

		pointed, can you do that and that and that... they were really enthusiastic. While, in the afternoon when he came to the municipality, of course this can differ between municipalities but, they didn't directly see the use and where they could save time and they don't really have the...	
6	I1	Because they are not profit oriented?	
7	O2	Exactly. So if they save 50 min or an hour each week what is that to them? That is one thing. Other differences, it is more easy to... When we build an application for a municipality, we always start off by asking them which is the primary receiver of this information? Do they have any goals? Which we could measure on a dashboard. Because we want to, we don't just want to make an application, we want to try to make sure this application can do a difference. It seldom happens from the customer saying we saved this amount of time. But we always want to try to get some kind of measurement. That after a year of usage of measurement we want to come back and say, how much time did you save, how much money did you save? That is very difficult to get from a municipality... What else. I think that is basically the main differences.	OS, MS, IL, UK
8	I2	Overall what percentage of customers for The company are from municipalities?	
9	O2	About 80%, We are trying to move away from it a bit because the sales cycle for selling Qlikview to a municipality it can be extremely long. Now days for us as a partner its not that much licence money for our part. so if we spend half a year just talking to them that Qlikview is the right tool, then they buy for a 100k SEK... Yeah, its pointless. We want... the only, we want to get a lot of consulting to get a lot of profit with that customer. Its easier with a private sector customer because they can basically buy after one meeting if they see the use.	
10	I1	since you said that the projects in the municipality are long...	
11	O2	The projects are not long. It takes a long time to...	
12	I2	To close a deal?	
13	O2	Yeah. Then we have the laws that if the amount we sell for is too large we have to do a public... what is it called. The have to...have to offer the...	
14	I2	Competing bids? open it to competing bids	
15	O2	Yeah. Exactly. Then even if we worked on this customer for a year. And then they can just go out and ask ok we want to buy Qlikview who can we get the cheapest price from? Then its crap. We try to now be that dependent on the public sector, we try to not be that dependent on the public sector. We try to work a little more on the private sector as well. Not dropping the public sector, definitely not. We have a lot of customers there and they have huge amounts of source systems which they can use qlikview against. Our goal is to try to broaden our goals with each customer. We usually start out with the HR system and the economics (finance) system. Because those are the system that cover the entire organization. Then we go for the School	CT, OS

		systems or the health care systems and work our way down in the organization.	
16	I2	This brings us a little bit to Eslov. They just recently went for a Kommun wide license. So can you tell us a little bit about that project and what is happening so far?	
17	O2	Well, I hear your meeting with my colleague as well. Yeah?	
18	I2	We were supposed to meet before this meeting but I heard he had some luggage issues.	
19	O2	Yeah. He is the primary consultant at Eslov right now. I have been involved in Eslov for a bit of years, but I have been trying for CE3 to take over. So I can tell you more about the history and what we have done in Eslov. Eslov have had Qlikview several years now.	
20	I1	ME4. Said six seven years.	
21	O2	Exactly, and they bought 150 use accounts. Its a licence type where one user can access an unlimited amount of user licences. But they bought, when they started out, a SIB... Seeing is believing event. its a group of concept thing where we build an application towards finance data and HR data. They bought it and they wanted to give their department managers this qlikview application. They they have been standing a bit still. they have not broadened the scope which we talked about they haven't built a school application, or healthcare application, thats basically because they haven't really had an internal research. who took responsibility for qlikview. That is one of the biggest drivers in an organization, if you have an internal resource that can sense where there is a need for an application. They have been standing still for a couple of years just using what we have have implemented when we sold the SIB. Then we, I think actually when three four years ago when started The company we tried to get them to do other stuff. Maybe do take a retake of the first application because we felt that it wasnt realy designed wasnt optimal for the managers, it was to technical, we tryed to make it a bit easiar but the so the they still have problems because they still dont have an internal resource that handles qlikview. Hopefully buying this kommune wide licence will make them recognize the need for such a person in the organization.	IL, UU, SR, MS
22	I2	So you consider that one of the main issues that they had? That they don't have a lead for managing the project and driving it forward in the whole organization.	
23	O2	They had a responsible person in the beginning, but this person got sick and got replaced by another one and then this person quit a few months later because they got another job. So they have tried but they have not really found the person that stays. Thats the main problem I think. They then really haven't had. If they have a person, does not necessarily be a person that works 100 percent on this. They can work 50% so they can pick up all the needs the org has and ok we can do that in qlikview. so that is the really really important.	OS, IL
24	I2	So looking over all in Eslov as we look back to. This is one issue, what other issues where there. Talk about those in general.	
25	O2	Once again...	

26	I2	I was wondering if you can talk to us about those issues you encountered. What other issues have you encountered in dealing with eslov and the public sector in general. Your barriers for going forward.	
27	O2	Yeah, There is seldom a barrier with the systems we take data with because most systems we have used before and we have scripts we can reuse. But the biggest problem I mean, sometimes its people. We make an application that is municipality wide and we want a lot of people to use it but sometimes we do a more narrow application toward solving a specific problem for a specific person. In that case the problem can be that the person in question feels threatened by this application. Maybe he is the champion of delivering this information to a lot of ppl so if we do this application maybe he thinks he would lose his job, most certainly not, but he might not be as important any more. That can quite often be a problem. Then sometimes that can be the IT department that feels that its just another system that they have to take care of. Maybe not that often that issue, because we rarely sell qlikview through the IT department. We go directly to the ...	SR, UK
28	I1	To the end users?	
29	O2	To the end users and show them this application to what we did in another municipality and is this something you could use as well and save time and money? But, its then and then it could be that sometimes its so difficult to change ppl to change the way they are doing things unless there is a clear directive from uptop that this is the way that we should use or follow up on information nowadays. Landskrona just north of here they bought qlikview just 2 or 3 years ago and they have gone a lot further because they have a really strong person who runs qlikview and they have really said from top management this is the tool for you end users where you should get your HR and finance information from. This is the place no other place.	SR, UK, CE
30	I1	Do you mean that they have proper education of the system and that they trust the data that comes out of the qlikview application?	
31	O2	That is really important as well. But mmm... The customers would... I have quite a few customers that haven't really done it like this. They haven't said here is the place for your information. One example is Upplands-bro Kommun. Which is in Stockholm. When they bought qlikview they only gave it as an alternative. they bought a finance system called Agresso. And its quite ok report wise and then they we built an application with agresso data and they said ok you can use this and you can use this (agresso and qlikview). Two years after it was 50% that mainly did their reports, checkups and analysis in agresso. That is bad, They spend a lot of money in qlikview and then they give it as an option an alternative. Qlikview should be a platform. You should learn one tool and your should get your information. Does not matter if its HR data, economy data, school data its still the same tool and its much easier for the user to learn, does not have to learn a lot of systems.	CE, IL, MS
32	I1	Could you tell us a little bit about the IT department in Municipalities. Why don't you sell solution to them but to the users, why do you bypass the IT department and what role would they have?	

33	I2	If any?	
34	O2	Yeah, they don't really see the use as the end user do. Its not them that has to pay for them. its not them that a certain task it takes to do. It's the end user it is a the manager of a school or principal who has the problem gathering the information and doing the analysis. Not the IT department. Mainly, IT only the IT department does is supplying us with a server and setting up the operating system and maybe helping out with the data source connections. We are trying to get involved with the IT department a little bit more because we see I mean Qlikview can be used for the IT department as a Tool by them as well. We try but sometimes its difficult.	CT, MS
35	I2	So with in the public sector structure the IT department does not have any strategic role in the management of information in systems over all.	
36	O2	Well, see it differs a little bit if you go to Malmo for example its a large municipality then its a little bit different the play a larger role and you have to go by the IT department that its ok that we add this system. Well even in smaller municipalities you have to get their ok of course but for example in a but the are stronger in a larger municipality I think. In qlikview for example does not really need to have a ... what's it called... data mart no....	OS
37	I1	Data Warehouse?	
38	O2	Yeah. that is the word. We don't really need a data warehouse. They have driven it quite hard, the IT department, we should really have a data warehouse. so in that regard they are stronger, they control a little bit more. But in a smaller municipality with a smaller IT department it's often their just trust the consultants. Is this ok or not ok. Its easier in a smaller municipality definately. As I said we try to not involve them directly in the first meeting we get. We try to get the municipality interested first. Then we get internal pressure on the IT department instead of us having to convince the IT department. Its a little bit, I mean, I don't know if you have look at other systems as well. Qlikview as a system and as a project I think is quite different from if you do a project with business objects.	OS, CE
39	I1	We have tried Tableau as well.	
40	O2	Yeah, I am not that... Haven't used Tableau that much but its a quite new system as well but. The old systems Cognos and Business Objects which are there project is so much bigger and qlikview differs quite a lot from that in the implementation and all that.	
41	I2	Well with in the municipality Project we now know that they just stood up a steering committee. what do you know of the history of what lead to standing up the steering committee in their desire I guess to drive forward this entire project?	MS
42	O2	Well, good question. I don't really have an answer for that.	
43	I2	Or, What do you know from your background or your previous experience in dealing with them because there were projects before they decided to go to this municipality wide licence.	OS, MS, CE

44	O2	<p>I think they have been having qlikview for quite a lot of years and even though I have painted a picture in which they more or less failed. They have not failed.... They are good application and most qlikview users are very enthusiastic about qlikview because once you use qlikview you don't really want to use anything else. It really is pretty addictive. I think maybe they got a good offer as well in the upgrade. I am not really... I don't know about about that. I think (Sales) is the best person to talk about that part but. I think they felt to get rid of the hassle of the license discussion every time they try to build an application for a new set of users that don't really have a qlikview license they want to use qlikview further out in the organization that don't have licenses and I think if I remember correctly that in the price for these Kommune wide license was included an external server as well for publishing data for the inhabitants of the municipality using qlikview. And maybe that was something that was tempting for them. But, I dont really... because last year, it has been another employee that has been the primary contact for them, maybe he has a better answer for why they...</p>	
45	I2	<p>So you dealt with all the previous project managers? Which after we talked to them they told us that they are all gone. Which you just confirmed.</p>	
46	I1	<p>They have pensioned, etc.</p>	
47	O2	<p>The rest... the one person that is left I think is, which has not been responsible for qlikview, I think he was just involved in the proof of concept I think was ME3 . He works at the HR department. But he hasn't really been responsible. Then we had Ingrid wich retired. Then there was a person that took over and she left for another municipality. Then I don't think they have any person at all. The only person that has been involved all along I think, which is an IT person, that is ????. But she hasn't really, she has only been involved when we upgraded the server. I don't think she has any knowledge of the...</p>	CT, CE, IL, MS
48	I1	<p>So she is a technical... you see her from a technical standpoint.</p>	
49	I2	<p>A tech support standpoint.</p>	
50	O2	<p>Yeah, She has involved when we had a plug in for the browser. She was involved in distributing that plug-in but not in the applications. But, it is a bad thing if you don't have any previous project...</p>	
51	I2	<p>When you were dealing with Eslov, who was directly involved in the planning process for these projects? Where in the management in the kommune? Who from the kommune?</p>	
52	O2	<p>It was pretty strange as well because, the owner of the, lets see here. The owner of the system in Eslov was the economy department, but the persons driving the development of the qlikview application was mostly HR. So they had... And the person who worked as a qlikview. Ingrid Persson. She was at HR most of the year so I worked with her but then she went to the economy department just the last year. So it has been a little bit strange because one department was owner and supplying most of the money and the other was doing most of the development. The economy department if you go to them they are interested in their system and not really interested in the HR system. So yeah... It is a little bit strange, I mean.</p>	MS, OS, UU, CT

		What we try now days is push for, if you look for example Landskrona and Oskarshamn they try to do with. We have a application with economy data, hr data for the end users the managers and that is something that the cost of the application is taken centrally from the economy department for example, but the, if one department wanted to to an application for school data which is specific for their department then its usually they that pay for that part. So its not hindered by the economy department that doesn't have an interest in that application. We try to get them to get them to set it up like that. If its something that is common for the entire municipality then the central economy department take that, then if its something specific then the department themselves pay for that. It is pretty logical.	
53	I2	Was there or are there do you know with in the public sector are there usually any cost benefit studies done when they are trying to do projects like this?	
54	I1	Because they have flat budgets and they are driven like this.	
55	O2	Not realy. But, of course I have not had the opportunity in take part on this information in some municipalities could have. I had one project, Hassleholm Kommun. Who bought qlikview a lot of years ago. Actually, when we sold qlikview to them we had a specific problem to solve which saved a lot of time for them each quarter and they had these HR reports where they had 40 people were sending in each quarter and they were sitting in the HR system, taking out 30 or 40 reports, gathering the data manually, then collecting it in spreadsheets, and sending it in. So that was a specific problem we solved building a qlikview application which did it like this. In that case they could really calculate the benefits we saved this amount of time which we could use in another way. Most of the municipalities I don't know if the municipalities do this type of calculation. At least they have not shown it to me. Hopefully they have done it. Hopefully.	OS, CE, IL, MS
56	I2	We are using a study as part of our research that was conducted in mexico, it is with private sector companies in Mexico and he found a list of the top implementation inhibitors and facilitators. I would like you to take a look at these. You have already touched on many of these in the issues that you have talked about and stuff like that...hmm...and I want you to just maybe expand on that...hmmm...maybe add to it maybe something that does not relate to the public sector from your experience and from your view.	
57	O2	Ok. Implementation...inhibitors	
58	I1	Inhibitors are roadblocks.	
59	O2	Yeah, the top executive sponsor is huge	
60	I2	Huge?	
61	O2	Yeah, it's definitely really important because as I said in Landskrona they definitely have a top executive sponsor there	MS, IL

62	I2	And it made a huge difference there...?	
63	O2	Yeah, i mean they have had Qlikview there in two years and they have already done a lot more than Municipality. Strategic alignment it's a little bit I think its hand in hand with a top executive sponsor...If you have a sponsor then you def ensure that everybody works in the same direction...Like a cost benefits study yeah...I don't really know about it...but as I said, I hope they have some kind of...they do some kind of calculation...they are not stupid (laugh)...	IL, UU
64	I2	But from your perspective you have not been exposed to any information that tell you that they have done it?	
65	O2	No...Lack of system development method..hmm...well	
66	I1	I guess, i assume, that goes hand in hand with the steering committe kind of...?	
67	O2	Yeah..hm...exactly...I mean the problem with Qlickview development is that its really so fast..it's...it's...you have to be really, you have to really, you have to have a person otherwise it can just get out of hand...it's quite easy to do an application on a survey or something and just...	OS
68	I1	And go to the wrong direction...?	
69	O2	Yeah you, I mean...if they do their own application maybe they don't really ask the question: Who is the primary receiver of this information? How should I design it for them to understand it in the best way? And all that...So there is definitely a..hm..so if they don't really have a Project Manager for Qlikview then it can definitely, it can take the wrong direction...an application. We have, actually we have in...we've been starting to do it in many municipalities now, have a yearly check-up, we have a workshop day with the different departments. We'll say: ok, a year has gone by...What do you think is good? What do you think is bad? What do you miss? Has this application turned out the way you, the way you wanted it to turn out? So we try to catch the...before it...definitely goes in the wrong direction...hmmm...Lack of trained developers...it's, actually it's...even, Qlikview is quite simple but it can of course be quite difficult...So there is very few municipalities that have their own developers...I can only think of one...Parkemargs kommun. They have one person that does basically all their development. Maybe they call me if they want to start up a new project, a new system, they use my services for a couple of days.	IL, UU, CT, CE
70	I2	Basically in the planning phase or...?	
71	O2	Yeah, building the data model so it all fits in, holds together. Then they do most of the, development themselves. he's a trained...he's been working with development in...before...so he's used to it...but if you look at Municipality they don't have anyone. I usually say that if you don't go out to develop yourself it's still a good thing if you go and take the courses in Qlikview, because you can be a better...if you know how Qlikview works and how you can	CE

		build stuff in Qlikview, you know, if you ask in for a price of different...from us or from another, another partner you know more if it's an ok amount of days they have offered...	
72	I1	Do you provide the courses or is this Qliktech that...?	
73	O2	No, we usually do something...it's Qliktech that does the courses, but we train at Qliktech, as we have a colleague of mine who does the, holds the courses there. And a lot of municipalities when they come to these custom courses, it's mostly on sales data and it's not really municipality related. They feel that they don't really get it. So sometimes we do..eh...workshops, it's courses which we have based on municipality data. We are not allowed to call it Qlikview courses. We call it Qlikview workshops, but it's basically the same, so we do it on their applications, they...	CT, CE
74	I2	Can relate to it a little..?	
75	O2	They can relate to it...and that's a good thing..but... Lack of IT infrastructure? No...I don't think that's really a...an inhibitor in Qlikview.	
76	I1	Because you just build the sources from the systems...?	
77	O2	Yeah, we load data from the source systems each night. And, so when we, when you click in Qlikview you only work with the Qlikview file, you don't really go to the source system all the time. That's really why the response time in Qlikview is so amazingly fast. Every click you make is a question made to the Qlikview file, and of course if you want to update it more often you can do it. You don't, normally it can happen one time each night, but you can do it more often definitely, but we really don't want to load the source system too much. Because its, there may be other users working toward it and you don't want to 'lag' it... Tough implementor facilitators? Competitive pressure? What exactly...?	CT
78	I1	Because the municipalities are, as we perceive it, is not a competitive market, they just need to be there, and they are not profit to do that?	
79	I2	But with the political...with the people that are politically elected ever have an impact in a project?	
80	O2	No seldom. Because the managers in the organization, they don't really want the politicians in the applications. Because, I mean, especially in the economy dated, sometimes it can be difficult for them, the politicians, to understand why there's a bad result in February. Maybe, if we gave the politicians access to the application they would just run around and asking a bunch of questions which were not...it's no problem for the economy department. So it's not very common that they have access. Maybe to build an application towards the...hmm...we have databases with the information about people who live in the municipality, and they want some kind of forecast how the amount of people moving in or moving out of the municipality looks like, where we should build schools, and preschools and all that. If people, if a politician has access to any application it's mostly that kind of applications.	CE, CT

81	I1	Very high level values?	
82	O2	Yeah, not, not too much details. Which, i mean, if there are too much details they can misinterpret. So it's, I fell of course that they should be more involved, but it's difficult to eh, convince the managers that is a good idea. Having trust between top executives. The facilitators here, doesn't really, they don't really apply I think on the municipality. Could you elaborate a little bit about the, what exactly you mean?	UU
83	I2	In which one?	
84	O2	Having positive individual impacts? You mean if an application is doing, saving time for example...?	
85	I2	Exactly, or you know, we can give the 'hemtjänst' an extra 15 minutes to take care of each patient, between patients by optimizing her driving route.	
86	O2	Now that's for sure, it's definitely a facility in the public sector as well because sometimes we, start off in a certain department, because they don't have, they can't take decisions regarding Qlikview municipality wide. Maybe we start off at this school department, and we make a good application there, they show up to another department, "look at what we have...,how much time we save" then definitely that is something that drives expansion. The Qlikview implementation.	UK, UU
87	I1	It would be a genuine decision to further expand the solution...?	
88	O2	Yeah, but the strong IT infrastructure, no of course it is important to have a fast server if you want to run Qlikview, since Qlikview is a memory tool and utilizes the amount of processors and the RAM, it's important, but it's usually not a problem.	
89	I2	From your experience it has not been an issue....	
90	O2	Now sometimes it can be important because the IT department insists that it has to be a virtual server. And of course you can have Qlikview in a virtual server there is no problem but, the optimal thing is to have a physical server because you will have a performance impact if you use a virtual server. that is not really, doesnt really stop the expansion of Qlikview. Maybe in the case if you have a physical server and people get used to a certain performance, then you suddenly go to a virtual server then... I guess there can be some effects on users. This bullet point: Having positive organizational impacts. What exactly do you mean there?	OS, CE
91	I2	Where an individual application, can save an individual time, and give individual impact. There can be applications that do organization wide impact. Which probably is more facilitate, that the whole organization implement the whole thing. Transformational in a sense.	

92	I1	As data is brought up to the surface through data discovery. That other departments can make use of it and make benefits based on data they had not seen before.	
93	O2	That applies to municipalities as well. When we build applications, we almost always build applications where you can drill down to the lowest level, just to give them the ability to see junk data and correct it in the source system. That is definitely qlikview and the applications we build help them improve the quality of the data in the source system because you can so easily zoom in on the junk data and see what records are bad and where to fix it. Of course then if, the applications we build target the managers furthest out in the organization and the applications is built in such a way that they really save time they. They can have a huge time saving impact in the entire organization of course. It amounts to a little bit of education, even if qlikview is easy. Depends on education so that people know how to best use the application to get the information they need. When I say education, it is most often... Its not how to use qlikview. It is how to interpret the data which we present in qlikview. That is the tricky part often. Because when you come out, the scary thing with a municipality is that sometimes the bosses further out. they don't really understand...	CT, CE, OS
94	I1	Why they would need it?	
95	O2	Well, what we present for them... I	
98	I1	OK	
99	O2	Alright. Competitive pressure. Could you expand on that a little bit.	
100	I2	We kind of covered that. In the private sector there is competition and in the public sector there is not, and maybe then just the political impact or anything with these projects. You have touched a bit on it already.	
101	O2	The only time I can say that I touched on that topic competitive pressure, is for example we want to build a school application where we present the results on the national tests, sometimes they want to compare themselves to comparable municipalities their size in other parts of the country. Then I guess they, it could be a driver if they has that type of information in the application. Comparing ok, our results are this and we think its good, but how does it look compared to these municipalities. Maybe its really bad, but we think we are good because we have improved over the last years but really we are that low and they are that high. we have not really done it as of yet, but we have definitely discussed it.	MS, IL
102	I2	We talked about most everything.	
103	I1	We have talked about the municipality is going to deploy a Kommun wide license. Are there any other municipalities that for instance just deploy licences for the managers? I mean they have a smaller a scope. A smaller number of licences compared to a bigger number of licences. Is there other challenges if you deploy licenses over the entire organization	

		compared to a small number?	
104	O2	It doesnt really, in the short perspective here. this doesn't really change that much for eslov. With this license model they can easily, now they can make applications further out in the organization. Lets say they can just have a... We had a smart application at qliktech. We just had a qlikview application with all the employees, phone numbers, emails and all that. Easy application, did not really bring or add any value or save time, but it was an easy application that we did. That for example is something that you could do in a municipality wide license model. because that application would be accessible for everyone, which you would want, not just the managers. It enables you to do different kinds of applications but I mean... It doesn't really change anything for the managers who already have qlikview....	CT, UU, UK
105	I1	Because they make the decisions?	
106	O2	They already have their application. Maybe now they have taken this decision to go municipality wide. Maybe they will take a retake on their applications to improve them. Maybe that will be a something. Because now they have decided to go with this license. They will definitely put somebody in charge of qlikview internally. Maybe that could I guess change the way they work with qlikview. But the, when you start doing applications for people further out in the organization. you have to think even more on the layout make it really really intuitive because those people can't really have an education (training) in the application. When you do an application toward the inhabitants of a municipality. You can't really do/have a training in the application you build. It has to be that intuitive that people automatically understands the information, and knows that I can click here and here. So I guess that's a little bit different way when you have/go municipality wide. But in the short run its business as usual for their managers.	CT, UK, MS, SR
107	I2	Is the Finance department the main... You already kind of mentioned... The main contact point when your are trying to go into a municipality?	
108	O2	It can differ but, It used to be like that... I think we are running into a little bit more competition lately, Which has made us... go then maybe has triggered us to take other ways into the municipalities sometimes. through that specific department. A couple years ago we tried to go towards either to the HR department or the finance department definetly. Because that way we were targeting the most amount of users and we wanted to sell as many licenses as possible. But actually now days, qlikview has grown quite a lot and we have like over 80-90 municipalities that have qlikview. So its starting to get a little bit more tricky. So we try to find different departments that who have see the use and maybe the business deal isn't that large but once we are in we can more easily grow the customer to different departments but its hard to say.... actually.	CT, CE, OS
109	I2	You saying that there is a little bit of competition. Can you expand on that?	
110	O2	Qlikview is the world's best tool for analysis and drilling in data and navigating in data, in huge amounts of data as well, but there is if you want to have if you want to feed in data. you can't really feed in data into qlikview, but if you want to do... There is a tool called "" which	CT, UU, OS

		we work together with quite a lot. It has a follow up on different... different key measurements in their system which usually they feed in data manually and write comments. They feed in budgets and prognosis and all that... forecasts. You can't really do that in qlikview. So, There are tools that on the surface they have forecasts and budgets and comments on the key measurements and the analysis that I say, but its mainly surface. And if you have decided that you want a system that can do everything then, We have... its alittle bit tricky for qlikview. and it is The customer that is about to buy the system its hard for them sometimes to know that this system, the competitor that they buy, the analysis is really crap compared to qlikview. Its hard to sometimes to get them to understand what is important. For us the analysis of course is important. You don't just want to look at a dashboard and write a comment. Maybe you want to find out why a dashboard is red, then you have to drill down on the data and get into to the real details. Qlikview is perfect for that. So that is one of the reasons we try nowadays to do a little bit go a bit more undercover. Maybe go into a school department and get the users to really feel how good this is and then expand it. but sometimes we go to the finance department as well...	
111	I2	Is there a lot of management level above that oversees HR, finance, the management departments? Is there a general level?	
112	O2	Yeah well... Its the community manager a little. There is a director. I guess.	
113	I2	Is that political or is that part of the general staff?	
114	O2	That is part of the general staff, then of course there is the political even further up. Definitely, but they the political staff they are not involved in the day to day decision and really don't have any say/decision on whether they should buy qlikview or whether they should buy something else.	OS, MS, IL
115	I1	I have a question about the kind of future involvement of IT? As you say, IT kind of stands outside the solution itself. But lets say in the future you have provided the solution. Would the IT department have any role in maintaining the solution or would the municipality contact you to upgrade the solution?	
116	O2	Most of the time yes, contact us.	
117	I1	They iterate back to you?	
118	O2	Most municipalities don't have in house knowledge. Its not just qlikview, its alot of systems. They tend to have more, I think, hire an expert if they want to upgrade qlikview. I mean qlikview is dead simple so they should be able to do it themselves. But you know when you decide to do it yourself then usually something happens. Its better to have the consultant which they can then aim to if something goes wrong.	UK, MS, OS, CE
119	I2	I think we covered the majority of things that we wanted to cover. If in general there is anything else you can think of with regards to barriers and problems that you encounter when	

		it comes to dealing with public organizations. Other than what we covered. I mean I know we covered quite a lot.	
120	O2	Yeah....	
121	I2	Or if you were to summarize them, as what do you think are the main issues that you encountered in general and with Eslov as far as when you were going through your projects?	
122	O2	As I said before, the main issue is that they don't really know what they want, they don't have any real key measures to measure by to compare so see if this has made any difference and the, we were talking about this, the top executive sponsor that could be definitely a big contribution to the project is successful or not. Having the top management saying this is the way to get your information. And of course, If they appoint a project manager who is responsible for the project success of the qlikview installation.	SR, UU, IL, MS
123	I1	So manager? Not an IT person?	
124	O2	No, No, No. Somebody, it could be an IT person. The best is, I think, is a person who know the managers in the organization, what they need.	IL, MS
125	I1	So with knowledge of the departments?	
126	O2	Yeah, or at least someone who has the responsibility to keep in contact with the departments and find out what they need. Who the managers know is the qlikview project manager, who they can contact if they come up with an idea. In the ideal world a qlikview application shouldn't be a... (static) we build something and this is what you get. There should be development all the time. They should find new things that save time and money perhaps. They should evolve all the time and if people don't know where to turn when they have an idea then it stops the development definetly. That is really important. I think that is... Can't really think of anything else right now. But if you have any follow up questions. Its no problem.	OS
127	I2	Thanks	

Discussion after the interview

When speaking with the customer about demand specifications, the bosses aren't often the ones that you should talk to if you want to know what the applications should be and look like. Usually the persons below the bosses (subject matter experts) are more central in the organization. So they are the ones that we aim to talk to.

Often it is a question of what they need, not what they want. Usually the person in contact with the consultant should be a bit more technical and receptive of new impressions so that he/she can give as

much valuable information that the consultant can use in the demand specifications that later translates into the application.

CE2 mentions that the person controlling application content often is not the main end user and might be in a different department all together (not IT) and integrating the end user into the development process or even acquiring feedback was not possible. CE2 mentions undefined roadblocks that prevent access to the end user. One example mentioned the consultancy was developing an application for a department manager (non finance) and the content of the application was controlled/managed by a finance manager. CE2 stated that he assumed that the controller had direct knowledge of the end user department managers needs but stated there was no clear proof of it and when he suggested the end user provide feedback it did not come to fruition. The application then reflected the controller's perception of needs in the application and the consultant had no access or follow through on outcome of usability or feedback on whether the application met the needs of the end manager.

Appendix 3 Consultant (Interview Transcript)

Interview conducted 2014-04-25

I1 Mikael Persson

I2 Amed Martin

O3 Consultant - CE3

Length: 01 Hr, 08 Min, 33 Sec

N	P	Text	Code
1	I2	As we are collecting data about you people it is necessary for us to describe the research ethics involved. You may leave the interview at any time and if you choose to, you can choose not to answer certain questions	
2	I1	If you are feeling uncomfortable in answering certain questions you don't have to	
3	I2	Do you want to remain anonymous?	
4	O3	Does it really matter? It depends on the questions of course.	
5	I2	Right now i think that the others asked to be anonymous.. but we can confirm it later if you want. This study that we are doing basically started after we had the initial conversation with CE1, uhm.. with our previous assignment of ours.. and we got the idea from there so we talked to CE1 a second time about one area that we could pursue.. and we are pursuing problematizations that happen in IS and DSS implementation in the public sector. The company has the majority of customers in the public sector, and Municipality being a county that have been .. from The companys perspective accompanied with roadblocks that have come up. So this is kind of a perfect candidate for exploration and study. First we would like you to kind of tell us about yourself.. tell us abit about your role here in The company	
6	O3	Yeah, so my name is CE3.. i have been working at The company for about two and a half years approximately. I am 28 years old and i have previously worked with Qlikview at Sweden's third largest municipality, malmö where i was responsible.. where i was responsible for the Qlikview environment, really everything from the technical to developing stuff, with help from consultants of course. Uhm, i worked alot with CE2 so that's how i ended up here basically. Uhm, i am a consultant so i work mostly with development, presales, studies, case studies, previous to the project starts. Yeah, that's about it i guess. I only have customers from the public sector, so that's the main focus.. all the different areas within the public sector is what i work with, so both economic, HR, elderly care, you name it.	CE, CT
7	I2	You mentioned economics, hr, those two are the main customers for the solutions?	
8	O3	Yes	
9	I2	You mentioned other customers, healthcare..	

10	O3	Not health care, because health care is the regins responsibility.. not the municipality so, elderly care, home service, of course education, also technical.. IT departments, different case management systems. That kind of stuff, so basically everything that you can work with in the public sector.	OS
11	I2	Is there anything you want to elaborate on but you feel more comfortable to tell in swedish.. go ahead	
12	O3	Alright	
13	I1	I'll just transfer later of course	
14	I2	Tell us a little bit about without before we get to Municipality specifically. Uhm, just general issues that you have encountered.. because you kind of come into the exploratory phase from what you are telling me so, you are there right in the planning phase right in the beginning, so what are the main issues that come up what you have encountered in your experience so far	
15	O3	Uhm, with certain projects or with like.. the whole qlikview deployment or in what context you know.. because there are different issues in different parts in the qlikview environment. One main issue goes through all of our.. most of our customer which is the lack of organization around qlikview. There is a vague responsibility.. who do i contact if i have any questions regarding qlikview, if we build an application there might be difficulties who is responsible for the information regarding that application you know. Who do i turn to if there is a number (telephone) that is not right, who do i turn to. This is a big issue for many of us that work with customers. And i believe it is because many other systems in the public sector, you know you have HR systems, a few of them, we have systems regarding elderly care and economic reporting. They all have a person connected to them, such as a system administrator. But Qlikview is atop all of these systems, and no one actually takes full responsibility for the deployment, that is the issue really. So that is the main issue with you know the qlikview environment in certain projects.. well there is often an issue that the system administrators or the people involved with the project does not really know what they want in the end. They have this idea, now we are getting all this information that is hard to get with their built in tools and when they put qlikview on they don't really know what they want, that is an issue because that makes us put in stuff that is really not used or never clicked on, or what ever. Uhm, and also the persons involved believe they know a lot about the system that we are working on but they usually don't know that much that they should really, so that is also an issue. Uhm, but that could also be good to the customer because we all find out that they are working out certain things in the wrong way.., they register cases in the wrong way or they get more understanding for how to register to get it out in the right way so that they can analyze it anyway they want. So, it is an issue but it also leads to something good in the end.	OS, MS, IL, CE, UK
16	I1	To kind of help, did you recognize that there is a customer that he is asking about.. you first give them an application, do you reiterate to the same application to kind of fine tune it	
17	O3	yeah, we often do that since many of our.. especially new customers does not always know what they want we have built applications for many other customers so we just put the others up.. and they would for instance say hallelujah this is what we want or they say, this is good but we want it this way. Uhm, but i think that is an easy way out for the customer because they don't have to think you know. They just think something along the lines of.. yeah this	SR, UK, CE

		looks good, it has this and that. Uhm, they don't really get into what they really want, they just take that application and we put it on and they start using it and the usage of the applications of are not that high because it does not fully meet what they need.	
18	I1	When you go to a municipality and you are getting demand specifications, what kind of persons do you approach to get to know what you want, kpi's and stuff like that. Do you talk to the bosses..	
19	O3	No, they have project groups and then there is a steering comitté. The kpi's are often decided in the steering committee, and then when i meet with the project group they have their KPI's that they want but it might also be that during the development of that application they think something about other stuff that they want to measure as well. Then we don't have to go to the steering group to get approval of that because then we just add it to the application, so it is.. but i almost never speak with the higher bosses or the steering committee. There is a project group and internal project managers for the projects that we are developing apps for.	CE, OS, MS, IL
20	I1	Could you just clarify what kind of persons that the steering committee involves and what kind of persons the project group involves	
21	O3	mmh, the steering committee mostly involves the administration leader. You can say, if you run an HR departments, the head of the HR department is in the steering group along with the head of their system for each departments. And then the project group is like, the end user sometimes but not always, but definitely the system administrator and sometimes also a lower level management within the department. It is basically different between the projects also, some small projects has no steering group and there is only one demand specicator and that is the one who is taking all the responsibility in the project.	OS, CE, UK
24	O3	Uhm, you know the amount of systems in a municipality is limited because there is only a few vendors of education systems, like two. So we have worked with those a lot so we know almost all the pitfalls that you run into so of course we first check with those pitfalls before we move on with the project. Well, since there are a limited number of systems to work with we are almost always find the issues very quickly and we get past the issues. And like i said, many times .. at least to customer changing their way their work in the system has to fit with how they need the data to analyze it the way they want to. So that is basically it. And of course, if there is a new system to us, we need to put more focus on learning together with the customer to analyze the data. You dont have to do that as much with the old systems as we already know.	OS, CE, CT
25	I2	Tell us a little bit about Municipality, what is going on.. we got to know a little bit about the background from CE2 around it, so just give us an overview of what you know of before you got there and what has happened since you were involved with Municipality	
26	O3	Yeah, when i started working in The company.. Municipality was one of the municipalities that i started working with mainly because i know a few people who works there, i have worked with a few of them when i was in malmö municipality. They knew my skills in mostly the ERP system raindance so i built an application for the central department for economics and finance. Uhm, what CE2 has told you he has probably told me the same story when i started working here. There hasn't been like i said before the right organization to take the initiative and to maintain the qlikview environment, so it is the people from IT, the people	OS, IL, CE, SR

		<p>from economics, HR, they dont always work together so when i started working with Municipality there was not so many initiatives. There was noone that knew how to work with their one or two development applications for their field department. Uhm, and there has not been happening so much since The company started. But then we started building this application for the finance department and CE2 developed a few things for HR and i think that two or three people that came from Malmö to Municipality were really good ambassadors, because they used Qlikview a lot in malmö so they knew a lot of what the tool was capable of. They started talking and thinking that we should put more stuff into qlikview and we should improve qlikviews.. how do you say status in Municipality so that is basically an ongoing thing and then we started with this latest project in the three different departments in the Municipality kommun with one source system and that is probably what lead them to buying licence for the whole municipality.</p>	
27	I2	What departments were those and what was the source system?	
28	O3	<p>The source system is treserva and the three departments are "financial support", "Elderly care and home services" and "individuals and family care" for children which is a part of the last department that is. So, It is a pretty complex organization, regarding the same system and the same way of work because its three different departments with four different focuses, I guess. Its pretty hard to get them to cooperate/collaborate and focus.</p>	OS, UK, UU
29	I2	And you are saying that this project is outside when they decided to go with the municipality wide license?	
30	O3	Yeah.	
31	I2	And its your opinion or do you have some information that that is what lead them to go for the municipality wide license?	
32	O3	<p>It is not only this project that lead them to go with the licence of course. I think that, since they got a bit of a new perspective on what qlikview can be used for and how it can look and feel. It could be made easier than the applications that they already have. I think it lead to inspiring thought in how they want qlikview to evolve in the organization. So, it is definitely part of the reason why they bought (expanded) the license.</p>	CE, UU
33	I2	<p>Do you as a consultant have a role or influence, or do you reach out to Eslov or public organizations in general at the planning stage? As far as who needs to be involved in planning, do you try to influence this. For example, a stakeholder that the organization is not involving and you think they should be involved? What role would you take in trying to mitigate that.</p>	
34	O3	<p>I would definitely make them consider bringing key people in the project. We often get the demands specifications from a central point of view. Specifically if its like this BI system where there is low level managers is the main focus because then the demand specification often comes from a central perspective. And that is not always a good thing. the central perspective. The finance department or the HR department thinks they know what the low level management wants and what they need... but when we interview a low level manager, we dont always get the same answers. That has been an issue also in a few projects. So we always want to get the key people involved with the project. That is not always easy because</p>	CE, CT, MS, UK

		some people are stubborn.	
35	I2	Talk about that a little bit more if you can.	
36	O3	The stubborn people?	
37	I2	I mean how does that work? and kind of exemplify it a little bit for us so we can get a picture.	
38	O3	Some people, have already made up their mind about how they want the application to be, or how they want it to be used, or how the report in it should be, or what the reports in it should contain. It is not always that easy to turn that around or make them look in another direction. Their minds, they already had their vision this is what we are going To have and its is not always easy to make them take another perspective on that. That can be a problem of course. And since the products are time limited, we don't always have the time to debate a lot of this stuff. And we dont always have the time to make a different example or something that could make them change their minds. We could make small points along the road. But if we really wanted for them to get an eye opener, we would need to put more time and effort into it and its a consulting business so we cant do that of course. But that could be an issue of course.	SR, UK, CT
39	I2	Not unless they wanted it? of course, wanted you to.	
40	O3	Yeah. Unless they wanted yeah.	
41	I2	You mentioned earlier that you definitely get involved in trying to get the key people involved in the specification of the application. Who in a general sense would you consider to be key people?	
42	O3	I would definitely consider key people to be the systems administrators, because of their knowledge of the system we are working on. That is often very important. Also end users because we have to know if the information is correct. The system admins does not always know that, because they have not worked with qlikview before, it is totally new to them. So, in a new project we definitely want the end users. Not all of them of course, but a few along the road. And also, depending on what department it is, some management. It is also good to have them work because it is easier to have a discussion around the project time and if we want to add a few more days or something to develop. It is easier to get a green light if some manager is there and could take that decision right away. So, that is part of a good group. And we also want to involve not just me as a consultant, but one of the salespeople. When I am there I have like a technical perspective and everyone thinks that I have knowledge about the system and have knowledge about qlikview, but I... they don't really... mmm they expect me to have some knowledge of the way they work. The way they do things, but they don't expect that from the sales people. They do the sales, so they can come in and ask a few stupid questions and make the people involved in the project open up a bit and try to explain things and as they explain things. They also start to think about what they want and how they want to use qlikview. So that is an important deal also.	CT, IL, MS, OS, UK
43	I2	So now the municipality has started the planning phase of a new major project is that correct?	
44	O3	I haven't been involved with Eslov central management in a while but... From what I have heard they are plans for upscaling the hardware to fit the municipality wide license so they	OS, CE,

		have the hardware to support that of course. We are going to have to put a lot of time and effort into developing templates and ways to work with qlikview because obviously they want many more departments involved with qlikview and that is going to take a probably a few more consultants maybe. We have to make sure that the environment is built to support that. So, that is basically step one. Step two is to re-freshen the application they have. They have been running for a few years so they want to make them easier, more modern.	CT
45	I1	Could you elaborate a little bit more on the previous qlikview applications they had before? Because we talked to a senior finance executive from the municipality, she mentioned that they have had two applications before. One was called Expert and Team Leader. Something like that. Could you talk a little about those two applications and what makes them different from the ones that you will make now?	
46	O3	Basically, the information put in those two applications is the same that we are going to use in the next project. The team leader application is for low level management and it contains financial data and HR data. What we are aiming for is to make an application that is easier to use and easier to understand. Because now they have to make a lot of clicks to get to their data. An easy way to make it easier is of course that when they log on they see their data. So, they get directly to their data. That is basically step one. Those applications that we are going to build will also contain information from their departments central system, like Treserva. They are going to have information about... financial information, HR information, and information from Treserva in the same application. So, they have like one way to find all their information that they need in their daily job.	CT, MS, IL
47	I1	So the new applications will be easier than the old ones and they will at the same time contain more capabilities of exploring information?	
48	O3	Yeah. And that could be a contradiction because, as we put more information in, there they could be harder to work for us. We see the low level management are often more interested in their enterprise data, than the HR and finance data; Because that is something they don't really get to affect, and they see the effects of (in) the education system. How are the grades going? How many students are quitting school? They are more on that data, than the HR data and the financial data. So, it is important that they can find all the data in the same place.	CT, CE
49	I1	Anywhere in your... I mean Eslov. the applications in Eslov. Is their any competitive focus from them?	
50	O3	What do you mean competitive focus?	
51	I1	Lets say you have a private organization, They would implement qlikview to increase their profits. But, municipalities have flat budgets they are not profit driven.	
52	O3	No. The focus in the municipalities is more like having control of your responsibilities. But, as I said before the financial status of your department is in some ways very hard to affect yourself because if you get like in elderly care you get like 100 more elderly people you have to take care of them. You dont have to decide. You can't kill them obviously. You can't affect the outcome but, in a company you can cut costs or what ever. They (the municipalities) can't do that in the same way. The focus is often to gain control and to see, to be to see trends, to be able to react. Those type of changes in the external environment. You know, if the elderly	OS

		population is growing, obviously you have to build more elderly care homes or what ever. And if the demand for the service is lowering you have to be able to move people around to the most efficient state. Planning. Because that is where most of the cost are.	
54	I2	In the new project, there is yet to be contact between the consultancy and The Municipality?	
55	O3	Yeah. Mmm... There is contact but the senior consultant/sales representative (CE1) is the one that is spearheading that contact.	
56	I2	But none from the consultants yet?	
57	O3	No.	
58	I2	Can you elaborate a little more, specifically on which projects, the projects that you were directly involved in? The one with the three departments and the central finance department. Those were two different projects?	
59	O3	Yeah.	
60	I2	What were the main roadblocks, difficulties that you encountered with this Informations System deployment in this Municipality?	
61	O3	Well if you take the project regarding the finance department. They had certain expectations on what I could deliver since the Municipality I used to work for had the same ERP system. They had those expectations before we started the project. Of what could be done in qlikview, and pretty soon we found out that because they did not work the same way with the system. This municipality could not get exactly what they wanted. That was one of the roadblocks. They did not really have time to work in another way. To make those changes needed so we had to compromise a little bit. But they had a very clear image of what they wanted and I knew what they wanted so that was a very small roadblock. In the other project regarding the three departments and Treserva. We had one major issue and that is. The data in the database we are getting information from is not the same in one condition. That they have in the Treserva reporting service. So we had one number in qlikview and one number in treserva. And neither is right I guess. So, that is a major issue. The system vendor has had a case registered on it since December and that is almost six months now and they still have not done anything about it. So, we had to release the application to all of the users even tho the data is not correct. That is a major problem of course.	OS, CE, CT, UK
62	I1	Does that point to data quality in the source system?	
63	O3	No.	
64	I1	Just a correlation of some sort?	
65	O3	So, the errors could be in the report, in the database we are getting information from, the database the reports are getting information from. So, we don't know and the vendor does not know. That is a huge roadblock. We can't move on before the vendor has. And they have not done anything about it. Other roadblocks, probably they did not exactly know what they want until they saw something. And that is one of the great things about qlikview because it doesn't	

		take that much time to have something to show them. Then they start thinking and want to put in more or less. But it could also be a roadblock because since they think they want something then they don't or change their mind. Of course I get to put more time into the project, but the project is time limited and they dont always realize that. Because it is quick to make changes.	
66	I2	When you encountered that roadblock specifically, are you dealing with the project group, or?	
67	O3	Yeah.	
68	I2	That specific project group. Who did it involve?	
69	O3	It involved the systems administrator and two representatives from each of the departments.	OS
70	I2	The system administrator is the Treserva system administrator. Is she a part of the IT department?	
71	O3	No.	OS
72	I2	From your experience, in the public sector are the system administrators generally a part of the IT department?	
73	O3	No. They are closer to the department itself.	OS
74	I2	So, the department itself maintains the system expertees internally?	
75	O3	Yeah. The IT department tends to be responsible for the server. That the server is up and running. And that is about it. They do not really know anything about this system.	OS
76	I2	From your experience, is that applicable across most municipalities? of does it differ.	
77	O3	It is applicable to almost every municipality I have worked with actually. It is not necessarily a bad thing. Because, you have to be close to the department to be able to alter the system or demand system changes as the world changes. The world of the department changes also. The IT department would not be able to do that in the same way of course.	OS
78	I2	From your experience, Is there generally someone assigned on a temporary basis for a project or... within somewhere in the organization, that is in charge of, from a general perspective, strategic Information management in the public sector, municipalities?	
79	O3	I dont really. Its is different because. Those strategic projects are often run by the central finance division or HR division. The other projects are often run by the departments themselves, because they are the only ones interested in that data. And, some of the municipalities are quite small. So, They obviously meet each other. They sit on the same floor. In those cases, it is easier to get them to talk to each other and get them to understand the importance of combining different types of data to be able to do KPI's or what ever.	MS, IL
80	I2	Would it be accurate to say that, there generally lacks somebody that has general Information Systems knowledge at a strategic level?	

81	O3	Yes, that would be accurate.	
82	I2	So the finance department is spearheading a strategic Information System project for the entire municipality? While still only having mainly finance expertise there(that department)? And no Information Systems (IS) expertise?	MS
83	O3	Yeah that is right.	MS
84	I2	Would it be correct to say they rely mainly only on the consultant?	
85	O3	Yeah, you could say that.	
86	I2	We are using a study that was done in the private sector in Mexico, for our study here. We are contrasting, where over there they did a private sector perspective on major roadblock with IS implementation. Would you mind taking a look at this. And if you can expand in general, how this has applied to this municipality or the public sector clients. From your experience.	
87	I1	First, the inhibitors are listed, the roadblocks and challenges. The first five.	
88	I2	Then the facilitators.	
89	O3	So you want to discuss this?	
90	I2	Talk to us about it? Does it relate to the public sector?	
91	O3	Many of these relate are quite related to the public sector of course. Lack of strategic alignment is definitely an issue as we talk about before.	
92	I2	As we go through these, would you mind expanding on them a little, with some exemplification.	
93	O3	Ok. As said before, strategic alignment as I understand it. The people involved with the project strategic deployment of an IS system are not the right people or the group does not have the broader perspective to make the strategic decisions for the whole organization. They often have one focus (background), like finance, HR. Because those are the two main focuses that we always start with. That is definitely something that applies in the public sector. Lack of top executive sponsor. Could you explain a little bit? Like promotes the system?	IL, MS, OS
94	I1	Yes.	
95	I2	It would be the person that has followed through on the system. You have mentioned some systems that for example... They/you start something and might end up with somewhat not correct specifications and you deploy it anyway, or you deploy it and it has just no more follow through on it. It (the deployment) becomes like a dead end roadblock. Because there is no one at a higher level that says. "Ok, this is where this has led to and this is what we need to correct it." So it can get to a proper end state.	
96	O3	Well, yeah. That is something that definitely is also an issue in the public sector, because often we deploy an application and it's just there (Stagnates). We have one educational points,	MS, IL

		that we use for sort of a few to make them learn how to use an application. Then we put all the responsibility of the follow through for the application that is taken on by the users of the municipality. Often, they don't follow through, so a lack of a real sponsor. That is promoting the system is definitely a real issue. Lack of cost/benefit study. I think that because we have been doing this for so long, we have pretty much a good idea of how much time and how much cost is going to turn out to in.	
97	I2	From the consultants perspective. But, from the municipalities perspective, is it in your experience have you ever known that the municipality has conducted their own cost/benefit study or analysis? Or during their planning phase of a project?	
98	O3	No, not often. I have never encountered it. Nothing, since qlikview is pretty easy to work with. There is not very many times that you have to double the project time. For example if the project is offered for one weeks work, you don't have to make it ten. You might add or subtract one or two days. So, it does not add up to substantial cost. Lack of system development method. Well structured. Well, we could always improve. But since that is one of qlikviews less attractive attributes. I don't know how to say. The competitors often complain about... Qlikview does not have a methodology for development/document and dealing with different types of how data is transformed and that kind of stuff. We here in this consultancy, we have a method but it could be improved. The our customers are almost never involved with the system development. They only want the final product.	OS, CE
99	I1	They only want what they see?	
100	O3	Yeah, that is right. And in a few cases there are other technical people at the customer, but that is very rare. Trained developers.	OS, IL
101	I2	You would be an example of that in your previous job at a municipality.	
102	O3	Yeah. Like I said it is rare. To have a trained developer in house. Too much cost.	OS, IL
103	I2	(Addressing I1) What is the name of the qlikview expert in this Municipality.	
104	I1	(Provides name of an IT department worker that had been described by ME1 as the "qlikview person in IT")	
105	I2	What is this workers full role in this municipality (from your perspective)?	
106	O3	Yes, I have been in contact with her a few times. She is not a qlikview developer. The worker is more an IT administrative person. I guess. I have not had a lot of contact with her other than regarding the server environment lately.	IL
107	I1	Would you say that BI deployment would be easier, if there would be someone in the IT department that has knowledge of their department and that would person act as a middle layer/liaison.	
108	I2	Between the different departments.	
109	O3	Well, it does not have to be in the IT department. It would be easier if there was a person,	IL, OS,

		<p>somewhere in the organization that has the time and the will to work with BI. Because that is not always the case. The case is more that every time that we deliver an application it is put on someone that has other responsibilities and they already have 100% of work to do and they get an extra 20(%). That is not always popular. So qlikview is put aside.</p>	UK
110	I1	Kind of in a second focus?	
111	O3	Yeah. Since they don't to work with it, regardless of what the BI tool is. I think that they don't become the ambassador and they don't put enough time in it to really make qlikview expand and grow in the organization. To move on. Lack of IT infrastructure. It is rarely the case.	
112	I2	This municipality has now gone to the municipality wide license. They recognized that it was an issue and they are planning now to upgrade their IT infrastructure. To be able to house the server that will handle the deployment.	
113	O3	Yeah, of course. There's obviously cost attached to that, and also more and more systems are cloud based. That could be an issue with the IT infrastructure because you can't connect to the databases that are in the cloud.	
114	I2	But in general you would say that from your experience the lack of IT infrastructure is not an issue?	
115	O3	No. It is not in the public sector. No. Competitive pressure on the business environment. That is what we touch on earlier. That is like I said, not even... We try to bring it up and try to get them to think that they could improve. That they could cut cost or what ever. But, they are not responding to it, like a private business would. Positive organizational impact. As the performance of the whole organization.... That is something, I guess, they don't really measure. But, obviously we see that... since they have gained information that was hard to get before that was hard to get before, some impacts are done. But you can't really put a number on it. You can say that just because they have an easier way of finding financial data or HR data. How many times, how many hours per day are they saving. You rarely put a number on it.	CE, SR, UU, OS
116	I1	So measurement is not a big focus in public organizations?	
117	O3	No. The return on investment is not a big focus at all I would say. But, That is important for us so we try to get them to... (do it) Top executives... That could be a problem because the relationship between top executives are not always working. That could be in any organization I guess. For some reason, the finance department owns their data, and the HR department owns their data. They don't want anyone poking around in it.	OS, CE, MS
118	I2	From your experience that has been an issue?	
119	O3	Yeah, definitely. Not in all cases, but there has been some.	
120	I2	Can you give us an example? So we can understand what you mean by it.	
121	O3	Yeah. I can just... I can't name the municipalities. But, there has been one case where the finance department wanted to use data from the HR department. The HR department did not	SR, UU, MS

		want them to use their data. They started to question why and even when they had a really good argument for using the data in different ways the HR department was stopping the finance department and us from letting us see their data. That lead to bigger issues between the two departments. Because they did not start any new collaborations, and the collaborations that they had fell apart. They became like enemies for a short period of time. That was because they feel that they are in control of the data and no one else should use it without their involvement.	
122	I1	Or they would not be unique any more?	
123	O3	That is right. And in some ways the key people, the systems administrators, the people that own the data have in some ways made them selves irreplaceable in a way. Because they are the only ones that really know the system, that really know how to get to the right information. If this becomes available to a lot of people, they don't feel as important. that is an Issue definitely. Having strong IT infrastructure in the organization is really necessary. Not all the municipalities have an active directory. They have all other directories and is one of the easiest things. You have a single sign on so you don't have to have 30 other passwords to remember. That is something that is really appreciated, and not all our customers have that. IT infrastructure is really important and also the ability to work from home if you are sick or something. That is really important in todays world. We have to be able to connect and work with qlikview from anywhere. IT infrastructure is really, really important. The hierarchical level of the CIO. I don't really know what that ... (means)	OS, MS
124	I2	Like the IT manager. We kind of discussed this earlier.	
125	O3	OK.	
126	I2	The CIO would be the top information systems person in an organization. Where in the municipality being researched there is an IT manager. But from your experience they only deal with servers and network and making sure that they stay running.	
127	O3	Yeah.	
128	I2	That is really their entire focus and they don't really have any other focus outside of that. Where in other organization there might be a strategic level information chief, that has an overarching view of the whole organization information needs and for which all systems, project managers, system administrators, IT, networking, etc. They all might fall under.	MS, IL
129	O3	Yeah.	
130	I2	But, we established in previous conversation that this was not the case in the municipality being researched or public sector organizations from your experience?	
131	O3	That is right. That is right. Positive individual impact. This is really important also. If you can solve a problem for just one person. He or she could be a qlikview ambassador. If people are talking positively about qlikview, then more people are going to use it in the organization. So, that is one of the main focuses that we have when we go out to a new customer especially. Find that one person that we can really relate to and they can be an ambassador for qlikview internally. That is important.	UK, UU, CE

132	I2	From your experience would you say that there generally is a lack of that? or is a mixed bag?	
133	O3	It is a mixed bag. It is different in different organizations because users of qliview or whatever tool are at different levels. Perhaps it could be a generation thing that perhaps the ones that are getting closer to pension are not as familiar with computers so they have a harder time with qliview than the people in our age. So yes it is mixed.	CE
134	I2	Was that it?	
135	O3	Yeah. That was the last one.	
136	I2	So in general, you have gotten the idea of what we are trying to study and explore. Is there anything else that you would want to talk about that you think would help us out as we explore this and also as we try to explore more into the specific municipality we are researching? We have only been able to talk to a senior finance executive. We currently have an interview setup with a senior department executive of the department that houses IT right next to the Janitor (Cleaning) department. In that hierarchical structure. And we are targeting the IT department head among others in that department and out. What other people do you think, from previous projects, would shed light for us? And just in general any you think would help us out.	
137	O3	Well, it is obviously important that you talk to the right people in this municipality. Get them to open up about what they have been doing with qliview and why that has not worked out. In some ways why qliview is a really good tool in another perspective. But, I don't know anything in particular.... Actually no, I can't think of anything special right now.	MS, IL
138	I2	Other than the people we mentioned, who else do you think would be good that we approach?	
139	O3	If you want, you can talk to this particular Source System Administrator (ME4), the system administrator for Treserva.	
140	I1	Which they connect applications to?	
141	O3	Yeah. Its is one of the source systems.	
142	I2	Elderly care, etc?	
143	O3	Yeah. It is the latest project. So, that would be a good person to talk to. Also if you want to talk to an end user of qliview, you should talk to (this person), who is a controller.	
144	I1	How do you spell it?	
145	O3	(Provides spelling and contact info). I studied with this person. This is an end user, who likes qliview and was involved with the treserva project as well. Might provide a good perspective.	
146	I2	Great.	
147	O3	And if you have any follow up questions, just email me. I will try to answer them.	

148	I2	Thank you. Do you have anything I1?	
149	I1	I don't have anything in mind.	
150	O3	Great.	
151	I2	Thanks.	
152	I1	Thanks.	
153	O3	No problem.	

Appendix 4 Municipality Senior Finance Exec (Interview Transcript)

Interview conducted 2014-04-16

MP Mikael Persson
AM Amed Martin
AF Senior Finance Exec - ME 1

Length: 01 Hr, 15 Min, 45 Sec

N	P	Text	Code
1	MP	Tell us about yourself and what do you do in the municipality	
2	AF	I am working as the assisting economy chief and in the county leading office where we have a central economy department. Yes, we are handling economy without economic systems as well as economy decision systems, although not the enterprise system as the enterprises handle the systems themselves. As far as qlikview goes, which is our DSS then it handles from here, except when you want to make your own applications to the administration.	CE, CT
3	MP	Uhm, What is your role in the qlikview project that you have now	
4	AF	I am the uniting contact for this project	
5	MP	are you the one that handles the steering committee?	
6	AF	Yes	
7	MP	Would you mind telling us about the steering commity on how it works and which kind of persons that are there and which kinds of decisions that they can take?	
8	AF	the intention is that this steering committe is supposed to be central to how Municipalitys points of view, and how we will make the economical steering, that is if how we can help the operations to make the right economical decisions.. best value that is. if they can analyze their own costs, or their working processes.. depending on the information they handle then they can analyze so that they get the best value from their input and output of their daily working routine.	IL, MS, OS, UU
9	MP	The persons that are members of the steering committee, are they members of each department of the organization, i.e economy..	
10	AF	This group is for the central control and so that we can have a county (oversight) on BI systems. The group is put together with people from economy and staff. There are additional discussions, as the project is in its infancy that we have a county	IL, MS

		leading perspective on the BI. The meaning further on is that we can have the group further collecting insights from the businesses of the county to get perspective on what input and output they handle.	
11	MP	How were the decisions taken before the steering committee existed, how did it work?	
12	AF	There was really no one that had mandate to take decisions, so therefore it has not been easy to steer for instance BI decisions of the county	
13	MP	OK, which benefits is the committee meant to bring to Municipality county?	
14	AF	there is an economic question, on what we want to prioritize purely economically. The costs that are tied with what we want to build now, there needs to be a prioritization from an enterprise standpoint with enterprise people from other administrations. So they have requests and among these you must prioritize so that you take them in the right order.	UU
15	MP	What would you say are the biggest roadblocks with adapting this kind of BI to MUNICIPALITY kommun? Which roadblocks are there with implementing it?	
16	AF	I don't expect qlikview itself to be hard to use. However, the initial roadblock is that the tool itself may represent a threshold for the users in the county. then it also depends on how easy the end application is structured and how easy it is for the user to understand. The applications that we have today are (1) for economy and (2) another for the administration bosses, and (2) is not very easily handled as the builders (consultants) has had too high demands on the users, as it is too specific and therefore may be too hard for the user to understand and use. The system must be able to be easily used by the user, and henceforth may bring better acceptance. If the operation people are to use this kind of system they must be able to work fast and easily, but also be able to go in depth (drilldown, and use Qlikview functions?) on what information they see	SR, UU, UK, CE
17	MP	If we consider the technology qlikview as DSS, which positive effects will it bring to Municipality kommun as a whole?	
18	AF	I think it can bring the effect that people utilize resources in a more effective way, hence best value. They get the most value of their input.	
19	MP	Do you mean that people see their KPI's and the fact that people now can see information?	
20	AF	Yes, KPI's are important but the fact that people can make better planning. Such as using the map, and the fact that for instance homecare can see the best roads to take depending on which clients they are visiting. So the fact that they can make benefits in that regard, and they can see the information clearly.	
21	MP	Would you mind telling us about which role that The company as a consultancy firm has, except deployment of the system?	

22	AF	They are the ones that are the source of feedback for us, so they are able to tell us what we can build out of our organization. They also show examples from other kommuns, and we can see what they have done for them. They have networking meeting where you can see these solutions. In this sense we get a meeting of what we can achieve and things that we have not yet thought of. When we want some kind of solution we present it to them as well as the tasks and values from other systems that they can connect.	CE, CT
23	MP	How can you influence The company?	
24	AF	If we say that we would want better values about something they can say that we can present a number of solutions where it is possible to do this, and then we later go over to a selected application that can do this for us.	CE
25	MP	I guess it is kind of hard for you to follow	
26	AM	Yeah.	
27	AF	Im sorry, i am not very used to english. It is just tourist english, not work english	
28	MP	If we see Qlikview now and before, has there been earlier problems to make the decision to implement any kind of DSS?	
29	AF	Before qlikview?	
30	MP	Yes, before qlikview, if there was anything before?	
31	AF	I have only been working here for three years, and when i got here qlikview already existed. But if we see in my previous organization before we got qlikview you could simply not play with data in the same way that you can in qlikview. The reports presented in economy were more static. Now you can coordinate with the tool, and you can approach the information from different angles depending on what you want, so you go back and forth depending on what you have in mind. So instead of having reports on 250 pages that would be hard to process as it is static.	MS, IL, CE
32	MP	And that would of course be hard to understand	
33	AF	Yes, it would be hard to process, and it would require excel that would load the report if you wanted to make any analyzes based on the report. But if you would coordinate with a BI/DSS i consider Qlikview easily managable in these terms.	UK
34	MP	How, if we ask about involvement.. how involved is the actualt consultancy firm with you? Are you meeting often to change the solutions often, or are you meeting far in between?	
35	AF	We are not meeting weekly, but we are regularly keeping in touch regarding the applications, so quite often i'd say. Usually, it is small changes we want to make.. and i'd say there's a constant dialogue with them as we have this system now and we'd like to further develop it to increase its efficiency. And when you are working with it, if you discover something that you'd like to have you consult them to ask if	MS, CE

		they could get it?	
36	MP	Do you think it is easy to follow up with the consultancy firm to make these kind of changes?	
37	AF	Yes, it is easy	
38	MP	So, no problems?	
39	AF	Yes, very easy.	
40	MP	Do you think there has been any conflicts with the consultancy firm?	
41	AF	No, absolutely not	
42	MP	So everyone is on the same page?	
43	AF	Yes, they work to make the organization happy	
44	MP	I don't know if we have touched this yes, but where did the decision come from.. to choose this recent qlikview solution.. is it political or is it from the departments?	
45	AF	I don't know how it started from the beginning.. but it started initially 6-7 years ago, maybe longer	
46	MP	Ok, so you said the county has had the Qlikview solutions since before.	
47	AF	yes, but i have only worked here three years	
48	MP	What do you know of these qlikview solutions so far?	
49	AF	The other two qlikview solutions have been adapted for the economy employees	
50	MP	Ok, so they took forward kpi's for instance?	
51	AF	Yes, it has been "Resultaträkningar, balansräkningar, transaktionsrapporter, balansrapporter " and they have then been connected to qlikview applications. There is followup on the lowest level in each administration that use applications connected to qlikview so that users can utilize the data. And there is also a personel function that comes from another system, so two in total (personal) and economy in the same Qv application	OS, UK
52	MP	You mentioned that you were going to implement Qlikview for the entire county? To what extent will you use Qv?	
53	AF	It will successively be built out to envelop more and more operations in the county. As of right now we have economy personel and school for its operations, then there is for health and social care, individual and family healthcare that is connected through their enterprise system named Treserva. This is what we have today, but there are many more if you look in the county that has many other enterprise	UK, UU

		systems for the various employees in the county (parks, streets, etc. There are systems for that as well)	
54	MP	A motivation for implementing a DSS would for instance be financial advantage against other enterprises and such, but counties are not profit driven.	
55	AF	There is a number of capital that the county can distribute during a year and it is controlled by the budget, so you lay out a budget ram. The working process to form such a budget is quite extensive, and the county itself is working according to its set budget and control its operations through the budget.	
56	MP	Are you proposing that the county through a DSS could make faster and more precise decisions?	
57	AF	Even though we are not profit driven as an organization there are still certain frames that you need to follow in order to be able to continue operations. The things you are supposed to do (utföra) in the administration you have a certain frame, and it is supposed to be enough for the operations to be able to work. So you need a steering on your costs as they tend to rail away. So, that is our steering instrument, the budget that is. And it is there the bosses always makes judgements and measurements according to the budget.. how they are faring with it, how the prognosis will be in the following months.. you must follow the budget.	UU, UK, OS
58	MP	And this is alleviated with a DSS?	
59	AF	Yes, it is alleviated with the qlikview application as they can see how they do according to the prognosis. Then there are other factors as well, not only money that you consider and work according to. Except for Treserva, there are these old applications that are for economy and personel costs, for planning about the personel. The new applikationerna är för verksamhetssystemen,	UK, UU
60	MP	A question, how many persons sit in the steering comitte?	
61	AF	We are five persons.	OS
62	MP	Ok, if i have got this correctly, are they from each department?	
63	AF	No	
64	MP	"referring to picture from CE1 about the steering comitte" If we say that this is the steering comitte .. shows picture	
65	AF	There are some groups that does not exists yet in the steering group, it is not complete yet. Are you talking about the comun organization or for qlikview specifically?	OS
66	MP	I am talking about the comun people that are sitting in the steering comitte	
67	AF	We are working in the county leading office that handles the steering of the county.	

		Then we have a couple of organization administrations which is "healthcare for old people" service administrations, culture and sparetime, kids and education, environmental community building	
68	MP	So you are striving to get dss from as many administrations as possible? ok	
69	AF	The ones that needs it of course. The ones that need to get values from other administrations than themselves are enabled by a DSS. With a dss they dont have to make extensive reports and request them from other administrations, but can just go into the system and extract information about other administrations than themselves.	MS, UU
70	MP	Is it The company that educates you in the applications?	
71	AF	Yes, if it is needed.	
72	MP	So you usually teach yourself if you dont have any problem with the solution?	
73	AF	It is quite self teaching. .. the applications that is. We also have our own educations in the application across the organization. When there are new users in an application there can be a person from the county responsible for educating the new end users.. usually it is controllers or economy people in the administrations.	UK
74	MP	So The company has contact with the steering comitte for each department?	
75	AF	As of now they have had contact with ME1 here to build the enterprise system that is called treserva.. but they usually dont have any contact with them. They have primary contact with us (me). But if there is someone in the organization that needs an application that needs an application they can go to The company and ask them. But then the problem would be that if anyone had the need for an application they would go to the company, and that would not work.	OS, UU
76	MP	That would indeed be hard to keep track of the requests	
77	AF	And the bills that would arise of course	
78	MP	Is it only person in the steering comitte that has contact with The company, or is it fewer than so?	
79	AF	hmmm.. i think they have.. but it is alot that goes via me in terms of contacts. But some of the persons have more to do with the consultancy with the company than others.. except for these five.	
80	AM	I would that if there are things that we havent asked you, do you think you could tell us in general. . tell us about the project in general, about dss, bi usage and the county before and now looking forward in the project would be helpful.. just any information really	
81	AF	That is.. we have great expectations on what we can build beyond now.. because we have the ground to our organizations.. and that we can approach further with this project. We will meet again with The company in may, and they will present	OS, MS, IL

		suggestions on how we will go forth with the solutions.. and that will mean alot to us. They have ideas on how we can be better because it is a bit hard for us to know what we need to be better at. They have great experience and the tools to give us that. It will be interesting. Further on it is a program that we have had across a couple of years and i hope that we will keep going forward in the program, so that users will be able to use each type of useful functionality that they add to the system.	
82	AM	With the decision process.. i'm referring to you because i could not recall what you have said in swedish, has there been a study as to the reasoning on cost/benefit for this system	
83	MP	Have there been any investigation in conjunction to qlikview on how you would save costs.. how you take faster decisions?	
84	AF	i don't think there is a question about making faster decisions.. it is an analysis tool that can help the user to see if there is anything that they dont perform that good in, or that there is some anomaly that looks suspicious. In terms of speed, the tools itself is the speed. You should also know, if you are looking for something, you don't always know what you are looking for. You know, you could for instance analyze your own costs and notice anomalies.. then you can drill down and then get to know why it was like that	UK
85	MP	are you implying that you in this way can correct for future decisions?	
86	AF	yes. You can make decisions so that the problem wont happen again, and thus prevent unnecessary issues. You can do things a better way, hence best value.. that you make efforts and you want the best possible outcome of the money that you put into it. You can for instance in home service for older people plan the route better as there is a map that allows you to plot your daily drives. This would not be possible with only the source systems.	UU,UK
87	MP	So, with the tools you can make smarter decisions in the county.. that further enables your organization to be more effective..	
88	AF	yes. Instead of consuming much time in these home services for older people, the driver of these old people can increase their quality elsewhere as they are not driving as much as before.. to the same price as before the dss solution. To put recourses on services that are not very necessary... and does not give the county any surplus value is worthless. You should put your recourses in the places where you get the most value from it. With the dss we are able to find these values.	UU
89	MP	Do you know which counsultancy you had before?	
90	AF	No, i don't know if it has been The company always.	CE
91	MP	The company told us that they had previous projects in the county. But that they started up again with this steering committee thing	

92	AF	As i remember we have been in contact with them five years, and i have worked here for three years. I don't know if they have made the initial applications though.	CE, CT
93	MP	To further confirm though.. did you have any.. how do you say conflicts with the consultancy firms before	
94	AF	no, we are very satisfied.	
95	MP	It is good to hear, We have learned that there are many IT projects that are hard to solve	
96	AF	They actually deliver to us, so what they do actually happen	
97	MP	Do you get your solutions fast, and within the set timeframe?	
98	AF	They hold their promises, and it generally takes a short time to make an application.. and of course it depends on how complicated the application is, which may further depend on the systems that they gather the sources from	CE
99	MP	would you mind elaborating which systems you have that The company attaches to Qlikview?	
100	AF	economy - rairdance, a personel system called iCompanion and then there is treserva, and "pocata" for the school.	CT
101	MP	So you change nothing in the systems, and they just connect sources to Qlikview?	
102	AF	Yes, they are left alone and we just add qlikview on top	UK
103	MP	So you would say you keep your core working activities even though you have adapted Qlikview?	
104	AF	We will make small changes in our economy system so that we can easier gather reports in qlikview	UK
105	MP	So, qlikview is only an addition for you, an extra tool to your daily business?	
106	AF	Yes	
107	MP	ok. I think i have at least.. as far as the questions go i have asked them all, maybe we could expand?	
108	AM	Is there someone from IT in the steering comitte?	OS
109	AF	no	OS
110	AM	Is there a reason for that?	
111	AF	Because we have been thinking.. we have a cooperation with IT, with the one that handles the qlikview part (Helena). But they think there is no reason to be in the comitte, because we just make decisions from an economical perspective. But when	OS, MS

		they are needed, we will consult them.	
112	MP	Does IT help you anything with qlikview?	
113	AF	Yes, they are the ones that maintain and keep the servers up. They are maintaining the IT environment such as the servers.	
114	MP	So it is exclusively The company that handles the applications and give you the solutions, and IT does not?	
115	AF	No, we have only the servers where the applications reside. So it is a kind of cooperation from many ways.	OS, IL
116	AM	Did we talk about different visions within the project in the steering committee? Are there any visions and scopes to which directions this project would take?	
117	AF	It is too early to say. We are just in the beginning and we have just started the steering committee	IL
118	AM	Would you say there is a support for this project.. what is the highest level of support involvement in terms of hierarchy	
119	AF	We have been doing this all the time, so it is really not a new decision.. we just need to organize it better, as far as hierachy i don't know how high it was before. When there is no one that holds the project, nothing happens.. so we have built this steering group to make things happen and to bring forth a stronger leadership in terms of decisions. I have names and mail addresses to ME4 , she has implemented treserva.. those three applications, if you by any chance would like to talk to her	MS, OS, IL
120	MP	What we would like to have.. to further strengthen our arguments in the report we would like to interview more people that are involved with Qlikview in Municipality kommun, uhm.. Does ME4 use qlikview?	
121	AF	I don't know if she uses it.. she's in the department of children and family and they have a system that uses by three administraitons which is treserva, the enterprise systems.. which are for individuals, like health concern, supply support and care recipients. That lies in this system and is handled by each of the three administrations, therefore we have built three applications for each of these.	OS
122	MP	We are investigating specifically qlikview as dss, is it possible that we could interview anyone else in the steering committee?	
123	AF	That would most likely not give you any relevant information. As the group is so new and we have just set the persons in the group, we have the conomy chief.. he has his own visions..	UU, UK
124	MP	So you mean that the persons in the steering committee could have visions that arent complying with the final qlikview application visions?	
125	AF	not exactly like that, but he is the economy chief so he sees the soultion in his own	UU,

		way.. i don't think you should put any time in interviewing the others in the group.. the group is quite loose and therefore we have no strong structure yet. On the other hand i think you could interview ME1 (Treserva) as you could maybe get the enterprise support thinking, how the enterprise works	UK, MS
126	MP	But the economy boss as busy as i assume?	
127	AF	Yes. It would have been much better if you've come in a year as we would have come much farther with the project. Have you been in landskrona kommun maybe?	
128	MP	No, we havent	
129	AF	They have done much with their applications, and as far as i know they are successful. The company supported them with solutions as well.	
130	AM	How long has the steering comitte been up?	
131	AF	We have had two meetings so far, so it is very very new	
132	AM	The reason.. because we are focusing on the planning stage.. here is our framework (shows framework).. we are focusing on the inital stages on thought processes and why decisions are made.. and this is the theoretical framrwork that we are working according to, and we are going to analyzing it based on that. So that is why we would hope to meet with them... so you had two meetings? How often are the steering group meeting?	
133	AF	We have had meeting so that we could talk about the county license.. so we have not had meetings on how we should develop the application. So, the only focus had been the county license and thereafter we will meet with the company on which core focuses we will have. So we are not in the phase of analysis yet in the group. What we will reach later is an uniform structure on what we have.. what our foremost problem is regarding something (application) that is targeted against team leaders, and we have already a team leader application since before which is hard to understand, and it is very complicated.. when you go into the application you are overwhelmed with choices of what you could do in the application, and it is generally hard to keep track inside it. It is not very well built, but the application is old.. so generally when you are using it you really need to know which buttons you need to press.	MS, UK
134	MP	Which roles have the team leaders themselves?	
135	AF	They are economically responsible. If you consider principals that are economically responsible for their working areas. A chief for a unit chief within the care keeping department that has a number of LSS living (check LSS living) or that you have a boss that takes care of a number of elderly apartments, then you have an economical responsibility.. you must follow your budget, and you are supposed to plan for personel costs. The personel costs are the biggest costs in the county, so they are of great weight.. that you can follow them. So if you have employed a number of substitutes in these departments, and then you need to be able to keep track of them	IL, OS, CE, CT

		if they are working night, on duties so the costs are sprinting away. Therefore it is very important for us to keep track on this large group.. So with these old applications there is a large demand from the users of these old applications to be easier to the end user, but they generally think the tool is good.. but hard to use. So this is our first step to take. First we need to plan a design, how we go forth with this. but then we need to really work hard to make an application with the consultants that are easy for the end users to use.	
136	MP	These persons that have had contact with the projects before.. in the team leader applications that is.. are these persons still working in the organizations? So that we maybe could interview him/her?	
137	AF	No, she is a senior citizen today. She were basically in contact with the project for a year before, but then she retired. So she have not worked with it a long time, so she got the work assigned to her for this period of a year and after that she retired.	
138	MP	You said that you had two previous applications in qlikview	
139	AF	Yes we had, but they are quite similar. One of them is a little bit lighter than the other, so the other application is a bit more complex. One of them is called "team leader", and the other one is called "Specialist". Then the intention for the specialist application is to extract a bit more and more extensive reports (balance reports etc) than the first one. I have not really looked into the team leader application because i don't need it. (The person that has been responsible for the previous projects are retired)	MS, IL, OS
140	AM	There were two right?	
141	MP	Was it the same person that handled both of the applications?	
142	AF	The applications are quite identical but the other is more detailed than the other	
143	MP	But, was it the same person that handled both of the applications?	
144	AF	Yes it was.	
145	MP	There is a study that we have read and there is a researcher that talks about factors that hinders the dss to work in private organizations.. so these five values are the result of the study. The study first lists inhibitors, and then lists facilitators of implementations.	
146	AM	This is from a private sector perspective, so it would be a little bit different from the public sector.	
147	MP	The first point talks about if there is any problems with the strategical perspective. The fact that you have a strategy to implement the system.	
148	AM	We are working together with the company so that we are working according to their recommendations	

149	MP	The second point talks about top sponsor support, which basically means that there are persons in decision positions that take these decisions.. so the organizations follow them	
150	AF	In this point there are of course a challenge, just because you introduce something now.. a system for instance it does not mean that everyone will use it, therefore it is vitally important with education of the applications. We are not exactly in this position though as the initiative itself is quite new. The applications that we already have are actually used in the departments where it is deployed, if however difficult to work with.. so we will do this better.	SR, IL, MS
151	MP	Is treserva something that you have added newly?	
152	AF	Yes, we have added it quite recently and it handles individuals which for instance are person that gets services in "care and concerns" which has home service, assistance in the home, or for persons that are disabled. There are other purposes such as individual and care, persons that need supply (money) support. We add person in this system, and we attach arrangements to each person. I have not seen these applications yet though.	OS, UK
153	MP	In this system, will they take decisions based on what they input in the system?	
154	AF	Yes, but as far as i know it will be harder to make decisions based on information just in the treserva system as it is not easily possible to compare with other information. Then it is easier to analyze the information in qlikview, which is done in an application. From the treserva system we have built three applications to qlikview.	UK, UU
155	AM	Would it be possible, because we are going to be working on this thesis to the first week of june.. would it be possible to get steering committe notes if there are any that are taken?	
156	AF	We havent made any notes in the meetings that we have had so far.	
157	AM	Typically there are no notes taken in the meetings?	
158	AF	no, not in this meeting.	
159	AF	ME1 is also not a member in the steering committee, she is an expert in the enterprise system.	
160	AM	Is there a person that oversees all the system in the county?	
161	AF	We have an IT department but they only maintain the systems on their servers. There is also a system responsible person in each administration depending on their system.	OS, UK
162	AM	Are there plans to have Qlikview devs in the Municipality county in the future, so support users here?	

163	AF	Not to script or develop anything, they are separate, so The company supply the actual applications.	
164	AM	Is there a person that are in charge of IT in what they do?	
165	AF	Yes, there is a big department with an IT boss	
166	AM	Can we get their name?	
167	AF	yes, her name is ???, she is boss for the department. Or maybe you could talk with the person that i have contact with when it comes to Qlikview in the IT department, her name is helena månsson. They make sure that the servers work for us, so they manage that part. She may have contact with The company if there is any problem on our part with the technical	UK, OS
168	AM	Have there been any meetings outside the steering comitte as far as scope go with this project, such as different ideas and directions to which where to go?	
169	AF	Of course there is a discussion in for instance the administrations where social care have complained on the "team leader" application is too hard for their unit bosses to work with. But we have other forms of interactivity meetings for instance with the administration economy people.	

Appendix 5 Municipality Senior Department Exec (Interview Transcript)

Interview conducted 2014-05-02

MP Mikael Persson
AM Amed Martin
HT Department Director - ME 2

Length: 01 Hr, 06 Min, 08 Sec

N	P	Text	Code
1	HT	So you have to describe for me the purpose, what is the purpose of the research	
2	AM	We are exploring DSS implementation at the planning stages, strictly at the planning stages	
3	MP	With DSS, he is referring to decision support systems	
4	AM	It could be Qlikview, but it does not restrict it to Qlikview. We know that there is a qlikview and there have been qlikview implementations here and we are getting our consultant perspective from the consultancy that does qlikview with the municipality. That is the only reason why we will talk a little bit about that, but it is not really the focus of our research. The research is in general and we wanted to get you perspective because you are a department head and that is why we chose you.	CT
5	HT	Do you want answers generally?	
6	AM	Yes, as specific you can be. It will be fine for your research.. getting the input from your position was really what we wanted and needed.	
7	HT	You have not spoken to ??? She is not working today	
8	MP	We have emailed back to her.. I assume that she is the person that handles treserva.. so we sent an email back to her asking for an interview	
9	HT	Did she answer it yet?	
10	MP	Not yet	
11	AM	Some of these people we know and have interviewed, for instance the consultants.. that they have a very technical point of view of what they have done. So our research focus is mainly a strategic planning level. We really are not as interested in the technical issues or technical stuff. Uhm, can we	
12	HT	I am dont know anything about the technical stuff here.	UU
13	AM	Great, that is perfectly fine because we are not concerned with it in our research.	
14	HT	I basically want the car to start, metaphorically.	

15	AM	That is perfect. Can we just start with you just telling a little bit about yourself, your history and profession.	
16	HT	Yes, i have been here since june last year (2013), i am a formed employee in malmö municipality and a municipality owned company mkb, that has apartments and flats. And i have had a different, even student accomodations that you probably know, rönnen student which is one of the biggest student accomodations in sweden. I was the head of that organization. So i have had different management roles. In real estates and i was at Rosengård, a big area with alot of social problems. So before here i was for one and a half year a development manager of that area. I am not an engineer or anything like that, i am of social knowledge background, and i was a geographer from the beginning.	
17	MP	So, could you tell us about your position here in Municipality kommun and what is it that you do?	
18	HT	My role is that i am one of.. in Municipality we have one manager of the entire municipalty and then we have different departments, the school, healthcare, we have environmental and planning, we have the city office and we have this which we call the service administration (my department) that is mainly to 90% internal service organizations. So, if the principal of the school wants to rebuild some walls or have a whiteboard it is my responsibility to make that happend and if we would want a new IT system in the municipality, like Treserva or.. we have a new flex system that handles the working ours of employees much like a scheduling system. It is my personal responsibilities, so IT is with me and if the municipality and the school wants to build a pre-school buildin it is my project group to handle which would consit of around 5-6 persons (engineers). We also have in my department processes for the ordering of food, producing it for the school, pre-school and the elderly. So it is kind of a mix. I have also quite a big group in the department which handles cleaning in the various municipality facilities. So it is in total around 270 persons in my department (service and tehcnology), the department of services.	OS, MS
19	MP	Ok, so you said all the things that you handle are within the actual municipality. So you manage the acquisitions of IT systems	
20	HT	Yes. The municipality.. at least most of them are organized in a way that we have the central department that we call kommunledningskontor (Municipality leading office), and they are the strategic part so we have an e-strategic person at the kommunledningskontor. She handles strategic tasks and my department and IT for example is the deployer of these solutions. The kommunledningskontor order solutions and we manage the deployment.	OS, UU
21	AM	Do the decision making happen there perce as you describe?	
22	HT	Yes, it should be like that but sometimes it does not work a hundred percent so sometime we make the decisions and sometimes they make the trivial decisions. So sometimes the main economic strategic decisions in the kommunledningskontor.. So for economic, IT and also for city planning, so the strategic city planning the decisions are made at kommunledningskontoret.	OS
23	AM	Is the she a one person that handles the strategic level decisions for information systems, and other things as well?	
24	HT	Yes.	
25	AM	Who is this person?	
26	HT	Her name is ???, could be a person that you could talk to. Her title is e-strategic person.	OS

27	MP	But you still handle the acquisition of some systems to some extent?	
28	HT	Yes	
29	AM	More from an execution perspective. So for instance you say that we need to acquire this information system to support this decision	
30	HT	We have to have a flow you know, in the work	
31	AM	I know you mentioned that sometimes it does not work like that, and can you expand on that for us and talk a little bit about issues that might come up and how things are managed so that these projects go forward	
32	HT	In this system we have the acquirer and deployer. So actually in this quite small organization, no not small really because we are around 3000 employees. We actually sell products in an internal selling system type of way. So we have this treaty, a very formal document that you sign to make an agreement, so we have this agreement that the city office "Kommunledningskontoret", that says it wants this system.. and it is very general. We want to buy certain IT services, this and this. It could be around, for instance a cost of five million kronor, so we have this very formal agreement and sometime like ordinary agreements we have different point of views when we work. When there is any inhibitor or problem it is often two persons that have different opinions and then we try to solve it with meetings to go back to the original agreement, so that both get on the same page. But often the problems about different visions are related on a personal level, it is often like that actually. If something does not work it is often based on two people that does not like each other or that they have different point and perspectives. That is why we have these meetings sometimes	OS
33	AM	And these meetings are usually organized independently, so that they are randomly depending on the type of project of there is a standard form that all meetings follow?	
34	HT	That form exists quite randomly. You never know exactly where, sometimes it actually works quite well so you dont know exactly where it is going to be an inhibitor or limitation.	
35	AM	We are assuming that there are some systems that you use, that help you make decisions in your work day-to-day. Is that the case, and could you tell us more about it	
36	HT	Well, i have this for my personal scheduling where the employee have to ask for permission to have vacation, a half day off or a whole day off and so on. I have to permit it, and sign that they are eligible and i have a salary system, so now this month in Sweden this is the month where we set the new salaries for everybody. This is a system where i can see this. And even though i am not the manager i can see information about this far outside my department. I have other managers going that which are below me. I have to think more.. We have the system Platina which is an administration system. It is quite well known in municipalities, and it is a system that handles business matters and processes. Do you know much about the Offentlighetsprincipen? The system Platina is a part of the offentlighetsprincipen. We have this offentlighetsprincipen from the 1700th century, we are quite unique in the world about this. So if i get a letter from someone in the municipality, i have to as quickly as it is registered make it public. So when i write something on a paper during a meeting it is not public, but if i send it to a colleague next door then it is public. This is what the system handles, so if i get a letter or a question.. could be anything. It will get registered in Platina and it is public for eternity.	OS
37	AM	So then the public can make a public request for you to release the information.	
38	HT	Yes, so we can not deny them. That is the thing with the system, it makes it easier for us to handle such issues. We can make service posts with the system, which is a post for the	

		politicians. If i want to lift a question for the politicians, there is a form i can write in and then to the next political meeting it is done, and i have to do it in Platina so that everyone can see it. If i do it wrong, outside the system that is and i make such a post in for instance Word, i can not distribute it properly. I really should use the system more though, but we are actually mixing work processes at the moment. So i use maybe three, four systems.	
39	AM	How new is this platina system?	
40	HT	Well, it is from i think last year. Many of our administrator use it, as it is for the managers. It is a boring type of work, so we often scuff it away from us. The bad thing though is that i don't learn as much as i should.	
41	AM	Do you see that within your role, there would be a need to analyze the data that you have access to. Which one of the systems that you currently have, do you have any capability to analyze it? With analyze i mean putting it into different context and kind of play with it to find different trends and make forecasts to plan better in the future.	
42	HT	No, i don't have it. But i can see the benefit in using that capability. We have quite a new system that we are deveoping, that we have just bought for us. It is a GIS (Geography information system) which is interesting and will be able to give us strength in our work. In this system you can analyze things the way you described.	UU, UK
43	MP	Is this specifically in the service department?	
44	HT	No, it is within the whole organization.	
45	AM	What type of things would you find interesting to analyze?	
46	HT	You could for instance, the first thing you could do is to plot all the buildings we have in Municipality. In some of them we serve food for people, and i could for instance analyze the most effective driveways when you have the plots on a map. You could save time and reroute your personel so that they could work more effectively. That is one thing that we saw we could use with the GIS. And we can for example monitor real estates on the map. By this you can write exactly when everyting we do, repair the roof, put in a new system of locks, so in the future it would be easier for new personel to come in as they can track easier. We could analyze where we have certain buildings that need special maintenance, their expected lifetime, so we could forecast and build new houses in the future. I think GIS could give us visual oversight.	UU
47	MP	Now we are relly talking about a DSS, because what you talked about now ME1 has mentioned before what they would like to. The exception here is that she talks about Qlikview and you talk about GIS.	
48	HT	Yes, but she is a finance person so she would use qlikview. Qlikview is more.. I am a head of this department, but i am not really a finance person so that is not my main expertise. I have finance people under me, and we have 5-6 finance people in this department so they are using that. But she is strictly in finance so she should be interested in that.. more than me at least	SR, UU, UK
49	AM	Are you aware that there recently has been purchased a municipality-wide licence for qlikview?	
50	HT	No	
51	AM	Ok, and i guess we were curious to ask if the IT department had any role.. or if they have any role in the planning phase regarding Qlikview, that you are aware of as you are the head over IT. But to your awareness, it is nothing that you have been aware of?	

52	HT	No, i have not. But you should get the answer from ??? (Treserva).	
53	AM	We talked a little bit about challenges and we talked a little bit about systems that you use and systems that you would like to use in the future to analyze things. We are interested in the role that you kind of play as a general manager in the department, in relation to the strategic management overall of IT systems. But now you have kind of explained to us that there is a strategic person that handles IT strategic decisions and issues that the central department and that IT in here you would be more about deployment, such as dealing with services. You mentioned that your services are specifically for 90% of groups and departments within Municipality kommun. I was wondering if you could expand a little bit about more on how this structure works.	
54	HT	The decisions?	
55	AM	Yes, the decisions and planning.	
56	HT	Then i have to, you know we have a steering group for the whole municipality of Municipality. It consists of the head manager which is the county director.	OS, MS, IL
57	AM	Who is the municipality director?	
58	HT	She is called ???. She have meetings with this steering group, and it is also every manager of each department and the manager of finance, so that is her steering group. We not often take decisions, we have other persons, external and internal that tells us about.. for example new systems that we think we could have in the organization. Well, the decision that we make could let us look further on this so we give for example the E-strategic person and my manager of IT the initiative to work together, or for instance any personel in each group. They could be from finance, or citizen and effectiveness. And if they chose that the particular system would be good for our organization we take the decision in the steering group, and then we dont have that question again in the steering committee. It is because the IT manager, me and the E-strategic person continue to handle it regardless of meetings on the steering group. We dont need to follow up as closely with the steering group. Or, if we don't have a precise solution that we could imagine having we could make our suggestion public and let the other competative consultants bid for the project. That is what my IT manager would do, choose a solution that is.. or release the suggestion to the public so that any consultant could bid on it. She (IT) is the expert in such matters, i am not the expert so i can not decide which bid is the best so the IT handle that. The heads of departments does not take those decisions because we are not the experts.	IL, MS, OS, UU
59	AM	This steering group, does it have scheduled meetings to handle issues or is it scheduled on a need basis?	
60	HT	We have it scheduled every second week.	
61	AM	So there is a meeting two times a month.	
62	HT	Yes, and it is all kind of focuses in the meetings. The meetings should be on a general level, because we have this newly organized IT council that the E-strategic person from kommunledningskontoret come from as well as my IT manager are in. They put the agenda, so there are maybe 5-7 persons in the group. In this group there is one person from every department, so it would be school that have their IT representative there, the healthcare have their IT person. So all of them follow up with information regarding IT in these meetings.	OS, UU, IL
63	AM	So all of these system administrators join this IT council, what is the main role of this IT council?	

64	HT	It is to gather input internally. Maybe the school would for instance want to develop you know iPads for all the students, and a system that would be only available for the school. The principal would for instance say that he wants this system for his school and its adhering education.	
65	AM	Do they deal on request basis only, or do they do strategic planning level issues in information systems?	
66	HT	No, it is newly organized so they have not had alot of meetings yet. But the purpose should be very internal, they could discuss if there is a particular system that they should buy or use in particular parts of the organization.	
67	AM	Do you know when this IT council was formed?	
68	HT	Yes, this year. BEcause we wrote it in this bigger IT agreement between me and the municipality director. It said that we should have an IT council with experts.	UU, IL
69	MP	So the IT council is under the steering group?	
70	HT	Yes, you could say that. Hirerachically it is under the steering group.	OS
71	MP	How long has the steering group been existing?	
72	HT	For the whole of Municipality kommun?	
73	MP	Yes	
74	HT	Since big bang basically. It is like to company's board of directors.	
75	AM	Yeah, this is quite interesting and we are trying to find out more about the structure.. and it was now finally clear, even though we have had a couple of interviews.	
76	HT	Yes, but do you get the same information everywhere, or i guess you get different stories?	
77	AM	We have been putting a puzzle together	
78	HT	You have to understand the main structure of a municipality, it's quite like a spider net. And if you come from another country, we are famous for having a lot of bureaucracy and we have many systems and we have the offentlighetsprincipen. So it is quite differen	
79	AM	Is it typical or not to record and take notes from these board meetings, and for instance the IT steering group meetings as well? Of the discussions that they have? Or is it something that is not recorded, since it is within the municipality.	
80	HT	It depends. We dont have any.. Some times we have our own personal notes but no records of the meetings. We have for example within the steering group, notes for the whole community and notes that are public. It is protocol (necessary). It is a difference between protocol and memory notes. The memory note is a note that is personal and the protocol is official records of the meeting. So for example, when we have meetings like we have every month with the union, it is protocol. They are very eager to have the protocols.	OS, IL
81	AM	Can you tell us a little bit more about, exactly because you are telling us about this IT council that has been newly enabled.. and it consists of the technical experts, that is the system administrators. But they service managers and we are interested in exploring how this relationship works, do they have any decision making ability or any authority. How does the relationship really work?	

82	HT	Yes, they service managers. They have for instance an interesting question, maybe they go to another municipality or company to look at their IT system and the find it interesting. They discuss it, twist it and turn it so they conclude that it might be a good idea. Then the IT person goes to me, the E-strategic person goes to her boss (kommundirektör), and they suggest that we should meet eachother. After that we meet and maybe they will put it at the agenda in the main steering group in the municipality, it is depending on how big the decision is.	
83	AM	And then if a decision needs to be made, it will be there?	
84	HT	Yes, but they don't have the decisions in the IT council. They do planning, but in the end they will suggest to the main steering group. But as we in the main steering group are not experts we will listen to them of what is good we often accept their suggestions. It is like other questions where we have the real estate persons that suggests something it is often good and we trust their judgement. So it is the same with IT.	IL, OS
85	AM	But there is a relationship between kind of wants and needs right? And those generally come from managers and not IT.	
86	HT	Yeah well, continue..	
87	AM	And what i mean by that for example what we discussed about a tracking system that we talked about in general, we discussed this tracking system that would track the installations of certain things that have a lifespan that you handle in your department. You would track them visually and you could see for instance that a particular door system has a fifteen typical lifespan or we looking to maybe change that. Or we would talk about rerouting and increase efficiency of your workers. That would be something that you would want as a manager to increase the efficiency of your workers, that would be the wants that you would put forward. How does the relationship work when you as a manager or director, i would like something but i don't care about the technical details like you said, you want to press that start button and you want to make it work. But you might have wants to make your organization better and the directions or your organization or what helps you to make decisions to make the organization better. You might put that forward to the technical experts so that they could find something and suggest it to you that makes your work more efficient. How does the relationship of wants and works or needs work? Is it something that works or exists currently?	
88	HT	No, not directly but you can take for example actually.. when the apple products came, the IT.. In sweden the swedish IT persons dont like Apple products but we want it because it makes our work easier. So we were the requesters but we don't have the system for that, it's like a movement actually, that is one thing. But i know another thing about that. When i often hear the school want systems or products that we don't have, the principle often contact our IT department we don't have a formal business process for handling that. The IT council is a new group to lift that kind of question, because we have one person from every department of schools. So, instead of one principle out of maybe 20 principles contact the IT department and says they want a specific system or products and another principal contact the IT department and makes some other kind of requests. So it is getting hard for my IT group to have 20 principals wanting 20 different things. Now we formalize it in this way that if the school have to unite and then they go to the IT council where my IT manager is, as well as the E-strategic person then we can discuss it. Maybe the council discuss and the questions bounces back and they ask do you want these systems or just one for instance? It is easier to maintain for our experts in IT, so it benefits from a single voice rather than a dozen. In our organization it is sadly so that we change principals often and they have alot of power even though they are lower than us, purely hierachically. They have the school law from the Swedish state, so even if the principals are lower than the head of schools here in Municipality they can say that they don't want a particular system because they have the swedish law backing them up. The most important issue in a decision case like this is the issue of developing education in a particular	MS, OS, IL

		principals school, and they have a specific idea on how to developing the education, for instance another IT system. Before he could ask the IT personel and make agreements that suited everyone, then the principal quits after 2 years and we get this new principal that wants new expensive IT systems. I'm not particularlyly fond of that because we might put millions of money in vain. I think we are by the breaking point of this kind of issue because last 10 years there have been alot like that, from and ad-hoc perspective of solutions. Now we strive to formalize it because it is too expensive, the change of principals, new systems that is. So now the IT council should be a way to formalize such decisions, that they take care of the issues of many voices and narrow them down to one unified solution. Now we will have one person come from the schools and make requests to the IT council.	
89	AM	So let's say the principal makes the request and the IT council explores, does the research and then they will kick it up to the municipality steering group so that they can make an approving decision on the issue? Once it is approved it comes down from the board down to the IT council and they do what they need to do to implement it.	
90	HT	If it is a perfect world, you should not ask and put questions to the steering group. You should have a suggestion that clearly tells this is the way because you cant ask me anything or other heads of departments in the steering group because we don't have the knowledge. You you say that, for instance this is the best and the steering group would look at the feasability such as economy, the strategic point of views for instance.	MS, IL
91	AM	When they do that, do they usually put forward just the best point of view?	
92	HT	Maybe two, to offer diversity.	
93	AM	It has been enlightning.	
94	HT	That should be like that in any question that is big and strategic, really. We have another project which is the development of the front desk. Should it be for example open or should it be more closed, from the viewing point of visitors, people that can make suggestions and such. Because my salary is paid by the citizens, so all 3000 persons in the municipality are getting their salaries paid by the taxes of people. We are here for the citizens actually, then if we have this big house with this front desk, it should be open for people. We should develop it to be more open for the citizens, such as a citizen office or a community center. My manager of the front desk have a plan now for a contact center that can answer the citizens questions alot better than they can do today, and that is a question that has been by the board. How should we do, should we be more open? Yes, but we don't decide how it should be built and such.. such an example to compare.	IL, MS, OS
95	AM	I guess it is unclear how they want to do the project, but from our perspective this opens up the possibilities for any department to find use of information which would not be more price intensive. So we wanted to find out how this planning is going. But now with out interview, we discovered that everything is kind of didconnected because from a theoretical point in information systems, if the system is in the planning stage to be deployed in an organization we would expect all the department managers to be at least in the loop because we are not dealing with any technical issues at all. Only managerial issues related to information systems, so that is kind of our perspective and you were very relevant to our research in finding out kind of how things were happening here in Municipality and what was going on.	

Appendix 6 Municipality Senior HR Exec (Interview Transcript)

Interview conducted 2014-05-06

I1 Mikael Persson
 I2 Amed Martin
 O6 Senior HR Exec - ME 3

Length: 01 Hr, 17 Min, 26 Sec

N	P	Text	Code
1	I1	So, If you want you can be anonymous, I think so far, two thirds, have been, have requested to be anonymous in the, at least in the interviews, but I think we are going to keep everyone anonymous for good measure anyway so.	
2	O6	That's ok.	
3	I1	Would you mind telling us, telling about what we do?	
4	I2	Uh, we are students at Lund University, and like he explained, we are doing our Information Systems Master Thesis, so we started exploring, we want to explore kind of, the planning that goes on with regards to decision support systems. And how things happen, kind of, behind the curtain. Hm, we were getting a perspective from The company, who has supported some of the implementations, Qlickview implementations here in Municipality. So we have interviewed three people over there that have dealt with...	
5	O6	Is it CE1, CE2 and CE3?	
6	I2	CE1, CE2 and CE3...	
7	I2	And we wanted to get some perspectives from Municipality and put a picture together. So that is kind of the premise of the research. Based...,although we're covering the implementation of the DSS systems, we primarily have a focus on what happens for planning, before and even after, because there is usually some cyclical planning going on. Hm, my name is Amed...and Mikael...	
8	I1	My name is Mikael, and I come from Helsingborg and yeah, I study...	
9	O6	Far away (laugh) far far away....	
10	I2	I'm from Mexico, my wife was raised here in Lund, we just recently moved up here, a couple of years ago. And we want to thank you for your time.And sorry about the confusion with the time.	
11	O6	It's ok.	
12	I2	So if you don't mind can we start out with you telling us a little about yourself, and just your experience, hm, and your current role here in Municipality?	

13	O6	Yes, I should try, ehhh....	
14	I2	You can do it in Swedish if that's what you want	
15	O6	yeah, that's much better...	
16		translation starts:	
17	O6	Ehhh, earlier I used to be a full time politician, I worked in the Riksdagen, then in 2007 I returned to Municipality kommun. And then my task was to implement Qlickview. Ehhh, maybe you want to know more about my personal background?	
18	I1	Yes, tell us more about your background in general terms? Now you're back in Municipality. What brought you here? and What do you do in Municipality?	
19	O6	Yeah, I was born and raised in Municipality. I have a degree in Human Resources from Östersund, up in the middle of Sweden. And I started working in Municipalitys kommun in 2000 as a 'personal sekreterare'. Then I went to work in the Riksdag for a period of time, in the 'Kulturutskottet', worked with Radio and TV Shows/program content. And, I worked as a political secretary for around a year and a half for the majority party, at that time, at Region Skåne. Also, in the 'politiska ledningen', planning of the 'Region styrelsen', and 'Regionfullmäktig grupp' for the Social democrats, and 'regionråden', speech writer, etc. then in 2007 I returned to Municipality and got a position as 'personal ekonom'. That's when Qlickview emerged in the picture. From 2009 I became negotiation chief for Municipality kommun. So today I work more with labour law related issues. But i still have had contact with the system, as an system 'owner', not with the development issues.	
20	I1	Specifically Qlickview, or other systems?	
21	O6	No, I have had Qlickview, but there are several systems. We have a lot of systems in the staff section, we have recruiting systems, we have pay system, we have dealt with survey systems in my department. And I am now chief of this department so one gets involved in all systems in a general aspect today. In 2007 I was working directly with Qlickview, I was hard coding and expanding it withing the organization, training and so.	IL
22	I1	Ok, so you had a more technical background, how should we put it, more technical duties before?	
23	O6	yeah, how should we put this, I have no technical experience. then in 2007 I was sent to a two-day training/course of Qlickview at QlickTech in Lund. Ehhh...that was one of the first times I have experienced being in a situation where I realised I didn't understand anything, I had never been working with coding or anything like this...Because the course was about coding of systems. And then we had a, or I had a mission as a Project Manager, to implement Qlickview.	IL, UU
24	I1	Did you first come in contact with Qlickview because you got a new position? Did it just got 'placed' on you due to that?	
25	O6	Before I started here there was a purchasing process, at that time 'Statskontorets' agreement was used. Today there are other names for that. It is not called '*Statskontoret*' anymore, but it was a centralized purchasing agreement that was used in all municipalities that was used to by the system. That's how we bought it. During the first time it was all about writing the agreement for the system, so we	OS

		were working on the judicial aspect first. And then also planning. What were we going to do in Municipality once receiving this system? Eh, the primary purpose was that we were then going to connect staffing and financial systems and modernize so we could use it as a system for the organization.	
26	I1	So, which...? how should I put it...What did you want to resolve by using Qlickview in the financial and staffing sections?	
27	O6	It was partly to make it more accessible within the organizations, eh, the previous systems worked that you had to go into the system, order a record, and then you got the record on a piece of paper. Here we wanted to give the possibility to the whole organization to go into the system and access the available data from beginning to end, ex: yearly financial report, bookkeeping, track staff monthly, without having to order 'ticket', having people print, distribute paper throughout the organization.	UK
28	I1	So it was more self-service oriented? That you could....	
29	O6	Yeah, but also having a entirety in this. We started in a small amount, so it was primarily to specialists. The first step. But we realized pretty soon that it wasn't enough with the specialists. Because if we were going to have any use of the system the managers had to use it. Therefore we bought additional licenses. And could include managers, specialists and assistants, not all assistants, but some assistants, received access so that they could follow-up with the organizational work. But then only from financial and staffing related areas. At that moment we didn't connect the other systems. Later on, there was a time when our Child and Family Department, as well as high school and adult education department connected their organizations to the systems, and built an application for that.	UK, IL
30	I1	Could you tell us about when the very first Qlickview...hm..where was the decision made...hm...to...hm...where you say "We want to use Qlickview? Where did that initiative come from?	
31	O6	Ehh...I wasn't here during the first process. But I believe that the demand came from our financial chief of that time, Lise Bröndum, she works at Lund university, at one of the Faculties, I can't remember at which Faculty...	OS, MS, UU
32	I1	There are a lot of faculties...	
33	O6	Yeah, and at that time the problem had already been seen especially with the financial system in particular, that one couldn't retrieve data, analyze the data, there were only the finished reports, and then one had to analyze them using excel sheets, and so on, one could not put together the data in the system. As a project manager it was..hmm...a difficult job, the initial part was to make people understand what Qlicktech could do, how to retrieve the data, so that was really the hardest part. We had economists who said "no, I want to use this with the reports" and then we had to explain that "you have the reports, but also the possibilities to do a lot more using this system. You can look, you can analyze, you can take data home with you, and you can crossdrive it with something else in a way that was not possible before, because here there are connections in the system.	IL, OS, UU
34	I1	It was difficult...So you mean that it was difficult to make people see the benefit in the reason for using it?	
35	O6	How to use it was difficult I believe, the imagination of the possibilities, i believe was the biggest challenge in this kind of project...hmm, preferably people want to	

		hold on to the way one has always had things, and not until one sees the finished product, do you understand the benefit of it. the thought is that if I do it this way, how can I retrieve the data in the next step, and that is a process with...hm...people who are used to one system, not because they don't want to but because they aren't able to see the possibilities,	
36	I1	They have tunnel vision and it's difficult to....	
37	O6	yeah, I don't think it's only tunnel vision, I believe it's a habit and that you know what you want to retrieve from your own things, and then you think what can we get from this system.	SR, UK
38	I1	As Qlickview looks today, what connection do you have with Qlickview right now, in Municipality?	
39	O6	I am part of the central group so I have visibility in whether we should further develop the system or not. I am not involved in the development of the system anymore, and I will soon take a leave of absence, so I will, I am in the process of terminating myself from that too...	MS, IL
40	I1	So, lately, it has been on a more strategic level?	
41	O6	It has been , we can say that the latest year and a half, well since 2009, I let go of the role of developing the software, eh, I took a different role in Municipality kommun, and then it has been to make sure that we have the system and that we can reach, and with that, I feel that we didn't really have somebody to, a person to take care of Qlickview, since 2009 to present, and that's why we stagnated the development, and that is one of the most important piece when you are dealing with a system like this, that you must have active people who develop the system all the time and build-on more systems.	OS, UK
42	I1	Strong leadership then, that you have a leader...	
43	O6	Yeah, you have to have an organization, and someone who drive/push the issues.	
44	I1	When you say that you were involved in the development of Qlickview, was that in collaboration with The company?	
45	O6	Well, it wasn't, we worked directly with Qlickview, it was before The company existed,	CE
46	I1	Oh, so you started with Qlickview before you hired a consultant?	
47	O6	Eh, the contract meant that we bought the system, and in the contract, there were hours included for consultants, and The company was founded in 2009 or so, and we started in 2007, so when we started we started with consultants directly from Qlicktech. And CE1, among others worked there, and later Bo Dahl, and then we had a firm called Clyborn, which worked with these pieces	CE
48	I1	Ok, I will just ask him also some too. Basically the project started in 2007, and not until 2010 The company came in, and how do you say, managed that part, so it was like sporadically people that were in contact with the Qlickview initiative so to speak...hm..ok...On Friday we had a meeting with ME2 Trelid about, we talked about different kinds of steering committees and IT steering groups, are you a member in any of these steering committees?	

49	O6	No, not anymore. I work with negotiations, that is labour law today, so that is, as a chief of a department so I am not a member in steering committees in that manner. We have a steering group for Qlikview, which ME1 , whom you have met previously, takes care of nowadays. And I'm a participant as an advisor, Senior Advisor.	OS, CE
50	I1	That steering group that ME1 holds, is that specifically for Qlikview or is it for IT in general?	
51	O6	This is for Qlikview, and then we have another one from the Kommunledningskontoret that is in the other one, so we have many from Kommunledningskontoret, so we have many systems that we try to channel. Later on we will initiate another contract with Qlikview, the thought is that we will develop it further and implement more and more systems...	OS, MS, IL
52	I1	As The company mentioned, that you have taken the initiative to get a municipality license, hm, so have you a Qlikview steering group and an IT steering group, or are they the same?	
53	O6	No they are not the same. the IT steering group are responsible for all the systems in the municipality, to see what we need. so Qlikview is part of that, the municipality I believe we have a few hundred different systems. Then there is a private system, where the owner, that is connected to iT, where IT knows who 'own' the system, or own's the knowledge of the system and decide what we will do with the system.	MS, IL
54	I1	So Qlikview is just a little group and the IT steering group is a bigger group, and Qlikview is a little group as a part of the bigger group?	
55	O6	That is connected. We have a steering group that have now decided that we are going to keep developing in all the municipality, then we connect reference groups to those parts where there are organizational people, that come with opinions and see which systems that have knowledge of different systems.	OS
56	I1	Would you be able to expand a little bit. We are trying to understand how the decisionmaking process works in this organization, and how this structure works. Could you just explain how decisions are made, and through which channels the decisions pass. If you for example want Qlikview, where do you turn to make those decisions?	
57	O6	Ehhh	
58	I1	Or is it like a spider webb?	
59	O6	Yes, it's like a spider webb...	
60	I1	Well, as ME2 previously told us, was that there is a steering group for the municipality, and the different departments, and then there is the IT-group below that one...And it is this steering group makes the big decisions...Is it like that?	
61	o6	Well, I could ask what's the hen and what's the egg...? Because this is what it's all about. There are things that could be better developed within IT in Municipality kommun. Decisionmaking here isn't hierarchical or diagonally made, or so, but it is, just as you said, as a spider webb within the organization. Earlier it's been that we had an IT strategic group, it hasn't had as much significance this last year. But it's being rebuilt again. I believe that that's the one ME2 is referring to. It's supposed to	SR, UK

		look at the different systems in the municipality. We have an organization where IT functions as a “buy” and “sell” organization to the other organization, but there are pros and cons. the departments are quite autonomous.	
62	I1	They work within their own departments, with their own information...?	
63	O6	Yes, and sometimes this makes it difficult, the difficulty is to “knyta säcken” because the organization is very different in the many different departments. We occupy ca 180 , 7 department that have different organizations. And all this is suppose to work.	OS, UK
64	I1	So about the strategic groups that purchase Programs, that you previously mentioned. Is that outside the IT steering group, or how...?	
65	O6	Well, if we are going to have a System, we always bring the question to IT, What’s required’, what’s needed, do we have the resources for this and then at the end it is always a decision of sorts, its hard to explain....	
66	I1	Yeah, we are trying to understand how it works, purely strategic, within the organization. So just , I don’t know, try to explain in simple terms...	
67	O6	My impression is that the departments steer what they need....	
68	I1	What do you mean by departments, is it every section or...?	
69	O6	Every department I would say...eeehhh, so if we take a look at systems overall, ex. financial system, then it’s the dept of finance that have the last word regarding what program we’ll purchase. If we take for ex. the staff system, we have the last year developed the staff system from a paper system to a completely digital staff system. It was pretty late but there was a decision in 2000 that some parts were going to be developed. It’s among other things this that I have worked on the last years, through others, that decision have a base in the staff dept, but it’s the municipality director and the municipality board that have contributed with the money so that this would be done. The big systems always fall in the general municipality board, if it’s a more nämndspecific system, then it’s the nämnden that makes that decision. Is is clear?	OS, MS
70	I1	Well, we hear different stories everywhere. So we try to put everything together it a bit hard to understand the structure in a public organization...	
71	O6	Yes, I understand. Should I explain the Public organization for you in a drawing?	
72	I1	That would be, that would be very helpful...	
73	O6	Ehh, we have a political organization, kommunfullmäktige, they decide havar, below there is a kommunstyrelse, they prepare ärenden.	
74	I1	Which people participate in the kommunstyrelse?	
75	O6	It is the kommunalråd, among other, the political parties, this is the political organization. Here the budget is prepared, and they are the ones that put forward what can be done. Then there’s six nämnder. They are connected like this, and at the same time they are connected....when the budget is prepared it all passes through here....	OS
76	I1	Upward, to the kommunfullmäktige?	
77	O6	yes, you start here and then tjänster and other organizations here below. And then	

		you put forward, well they prepare, compile, and then the kommunfullmäktige decide on nämdernas ramar	
78	I1	Is it specifically regarding the budget, or is it, is it regarding all types of decisions?	
79	O6	Well, everything that is for the kommunfullmäktige, has to pass through the kommunstyrelsen. But then you have the right to make decisions also here. So when you have received the budget from here, it doesn't go back to here. It goes down to nämderna who have their own decision making right.	
80	I1	Which people are included in these nämderna?	
81	O6	That's also politicians	
82	I1	Ok...	
83	O6	Then you also have tjänstemannaorganisationen here is kommunledningskontoret as a department. and then you have the service department..	
84	I1	then you have the financial department here...	
85	O6	well that is here and...the departments of kommunledningskontoret, legal, financial, HR and then you have development...and then	
86	I1	Is the kommunledningkontoret (City Management)...the big steering group in Municipality kommun....	
87	O6	We have the major question, but the we also have the kommundirektör gere Iso. Then you have the municipality director, And then she has all the förvaltningsscheferna in a group for the whole municipality, also. Also, a managerial section, where the activities are coordinated.	
88	I1	At what level does the IT stere group come in...?	
89		The IT steering group is formed approximately as with the förvaltningsscheferna, often somebody is selected to lead the group, in most cases the leaders... f we say IT, then there is an IT strategist in the Growth dept. And she is the one that is suppose to look at these pieces and she is the one that select the people of different groups to include the different sections to connect the departments. And then it oftentimes goes to that group...(pointing on a paper) and then here, and when it's a question of budget it goes here (pointing) or it stays here (pointing)	IL, MS, OS
90	I1	Mmm, could you explain which group this is?	
91	O6	That is the kommunens ledningsgrupp, the Director of uhhhhh....	
92	I1	OK, is it from every förvaltning?	
93	O6	no, these are not part of that. These are selected, so theses are from here (pointing on paper). So the förvaltningsscheferna have their seats in kommunens ledningsgrupp, and they are the ones who have an overall strategic and will connect...and this is connected with kommunallagen. How a municipality is run.	
94	I1	Ok, then, now that you have drawn this...how...how should I say this...how easy or possible is it that you prevent this, really, if we say regarding IT systems that one talks to other people instead than taking theses routes..if you say that it's a spider	

		webb for example?	
95	O6	Uhhh, I believe you could be more clear, there could be more clear rules in this decision making process than what we have, and It passes through this...we have the IT department that is a stopfunktion when there is a new system presented then return to this . Otherwise there is a risk that every dept decide on different things, but then they say that no, we can't do this, because of this and this and this, we have to use this structure. But it is, I feel it's a spider webb.	SR, IL, MS
96	I1	Hmm, ok, interesting. Is it, now that we're talking about it, is it not only regarding IT, is it decisions in general that you think the rules should be clearer on?	
97	O6	No, I cannot say it's in general, some part are very clear. As the kommunallag is written every nämnd have its own decisionmaking power, at the same time as the kommestyrelsen also has its own decisionmaking power, so this is a constant interaction	
98	I1	Could it be so, as you say, that the lines regarding IT projects are so blurry because the processes are so uncustomary concerning that decisionmaking process?	
99	O6	I think that the last couple of years we have improved regarding making decisions concerning IT than when I started in the municipality. And we have a clearer IT section due to us having agreements on everything. The development of IT, IT has become more structured and we have a far reaching municipality perspective on IT, then it started...a lot of systems were changed, and then different systems are being connected to get a more interconnected common system.	IL, MS
100	I1	OK	
101	O6	So that part is reduced. And that it the technological development that has made it possible, with a whole new information. I believe it is many large organization's problem. That they have built up an IT structure that consist of many small IT systems, and to merge those is not always the easiest task	
102	I1	Exactly, you need clear leadership and such...	
103	O6	And there I think we have reached far, when considering the general IT structure in Municipality. That we have caught these strings and put them into a system. It goes more and more towards that we decide that this and this we are going to develop. Then, you encounter sometimes....that you're working on different things...we have become, if I talk about the HR dept, clearer when we purchase. At one time they wanted to buy different systems, as staffing services agencies, that we would order ourselves from different departments, but now if they are going to be inputted in the central paysystem, they have to go through us before they go in the system, we need to make sure these systems are compatible to each other.	OS
104	I1	Us who? in which group?	
105	O6	Us in the HR department, along with IT, so there are a lot of stakeholders, for it to fit the structure we have. Centrally when we pay salaries and the also the data has to be entered correctly and it has to be possible to do. Then we contact IT, does this work? hmmm.....	
106	I1	Would you say that generally there are conflicts concerning hmmm...different visions in the departments like " want this and I want this"?	

107	O6	No i don't think there are different visions on what you want. Or so, you are quite...hmm...the organizations know what type of system they need. But the pace on how fast to implement a new system, the knowledge of already existing systems is sometimes lacking, as to how do we use existing systems. That could have been much more clear.	
108	I1	Ok, interesting...	
109	O6	We have, I have experience from HR so that's why there are so many examples. If we look at Staffing Service Agencies, at our they would prefer to use their system, Health and social care Department, they want to use their system for the substitute staffing, while the function exists in the salary system that we are now implementing, and then they don't always want to let go...but it's improving. So the benefit of looking at the resources we already have in existing systems before applying another, there I believe we are missing something.	OS
110	I1	Ok, we learn more and more for each interview. We have actually...hm...Yeah, I guess this is kind of hard for you to follow, obviously...If you think back at what we have talked about, is there a general way that you believe, that I haven't asked about, that could be of benefit us within our area?	
111	O6	hmmmm, If you look at, if you build a system, I believe that the municipalities, that municipalities would have been more beköpede I believe that municipalities in general, to have a clear IT strategy. So to say that they would work with that question more clearly from a municipality perspective. We build some of our systems on, based on the organizational need, and that you should do, but you also have to see how you use these systems in an effective way. There I believe we can improve.	
112	I1	Which competency would you believe, strategy would, eehhh, how should i say this, do you mean....what competency do you believe that the individuals would have in that case?	
113	O6	There are two pieces, the technical piece, and there I believe Municipality kommun is good, the IT department has that competency regarding the infrastructure. When it comes to strategy, looking at what organizational systems we need I believe we would need a person that has both technical knowledge, ehhh what is possible? but also somewhat of a visionary, how we could connect the systems? So I believe its dangerous to leave all IT questions to technical individuals, it should be someone with the foundation in municipal work. What is the organization requesting, what are the municipal citizens requesting?, because this is...what do you ask for to get a steering and direction of the organization, because the systems are just systems. The important thing is really how do we achieve steering and direction and the advantage for its users and to the users of municipal services.	UK, IL, MS
114	I1	So it's not just suppose to be about, so to speak, a technological upgrade so to speak?	
115	O6	No, here it's about developing decision making support, about developing services and so on.	
116	I1	Hmm, if we then talk about this strategy. From which part of the organization would this strategy have its base? Where would, how should I say, where would this 'click' (decision makers) be based?	
117	O6	I believe this part needs to be, these people need to be selected from this piece (point to paper) that lead the organization. If it's not about money, then they should make	

		decisions at the municipal ledningsgrupp. Which IT strategy ? But it doesn't necessarily has to be lead from kommunledningskontoret. It can be lead from any ad hoc organization. That service could also be bought in. But it is important to have a pronounced individual that has the responsibility for questions.	
118	I1	Would the strategic unit include people from the IT steering group?	
119	O6	I think you are misunderstanding. It might not be a unit, it might be an individual that works on an IT plan.	
120	I1	Fulltime?	
121	O6	Not necessarily. The primary task would be how to develop IT over time. To have a plan of about 2 year or three years. It goes pretty quick in this area too. We could have a three year plan, and then that could be revised every year or so. But I think that it should be made more distinct. That this is where we want to be. That is what we are doing this coming Fall with The company, in regards to Qlikview.	IL
122	I1	Do you mean the Qlikview steering group?	
123	O6	Yes, what do we want with Qlikview in Municipality? That is what we have been missing for the last couple of years. Between 2007 to 2009 we had an idea of What do we want now? but the, we haven't had an idea of What do we want after? I believe that that idea is very important because if you don't have that idea then it is easy to find yourself with different systems that do not share cooperate	IL
124	I1	So is it The company exclusively that has pushed to starting up this Qlikview steering group? Was it their suggestion or was it something that....	
125	O6	Well, we have discussed it during several years in the municipality. But we haven't gotten to it. And one of the problems has been that only the supervisors have been able to use this. If we are, if we are to use Qlikview completely the whole organization needs to have access to it. This is something that we discussed when we signed the agreement. But Qliktech were not willing to, well they were willing, but they were in their pricing for the whole organization was going to get access to Qlikview. They didn't want that to happen. they wanted to keep "förvar licence" they didn't want to agree to a kommunavtal (municipality agreement).	IL, MS, CE
126	I1	Ok, could you just explain a little why they didn't want to do that?	
127	O6	Well, they make a larger profit by selling licences. If they can sell 3 500 licenses to a municipality, where someone might use their program once a month then they make more profit. And it is this usability that we want in Municipality kommun. To be able to use it perhaps only once a year if needed, then just being able to go into the system and use those services that are available, and like this maximize the utility of it. Otherwise you get a utility only for the individuals that are in positions of decision making and therefore use it daily. and not to anybody else. And here, I believe that it is a lot more fruitful for the whole organization to be able to use it. And then there is an increased interest in improvements of the organization also. And first then, it really becomes a real decision making system. And it has to be simple, out-data and in-data. There are two coins of it. I believe that you have to have a strategic alignment., that this is where we are going. Then it doesn't always happen like that. But you have the alignment. If we want to use Qlikview as out-data, then we are going to use it as out-data, and connect as many systems as possible to it.	CE, IL, MS, OS

128	I1	Could you just explain a little bit more indepth about the reation between you and The company. How does it work? If they give you soultions, whom do they turn to? What type of people do they turn to validate their prototypes and solutions? That is, if you know?	
129	O6	Firstly, when I was Project Manager, they turned to me primarily. Or to other chiefs. But here, they often turned to the actual users of the system, the Office of Finance, showing that this and that could be done. You are very, and you don't have to be, because we are suppose to mediate this, but the holistic approach should have been here along with this section (pointing to drawing). That you would have looked at how to also include the IT.	IL, MS, OS
130	I1	To look at it more hierarchical, here is every section and check where you would like to....I guess	
131	O6	It's about getting a coherent picture of the whole IT infrastructure. And it exists at different sections of the organization. However the different sections are not always aware of this.	
132	I1	Ok, when we talked with ME2 we asked about the Municipality wide licence. He said that he will not use Qlikview since there is no initiative in his department to use it, as we understood it. Is it a decision that has been made for the future, to expand over the whole organization or is it...? Because he said that his staff that work with finance use Qlikview, due to it being oriented towards finance data. But would it have been useful for for all systems?	
133	O6	Qlikview is built to connect other systems, Qlikview is just a loose shell that connects different parts. So, when the organization reaches maturity enough to use systems and crossrun them, that's when you can find the business benefit. But as long as you don't see the business benefit,...this is exactly what we started talking about in the beginning, with the finance people who wanted their regular reports. A very clear example of time saving possibility of this type of system, is that we had an individual who was going to retrieve information about sick leave, and compile a report and compile the months of the year. When I saw that this person was sitting and using excel I thought that all this information was in Qlikview already. Only organized by year. And if there had been more knowledge about that, that you could have done input by month. And then you would have had it all accessible. We showed that what would have taken you two days with excel, now took five minutes with Qlikview. That's what it's all about. How do you crossrun data, how do you see data? It then requires knowledge about this too. If you work in an organization, with a certain area, you do not always have that knowledge. And that is why it is necessary to have someone who can connect all the parts, and can take the discussion and clarify what to do here. The purchasing piece is one of those parts we can look at, also assisted living where we have connected maps to see how we can most effectively take advantage of it, are we at the right place, is this in accordance with the needs assessment that was previously made?, schools and grading systems, do we have a neighborhood that we can connect to socio-economic factors,do we need to put in more resources at this school?, etc. All this would have been much easier to track using Qlikview the right way.	UU, MS, IL
134	I1	If we say the that you would had decided to put Qlikview in ME2's department, then simply you would have to plan training and awareness regarding the system. Because before you implement this kind of program, that is obviously necessary so that you can get people over to your side.	

135	O6	I believe that you have to have a person that works full-time or part-time that manages this type of project. You can't implement this believing that you can put one hour here and one hour there, it has to be someone that works strategically to implement the system.	CT, IL
136	I1	Yes, that is completely understandable.	
137	O6	This is such a large organization. Then if it's in the IT-section or in kommunledningskontoret is irrelevant. But you have to have that individual who does it, and then the preparatory work has to be done: Who is going to do what, and what is our aim? So you work towards an objective.	IL, MS, UU
138	I1	Ok, I think I have asked mostly everything I can think of.	
139	O6	Have you any questions...?	
140	I1	I don't know if you have forged any questions during the time on the things you might have caught on ...?	
141	I2	Where are you at right now?	
142	I1	I basically asked about around on education, strategic management, and relations with consultants, and the challenges on implementing such systems	
143	O6	We can do a summary and I think it's important to have good planning. Under structure of the IT system. We have to decide the the timeline with systems, this system is going into Qlikview now, and this now, and this now. So you must have a strategy to plan for Qlikview. If you are going to have the full effect of a system.	IL
144	I2	The plan right now is to implement a single portal for the entire Kommun?	
145	O6	ehhh...	
146	I2	At the end?	
147	O6	The most of it, but not, I think it's difficult to have it all into Qlikview because you have to maintain a system and...	
148	I2	Data-input?	
149	O6	yeah, and you must have eh, employers that will do the job the whole time.	
150	I1	And the fact that you have many many systems underneath Qlikview that connects to the application	
151	O6	I think you must have a different think (mindset) in the organization	
152	I2	And we covered kind of the history of previous projects and the planning that's happening in this project?	
153	I1	Do you know around which year the Qlikview initiative actually started?	
154	O6	I think around 2005-2006. I think in 2005 they were looking for a different system for Oracle, Qlikview	

155	I2	Do you know the cube for Oracle, the data cube?	
156	O6	Yes I think	
157	I1	Four dimensional, five dimensional ?	
158	O6	Yes, yes...	
159	I2	You covered the planning process kind of how the planning went in previous projects and this to what you are doing now?	
160	O6	I think we the start planning process in August. We are going to take the first step, which system are going in the Qlikview? and on the same time we need to plan education for the people who are going to using Qlikview. And today we have built the system for specialist. We must have....And it must be more easy to use the Qlikview system for the maintechs.	MS, OS
161	I2	Verging toward self-service. Self-service is where you don't need to....Minimal training and you should be able to easily use the program and get what you need. "We already have what is relevant"?	
162	O6	Yeah, if you are a leader in organization you are going to start Qlikview. And you have economy, you have results from the school, if you	
163	I2	Whatever is relevant to you as a manager, or leader, the decision maker...How are you planning to plan for that?	
164	O6	We have not started yet for this planning. For the whole organization it starts in August. I am going to break up (leave of absence) from my job in June so I'm not so involved in that process.	
165	I2	For the previous implementation of Qlikview, how did that planning process go in the projects that you were directly involved in?	
166	O6	We start with a project and we decide to use the economical data and the data from the HR system, and we stopped there. I think and we didn't take the other system in the system of Qlikview. Do you understand?	
167	I1	Yeah	
168	I2	Hm, you covered some of the barriers and the issues that have come along the way with planning and...	
169	I1	I'm fairly sure but...Could you just summarize the...what he said the barriers during the...during the planning?	
170	I2	During the planning and implementation?	
171	O6	The barriers to...the barriers, you must have one person as a project leader for one project. If you think everyone should do the job, you are going to fail with the project. That's the most important	
172	I2	Was that an issue with previous projects here before?	
173	O6	In the start we had the whole organization. But when we, in 2009 we have not this	

		person who....	
174	I2	Since 2009 there has not been a project manager assigned to direct the program forward?	
175	O6	Yes, and we...the project fell out to small pieces and no...we didn't develop a system, people in the organization think it's not so good with Qlikview, and no new thing happened and what shall I use for system and so on...	IL, MS
176	I2	It's kind of a paralyzes or failure in that sense that needs to be picked up and carried forward again?	
177	I2	Did we cover other issues? Were there other barriers that were covered?	
178	I1	Yeah, like training and...there were a number of factors.	
179	I2	Did we cover the Mora study?	
180	I1	No not so far	
181	I2	Ok, Mora and a few other researchers conducted this type of research in private sector, mainly dealing with companies in Mexico. But there were many contributors to their research. And they came up with the list of top five implementation inhibitors and the top five implementation facilitators, things that made things happen. You can read those, and what I would like, if you can, is these first ones are the facilitators and theses are the inhibitors. As you read through them is if this has been an inhibitor here in Municipality at some point, maybe talk a little bit about it. And then Yes or No , and go forward that way...	
182	I1	So the inhibitors are basically factors of hindrance in different aspects	
183	O6	Can I take this in Swedish?	
184	I1	Yeah	
185	O6	The strategic implementation is the most important, there is no other way if you are going to hand it out to the organization. And...	MS, IL
186	I1	Topics...sponsor	
187	I2	And if that was kind of an issue here in Municipality, or not, and if you can exemplify it for us a bit, to put the dots together?	MS
188	I1	If you want us to describe any variable just ask away...	
189	O6	I think...eh...I think all of this all is very important. But if you are going to focus on the system you must focus on a strategy, you must focus on metals, and the training of the organization, eh...the cost we know how we can work with the cost but if we had the good system to take our decision, so it's not the most important in this time. But I think that the strategy is more important now.	UU, IL
190	I1	Yeah we follow. So the costs of the actual system was not, that, how do yo say, important or?	
191	O6	Yes, it was for the whole community so... We have "stått och stampat" (pushed) for a very long time that we have to move on. But since 2007 we have discussed for the	MS, IL

		Municipality license, so the cost of the system has been very crucial for how much to move on with the system. If the whole municipality gets it, then it becomes a whole different focus of the system. When we have had only a limited number that has had access to the system, then there are limitations in investment in the system as well.	
192		Yes, of course, it's hard to expand	
193	O6	And then I believe that we have lost the strategic piece. That is the important piece. Here is nobody that has taken over the system: Where do we move on? When we had incorporated the finance and HR system in this system, we had no person to carry on the issues, because we had no individual that had direct responsibility for those questions.	IL, MS
194	I1	Ok.	
195	O6	And because we haven't had somebody responsible for this, we haven't worked on other parts, as training for users and so on. there has been a lot of self-learning. In the beginning we had a system, where in the largest departments there would be some individuals that were going to teach other staff Qlikview. But there we also missed something, because since, we have lost those people, and we haven't kept developing the organization. Did that answer the question?	UU, UK
196	I1	Yes, of course.	
197	O6	Or what do you want by the question?	
198	I1	Well, in general if you could expand briefly regarding things you thought were more important than others and so on	
199	O6	Well, the importance in these systems are perhaps not always that you have the skills of building applications. This we could really leave to somebody else. But we need to be good at ordering what we want.	CT, UK
200	I1	Knowing what you want to have, what you need?	
201	O6	What we need, proceed from our organizational needs to be able to formalize it. Be clear on what we need in the organization.	UK
202	I1	Hm, eh, as you earlier said, regarding decision making and IT, that it was a thin line, would it be better if that line was clearer? Knowing where to go for which decisions?	
203	O6	I believe so, that if the decision making processes were clearly defined, combined with having a distinct person that works with the municipal IT issues, that this is where you want to be, the internal IT questions, how you work on the systems, and so on. I believe that it's very important. It has to be someone that knows the organization, knows systems and who knows what can be achieved with systems. Also, one thing that is needed for this is to make decisions regarding what to prioritize. That is what I describe here (do not know if he is pointing to something?)	UK, IL
204	I1	Is there anything else that you can think expanding on? or something like that?	
205	O6	Do you mean Qlikview as a system or?	
206	I1	Regarding Qlikview and decision making and...	
207	O6	Well, I see that you would have nytta of the systems in many other other areas. If we	

		take a look at our affars, in general basically all our organizational systems would benefit from this. But you need to have someone that can interpret the system. Make analysis of this, because we could connect many systems, but if they are not being used they are useless...	
208	I1	Finance department and HR, expand	
209	O6	You have finance, you have organizational systems within education, a system that tracks students, assisted living service and elderly care where the needs could be measured, eh, you can use it in improving safety in the whole municipality, map where do accidents happen in the municipality, when planning urban development. If you take the Medical cares system, and look at where do accident happen that include unprotected road users. If people are run over while biking at this precise strip of road, then maybe this should be prioritized in the planning process to make it safer for the citizens of the municipality. Maybe you should build a bicycle lane, a cross-walk, it depends on how things look, and these are examples on where those systems could be used. We have a lot of data, a lot of data collection, but we could improve on using that data, through simply compiling it.	OS, UU
210	I1	I have a question regarding this structure. Do you know if there is somewhere we could turn to, if we want to better understand this structure? Perhaps a web page?	
211	O6	On our web page lies the organization, a good part is to read the financial statements. They are on the web, and there you can get an insight in what organization the municipality has.	
212	I1	Do I search for the financial statement of Municipalitycity?	
213	O6	Yes, I believe so, if you search for financial statement 2013 it should appear. Otherwise you are very welcome to email me, and I can mail you the link.	
214	I1	Then it is just your name?	
215	O6	My name.Municipality.se	
216	I1	Yeah, ok. I think we have covered most points now anyway	
217	O6	Are you writing the C-thesis or the D-thesis?	
218	I1	We are writing the Master thesis	
219	O6	The D-thesis?	
220	I1	Yeah, so we are submitting it either now in June, it depends because we have very very much data right now. So either we submit it now in June or end of August. So if you want, because there are two trainers who want to see our report, and you are also welcome to see it, and perhaps learn if you are open to that.	
221	O6	So then you are defending it?	
222	I1	Yes, we are defending it to professors and other students.	
223	O6	Can I go if I want to?	
224	I1	Ehh, I believe its a closed defense. It's a small group, and two to three professors	

		who are going to dispute.	
225	I2	Fun times...	
226	I1	It's going to be fun....I am fairly satisfied	
227	O6	You can send an email or so if you want answers to more questions. If you think of something.	
228	I2	Thank you. Yeah, absolutely thank you for your time. It's been great. And good luck, hm, so you say you are definitely leaving, or is it still up in the air, in June?	
229	O6	I'm going to candidate for the election in the Autumn as the, eh, chairman of this place.	
230	I2	Chairman of the Board of directors for the kommun?	
231	O6	Yes, so I can't be, I must go to another side. The political side.	
232	I2	Well, good luck with that.	
233	I1	Ok, I mean I thank you for your time, and I'm very sorry for the misunderstanding about the time.	
234	O6	That is ok.	
235	I1	Ok, thank you very much then. Good bye	
236	O6	Good bye. Do you want a sandwich or so before leaving?	
237	I1	We have an interview with ME1 at eleven so....	

Appendix 7 Municipality Source System Admin (Interview Transcript)

Interview conducted 2014-05-06

I1 Mikael Persson

I2 Amed Martin

O7 Source System Admin - ME 4

Length: 1 Hr, 16 Min, 57Sec

N	P	Text	Code
1	I2	My name is Amed Benjamin, and I'm the same, doing the Master thesis together with him. Thank you for your time. And it's perfectly fine if you want to talk in Swedish if you'd like. It's just more work for him anyway (laughs). But if you feel comfortable talking in English that would be great.	
2	O7	I can try.	
3	I1	We are writing our Thesis on Decision Support in Public Organizations. So not specifically on Qlikview, but regarding the decisions around Qlikview and the organizational systems, connections and such. So we have ahere. Talk in general of who you are, what is your position, what do you manage, and so on. What is your position in Municipality?	
4	O7	I think I'll take this in Swedish.	
5	I1	Yeah, that's ok.	
6	O7	I work as a Coordinator and Project Manager at this point, to coordinate our organizational system Treserva. We have two databases, one where we have the Individ och familjeomsorgen (Individual and Family Care Department), and in that database we have three sections. The one that manages Financial Aid Services, Child and Family Services, and Social Services over 18. And then we have the second, which manage Elderly care Services, Social Psychiatry and LSS. So I coordinate those two databases and the organizational system.	MS, IL, UU
7	I1	How long have you been employed at Municipality? And where did you previously work?	
8	O7	I have worked here since 2000 and I am a social worker. And my position is actually that of social worker with a focus on families, in outpatient care clinic. I work with children and families, children up to 18 years of age. So I started with this due to the need of implementing a new organizational system. And we needed a Project manager to lead the project. We were changing organizational system to Treserva. So through that premises I started with Treserva and I have continued with that since then.	IL, OS
9	I1	Ok. What relationship do you then have to for example Qlikview and that which you	

		connect to Treserva?	
10	O7	Well it's quite new for us, Qlikview is not new in the municipality, because that is a tool for analysis, right? that has been used for a long time and that has been used in the many departments. But the connection to Treserva is new. So that is how I have come in contact with Qlikview. And in Treserva we have an out-data platform where all data is stored, unidentifiable, and then we connect Qlikview to that. So it is a job that has been going on for about a year. We started the work on having the out-data platform connected to Qlikview.	UU, UK
11	I1	Eh, if we think about benefits that Qlikview, that this decision can have. Which benefits...is the thought...?	
12	O7	The thought is to use it as an organizational follow-up tool. To be able to follow-up the organization, statistics, fact based foundation. What does it look like in relation to Treserva, how many actualizations do we have, how many interventions, placements, to be able to in an easy way be able to get a good overview of fact based foundation.	UU
13	I1	Ok, We have had an earlier meeting with ME1. I don't know if you have talked a little?	
14	O7	Hm yes a little.	
15	I1	She works more with finance and so. Are you also a participant in this steering group that...	
16	O7	No.	
17	I1	What relationship do you then have to decision....Because she has a lot of contact with the Consult Company....So what is your relation to ME1, and to decision making in general?	
18	O7	Well, when it comes to this steering group and all that, it is very new. As far as to my knowledge there hasn't been any direct coordination from the municipality in regards to Qlikview. So when we were going to start with Qlikview I had a lot of contact with ME1. To find out how compatible this was with the municipality as a whole, and whether this was something we could start and such. But then, the thought from the steering group, if I have understood it correctly, has been to get an overview of the municipality. To see what the needs look like, and collect knowledge and information regarding the needs within the different departments.	CE, IL, MS
19	I1	Hm, we have also interviewed the consultants at The company, if you know who they are? And their perspective. But do you have any direct contact with them? Do you speak with them, and...	
20	O7	Yes, I have had a lot of contact with one of them, we have had or have one consultant that we have had a lot of contact with from The company.	CE
21	I1	Is it CE2?	
22	O7	No, it is CE3.	
23	I1	Ok.	
24	O7	It is CE3 whom I have a lot of contact with regarding development and the I am the	CE, CT

		coordinator here at the municipality regarding Treserva, so I collect the ideas, and thoughts of our needs, and present that to CE3. And he works with accommodating what we need here. So we have had a Project together during this year working on this.	
25	I1	Ok, so how often do they provide you with solutions? How often do you talk? How often do they present you with solutions?	
26	O7	During the Project we have had a lot of contact. There has been a clear beginning and a clear end. Where we have had workshops with CE3, and with that Company. They have asked us about how we want our applications to look like, and which KPI (Key Performance Indicator) do we want included. And based on our desires, he created those. We have three applications, well, really we have four. One for Administration, one for Children and Family, one for Employment and Sustentation, and one for Health and Care. So that contact has been frequent during the life of the Project. Now we are heading toward the final phase. But there will always be new things emerging I presume. If we want to purchase new things, then automatically I will be contacting him again.	CE, UU
27	I1	If we talk generally, the decision to use DSS to Treserva, eh, where within the organization did this come from? Who took this initiative?	
28	O7	For us to use Qlikview?	
29	I1	Yes, and put in in Treserva?	
30	O7	Well, it started when we initiated the use of Treserva. The part of keeping statistics and generating reports was very complicated, mistakes were easily made. And it is very important when we present numbers to politicians and the Board that those are correct, and always are consistent. So already there we started to talk about needing a better tool for this. And then they had this solution with the out-data platform. Then we can connect different analytical tools to this out-data platform. It doesn't have to be Qlikview. There are many other like Hypergene, that we can use. But now, Qlikview was already in place in the municipality, therefore it was a more natural step to connect with Qlikview since it was that analytical tool that was being used.	UU
31	I1	Which, in your workday, which types of systems do you use to work ,with in your workday? Is it only Treserva, or do you also use other systems? for the completion of your work?	
32	O7	It is Treserva and Qlikview after that i will work more with...I work part-time as a Coordinator and then I work part-time with developing the Control and Management System. I work within the Resource section, where I will be using Platina more so. Where you build processes and map processes.	
33	I1	Hm, if you say the Resource Section, would ME2 be your boss then?	
34	O7	No,	
35	I1	Then which... Could you just explain briefly which Department you belong to?	
36	O7	Yes, I am an employee of the Child and Education Department. And the Resource Section is a part of that Department, it consists of grammar school, pre-school, high school, and the Resource Section. And I belong to Resource section and within the Resource section there are four entities. The Social Services, outpatient care,	OS

		preventive entity and Child and Support services. So that is the section that works with children ages 0-18.	
37	I1	So we are generally talking about you wanting to carry out decision support to the organization regarding...Do you see any difficulties in the organization? Any difficulties that make...in the modeling of the system?	
38	O7	Well, I often think that it is...since we have a steering group based on Treserva, and there the administrative manager for Employment and Provision is included, and also the Authority Manager from Health and Care Department, so there are representatives from the different Departments. So there, the decisions are made regarding how to proceed, with Treserva and Qlikview. That relationship I believe is a smooth way to get it out to the Departments. Then I can think that it can be difficult to get it out to all the users, as thought. and see the full benefit, and so on.	OS, UK, SR
39	I1	That they accept the tool?	
40	O7	Yes, and to learn it. Because many work on Qlikview daily and others do not. To get the usage to become a daily routine. Here I somewhat lose the grip, since as a Coordinator I don't go to so much depth into this. The different departments are supposed to work on the implementation there. I assist in coordinating the implementation of it, but then I focus on the Child and Family entity, the entity where I am employed, and make sure it's implemented there. So there are risks that it fails, or not fails, but that you let it slip away simply.	UU, UK, OS
41	I1	The follow-up so to speak. So you think that there is a lack of follow-up? What is considered to be follow-up? Is it training, classes of the system?	
42	O7	Yes, it would be. Because we can see...CE3 sent me a while ago...and then he could see how many and which users had logged on. And based on that he could ask if it was used the way it was meant to be used, do we need to make other contributions for it to be used more? So that we can achieve the most possible benefit from it.	CE
43	I1	Would you ...because we are trying to understand how the Public organization works. Would you be able to explain how the hierarchical structure works. With decision making and so on? for ex. if you say: We want a new system, ex. Qlikview. Which instances do you talk to? And how do those decisions come back to you?Would you be able to clarify how those levels work?	
44	O7	Well, I have...if we look at Qlikview I contacted ME1 , because I had gotten her name and understood that she was somewhat connected to Qlikview. I don't know if she is the main person in charge, but that she had something with Qlikview. Now we talk and think like this, how would that work? Then I contact the one responsible for the purchase. How can I proceed with this. How does it look, and so on. And after I had received a go-ahead from these different...then we could proceed. Then I left that basis to the steering group, and they made the decisions regarding this, and sign and so on.	IL, MS, UU
45	I1	How recent is this Steering group? There are several different kind of steering groups as well, right? At least from my understanding of it.	
46	O7	Yes, the steering group that I am referring to is based on Treserva. And that emerged when we started using Treserva, so around 2010-2011. We have then kept that one, based on that system.	

47	I1	Are there system administrators for each system in the different steering groups? Who partake in a larger steering group?	
48	O7	Well, there are system administrators for Treserva, where there are administrators at each department. But then I don't know, I don't know who is a participant in the Qlikview steering group. Therefore, I cannot say if there is someone from the Treserva steering group there also. But i know that me and ME1 spoke about...I know we said that it's important that there is someone in the steering group that can represent each department. So that you can get a larger picture of what he needs are.	UU, IL
49	I1	Someone who uses Qlikview?	
50	O7	Yes, who uses Qlikview.	
51	I1	Ok, to clarify, you are not part of the Qlikview steering group?	
52	O7	No, I'm not.	
53	I1	Ok, so even if...Would you think that there would be a need for you to participate...Or is it enough for you to communicate with ME1? Concerning Qlikview, the steering group...	
54	O7	Well, it's enough that I know which channel to use. And that they...So that I know who to turn to put forward what I see from our needs so to say...Because as a Coordinator I have no mandate to make decisions,. therefore I don't believe I'm the right person to sit in the steering group I think that that is for some Manager that can make decisions.	UU, MS
55	I1	I will just make a brief summary now...	
56	O7	Yes, I know	
57	I1	So she is not a member of the IT steering group. She's merely keeping the contact with ME1.	
58	I2	The IT steering group or the Qlikview steering group?	
59	I1	The Qlikview steering group	
60	I2	The Qlikview steering group. Now we're stating that there are two different entities; right?	
61	I1	Yeah, our understanding, after having met with ME3 , just now. Is that there is a large IT steering group with system administrators, for Treserva and similar systems. And then there is a small group, which is the Qlikview steering group. Do you have any contact with this large IT steering group? Since you handle Treserva? Do you have any contact with this large steering group?	
62	O7	I am really not sure which large steering group he meant. I don't know.	UU
63	I1	Hm, well, she does not exactly mean which steering group he referred to.	
64	O7	Beuase you said system administrator who are part of that steering group?	
65	I1	Yes.	

66	O7	I can really not answer that.	
67	I1	There are so many instances, and we haven't quite grasped it yet. We try to understand it. We try get an understanding of the public organization, and how it works. But as we have understood it, it's like a spider webb.	
68	O7	Yeah. That's one way to put it.	
69	I1	And if it's like that, is it that the lines are sometimes blurry, that you don't always follow clear paths?	
70	O7	Well, my impression is not...My impression is that you don't make decisions in obscurity. But obviously it's like this, that I use the contacts that I know, to make questions, what does it look like here? and so on. But it's to find out where to turn to get the decisions made for this. But it's not completely clear, to me, even though I have worked in the municipality for many years. I didn't know that this existed. It could be that I just haven't gathered that information, but I didn't know there was this larger IT group.	IL, UU, OS, UK
71	I1	Well, it's a possibly a lose steering....well that a lose expression, but there are administrators AS system.	
72	O7	Yes, exactly. But basing it off Treserva, we have our organization with administrators on each department. There are three departments, and they have two administrators on each. As it looks now I am the coordinator and am responsible to hold that together. I also manage the Steering group for Treserva. And in that steering group, there are different Managers for the several department as participant. Those three departments. But then I can imagine that there might be something above that structure, something that encompass the municipality overall. And I don't have that connection, more so than, based off Qlikview, having contact with ME1.	OS, IL
73	I1	I will just summarize a little bit then. So we talked about challenges and decisions from where Treserva and Qlikview comes, and kind of, I'm trying to find out a little bit on how the decision making works. And also, do you have any...?	
74	I2	And she said she was not kind of aware of this IT steering group that we talked about or?	
75	I1	No, that ME3 talked about? No.	
76	I2	Thar ME2 talked about.	
77	I1	Yeah, ME2, I mean, ok.	
78	I2	Could you draw for us the structure the way that you understand it, and the way that it like, it works or do you see it for yourself?	
79	O7	For me to draw it?	
80	I1	Yes, how you perceive the decision making path.	
81	O7	Regarding Qlikview?	
82	I1	Yes, regarding Qlikview or...	

83	I2	Qlikview and just systems, like planning for information systems here in general and maybe roes that you have? If you can explain?	
84	I1	Well, how...as I asked you the question earlier. Where i asked you: if you for example feel that you want to have a new system, I asked you to which instanced do you turn? so could you draw it according to your perception? How those instances work, maybe?	
85	O7	If it's that I would think that we would need another system?	
86	I1	Which groups...Since as you say, you don't have decision making power, but there are other people that have that. Where do you turn then? and how to those decisions bounce back?	
87	O7	Really the Treserva steering group, is the only thing I have, and it's based off Treserva. that is the part that U have. Then regarding Qlikview, the process was different. Because Qlikview is for the municipality overall. Then we are just a small piece of everything else. And that...the totality of that I don't have, more than the fact that we use Qlikview as well as everyone else in the municipality does.	UU, UK
88	I1	So you are just the source of the Qlikview application, you retrieve the data from the system?	
89	O7	Yes, you could say that. and then we have created our own applications from Treserva. Then KLK have their own application based on their needs I imagine. So those applications that we have in relation to Treserva are just accessible to a few of us, and not used by the entire municipality.	UK
90	I1	Have you, since we have spoken with ME2 and ME3 and they have mentioned certain problem, since you will soon have the municipality agreement (licence), that people hold on to their data, that they might not want to share their data. Would you have supported that? then they would no longer be unique. And you could feel redundant. Would you feel that that would be a problem?	
91	O7	Making the data more public you mean?	
92	I1	Yes, that the data would be more public in the organization would have more transparency so people would see more.	
93	O7	No I don't see that as a problem. I think that it's important to have an understanding of what you see. To interpret how to interpret the information. How do we interpret what we see? Because I believe that it is important in relation to politicians, the board, and so on. We can't just hand over information. It's important that we talk about, and explain what we see. More like an analysis of it.	IL
94	I1	So there is more of a purpose with the data. That you show the right things	
95	O7	Yes, that we show the right things and how we interpret what we see.	
96	I1	Ok,so she is basically responsible for strictly the Treserva environment kind of...so...with ME1. She has the relationship with ME1. they pull the sources from the system. So that's basically it.	
97	I2	That the extent of her involvement?	

98	I1	Yes.	
99	I2	From your perspective there is no IT steering group or meeting group that deals with informations systems for the whole Kommun?	
100	O7	I...I...I have heard about talks regarding kommun licence, and creating a steering group and so on. But that is more because ME1 has told me that it's in the works. But I haven't received a clear picture that this is how the structure is going to be around Qlikview and so on. Yet. As I understood it, that hadn't been decided as of yet.	UK
101	I1	Hm, as ME3 told us that Qlikview has existed since 2005 and it has been very diffuse with strong leadership. there hasn't been strong leadership and a clear strategy. And 2010 The company, the Consultant company, started to work with you. And they were the ones that started this steering group, if I have understood it correctly?	
102	O7	Well, they have had requests to come with suggestions and have given some input like: Have you thought about this? and This would be? and so on. To have a more thought out organization, regarding Qlikview. because we noticed that, or I did, when we were going to start with Qlikview, that it was somewhat unclear. Who has...is there a system administrator for Qlikview? Who is the System owner for Qlikview, and who is in charge if this. That was unclear.	UK, SR, CE
103	I1	Yes, Of course.	
104	O7	And ME1 had a lot of knowledge but she was not sitting on all the information either. And felt as if she did.	UK
105	I1	So you would have preferred to see that there was one person that you could turn to, that delegates. if they would want your knowledge, they could delegate your contact information, and they could then talk to you ?	
106	O7	Yes, there is a clearness in the organization ,, because if there isn't that, then , i am thinking, that if that is the only analytical tool in the municipality , then there needs to be a comprehensive view. Because I am sure that there is a lot of potential for development, but if you don't hold it together it will be all over the place. And then it loses its purpose.	UK
107	I1	She's kind of confirming that eh it's really fragmented if you don't have a strong leadership. If there is no person that handles like, because Qlikview handles specific errands so to speak.	
108	I2	So there is no specific Project Manager for dealing with the implementation of Qlikview project or...	
109	I1	Because Qlikview is, you know, the layer above all the enterprise systems. So, do you have any input?	
110	I2	Have you already covered kind of the problems that have arisen because of that? obviously the lack of a project manager is one of them.	
111	I1	We talked about the lack of formal. That there is no..there is problem with the education and the fact that people don't see the use like the positive effect, decision support.	

112	O7	I am thinking a little that...That if we get going with these three applications using Treserva then, for example, the Health and Care Department have their application and we...CE3 had a training and explained how to use it. But then it's necessary to have someone that can carry on within each department after that. So that it can be used to its fullest.	IL, MS
113	I1	She just confirmed that, from her perspective this IT steering group doesn't really exist.	
114	O7	Not to my knowledge, it probably exists but...	
115	I1	We are not trying to criticize. It's just that we discover a whole unknown world so to speak. So we ask the same kind of questions. We are just trying to discover how things work.	
116	O7	I am getting kind of curious now. Would there be a steering group where there are existing system administrator and system owner for all systems that are used in the municipality? not only Qlikview and Treserva, but also everything like Platina and all the different kinds? Was that what he meant?	OS, MS
117	I1	Hm, it's not quite like everybody sits by the Round table, not quite like that. Not a close group like that. But, as we understood from ME3 there are system administrator from all the systems, but there is none that keeps this spider web together. It is basically fragmented. But there are about 10 systems, according to him, but there are administrators like you, and people that know the system.	
118	O7	Hm, but there is nobody that keeps it all together?	
119	I1	Exactly, that's what he was missing. And a strong strategy, making of prognosis and like, in two-three years in the future say that "This is what we want to accomplish" and being able to find it in the system.	
120	O7	I am thinking that in our treserva steering group we have a representative from the IT section, who is our contact person regarding Treserva. But tht is also merely based on Treserva. But then they have other IT people, like technicians and so on, that know other systems.	IL, UK
121	I1	What relationship do you have to the IT ? Is there someone in IT that is Treserva...?	
122	O7	Yes, there is. And I turn to that person.	
123	I1	What do they offer you?	
124	O7	Well, it could be about upgradings...In the beginning we didn't do the upgrades ourselves in the municipality. We hired CGI to do the upgrades.in Treserav. But now IT does it themselves. When there are different complications in the system, more related to the IT area, that don't have to do with Treserva, then I turn to him. And he knows how it's built around Treserva. But he is now aware how the organizational system works, but everything else he knows.	CE, CT
125	I1	So you can ask him specifically if you are missing a certain function...?	
126	O7	Yes, when we are thinking about making changes, we ask IT first to see if it's possible, if it's going to create problems, and so on. So that we have that ongoing contact.	

127	I1	So, regarding the enterprise system, they have...They first hired a consultant to deploy the system. But now they maintain it in house. So the relationship with IT is that they can maintain the system and make smaller upgrades hardware and software wise.	
128	O7	Treserva, we make payments, and that generates files that need to be cashed in another system called, Urainda for example, and for those connections we need someone from IT that knows this, and can help us with it. With these three phased solutions, and then we have a contact person whom we turn to.	UU
129	I1	Do you have any input?	
130	O7	It's not so easy...sorry...	
131	I2	That's ok.	
132	I1	Because I think that I've covered the major parts of the strategic decisions, inhibitors, and what they want to solve with the system. But I can't think of anything right that that I would explore....	
133	I2	From your perspective ME1 now is THE contact person for the Qlikview project currently? or what is, from your perspective, kind of her role? I know you mentioned ME1 a few times...	
134	I1	Could you just clarify a little further regarding that?	
135	O7	How do you...?	
136	I1	Well, if ME1 is your only contact concerning the decision support of Qlikview and Treserva?	
137	O7	At the moment it is ME1 whom I turn to. Because that's the person I ...And I have been in contact with ME3 at some point in time. But I am looking forward to this steering group. And as my impression is that there will also be a work group. And what the difference between the two would be, I don't know. I don't know if they themselves have thought it through. Because then it would become clear for me as well. Where...? Would it be the work group that I could turn to in first hand, who then turn it to the steering group? So it would be a clear decision making process. Which is currently not the case.	CE, UU, UK
138	I1	Do you have a clear contact with The company?	
139	O7	Yes, I have contact with CE3.	
140	I1	Ok	
141	O7	So the nature of the contact I have with him is based off the project that we are currently working on, that is not quite completed yet. And then I can think that in continuation I will still have contact with CE3. But then I would have to connect it back to my steering group, the Treserva steering group, because it's about expenses. How do we allocate the expenses for the continued work to be done using Qlikview. And there I don't make any decisions on my own. "Well we continue with this...". Those are decision that are made by the steering group.	UU, IL
142	I1	Ok, so through that process you contact CE3?	

143	O7	Yes, to put an order in, after I have a decision from the steering group.	IL
144	I1	Regarding upgrades and the that get back to you and you get and give feedback, and so on?	
145	O7	Yes, exactly.	
146	I1	So when she...she first consults the steering group about decisions and such, and when she's got..because she has no decision authority, so when she's got authority from the steering group she gets back to her contact CE3, directly.	
147	I2	By the steering group, you men the kommun steering group?	
148	O7	No, the Treserva steering group.	
149	I2	The Treserva steering group.	
150	O7	Yes, since we just have based off Treserva, well I am only connected to Qlikview through Treserva.	
151	I1	How many...in general, participate in this Treserva group?	
152	O7	In the Treserva steering group we are...Let's see, we are five.	
153	I1	Do you all...Which contacts, relationships do you...Do you only have contact with ME1, or do you have contact with the Office of Municipal Administration, and so on?	
154	O7	You mean based off the steering group?	
155	I1	Yes, based off the Treserva steering group.	
156	O7	Well, it could be others. We collaborate with the payroll office, concerning payment to Family housing, and so on. And then that needs to be cashed in to the payroll system. And then I am the contact person for the Manager of the payroll office. It could be other things, it could be regarding changes in, when we do a payment in relation to the bank....It can be a lot of different...So it's not solely ME1. Because ME1 is in relation to Qlikview. But then we have many other systems that we collaborate with using Treserva.	IL, OS, UU
157	I1	If we say that you have Treserva and this Qlikview application, do you have any, if we think about visions, Do you have any future plans, how it could look in the future? And how you could expand it?	
158	O7	Well, I believe that there are many possibilities to develop. Because...I think...that since we have a Treseva application where all the information lies from both databases. Concerning Elderly care, LSS , and all these different...So you could make it clearer, more visible, the overall municipal activities in a completely different way based off of Qlikview in a simple way.	
159	I1	Hm...	
160	O7	You could also, in the long-term, connect it to School, preschool and the existing systems there.	
161	I1	So when the applications are complete, will you still have a role with Qlikview, that	

		is connected to Treserva? Will you be part of the maintenance of the application or will you let that go?	
162	O7	Well, I don't really know. Because I am not the one that make that decision. Since I have a, my position...well, what I have ends by the end of the year. That is, the position as Coordinator. And then I am not sure what is going to happen, after that. And it is the steering group that makes the decision concerning that. Do we need a part-time coordinator for Treserva and that part of Qlikview, or should we do it in a different way?	UU, IL
163	I1	So if the steering group feels that more is needed, as you say a part-time position just for this. Then the steering group make that happen? Would they then channel it to someone else or give you more time for that?	
164	O7	Well, somewhere, as it is right now, there is no permanent position for this. So the steering group would have to decide whether we should make this part permanent? Do we need the coordinator function until further notice?	IL
165	I1	Since you say that there is no permanent position, eh...Would you possibly have the impression that it comes in second place? You have your regular position, then comes Qlikview and Treserva. Does that come in second place?	
166	O7	No, I don't think so.	
167	I1	So it is of great importance?	
168	O7	Yes, I believe that it is. Well, at least I see it that way. I believe that both Qlikview and Treserva are a support for the organization. And if there is no maintenance of that and development, then we lose an enormous amount.	UU
169	I1	Yes, ok. So we have talked a little bit about, kind of, the forecast, the future, how you see the future management of the applications related to Treserva, and the involvement, that she considers that it should, potentially be good to have a full time service that handles the maintenance and the future vision of the project.	
170	O7	I think that it is closely related to what you said that ME3 had said. That there is nobody that holds the overall pieces together regarding to IT. And it's a little bit the same here. There is a necessity to have clarity and a clear organization to keep it all together. And to make the most of its usage so to speak. Otherwise you lose a lot.	UK, SR
171	I1	Yes, of course. We study a lot of literature regarding the importance of strong leadership. that you need to have a clear structure. I will just check-off something so we can see...	
172	O7	Yes.	
173	I1	Because I think I asked most of the questions that I had in mind. Should we go through the...?	
174	I2	Yeah.	
175	I1	Ok, so when we read, well when we write this thesis, we formulate a question and then we write, and we get literature from researchers within the information systems field. We do this to support the information we retrieve, from the consultant and from you here. We have brought a study that lists variables that potentially could	

		inhibit the implementation and the design of systems and variables that facilitate the implementations. So to the question: Would you be able to eh, read it through and then expand a little about your perspective on each point?	
176	O7	Hm, what's important...	
177	I2	And maybe exemplify any examples that, things that have happened here in Municipality that have facilitated or...?	
178	I1	So inhibitor is eh...the definition of, what should I say, problems and issues that inhibit the success of the implementation. So, first and foremost, this strategic alignment strong leadership and having a clear strategy. Is that something that you view as a problem?	
179	O7	That it doesn't exist or...? In Municipality you mean?	
180	I1	Yes, or if it is weak? Or do you want me to further explain?	
181	O7	Well, the question is whether you mean...if you mean a strong leadership or? That I think that that is what we have in Municipality, and that that is important. Or that I think that that is something we do not have, but it is needed. How?	
182	I1	The second.	
183	O7	The first?	
184	I1	No, the second.	
185	O7	The second? hm, and then I should think based on Qlikview and overall municipality wise?	
186	I1	Yes. With Qlikview as decision support.	
187	O7	As decision support? Hm, well then I believe that we don't have that, but that it's needed and that it is in the works. And regarding strong leadership, I believe that there is a need of clearer structure around that.	IL, MS
188	I1	With alignments, it's meant a 'straight line', that you know how to behave, who to contact, who are the leaders, and so on. And this is connected with the second point regarding the top executive Sponsor. It is basically if there is someone who drives it forward, is something lacking? That you have somebody that drives it forward, and that says that this is important. And why it's important.	
189	O7	Well, I think that based on a municipality perspective I find it hard that there would be one person that drives it and says that "This is important". But more so, that it's viewed in an overall perspective. And that there is an existing group that can discuss the importance of it, and that we have to work on this. I don't see it as one individual, but I see it as a group that prioritizes this. Because everyone have their decision makers.	MS, IL
190	I1	Ok, then on to the third point: the lack of Cost Benefit Study. This refers to what expense you are prepared to spend to achieve what you want. Or have you had any contact with the purchasing or, costs in general regarding Qlikview, at all?	
191	O7	Well, yes I have in relation to the offer we received concerning the project we have worked on regarding Treserva. I haven't made any decision regarding this, but I have	

		been the one that has brought it to the steering group, who has in turn made a decision regarding this.	
193	I2	Costs does not just involve financial cost, it could involve any source, just a formal study of human resources, the time, financial costs etc., of what the project would have.	
194	I1	Since there are several aspects of the third point, my question regarding that point os then: Has there been a study conducted that confirms: this is important, this is useful, this is the amount of time we could have saved, we can improve through this way...Is that something that has been done?	
195	O7	You mean a pilot study? Ehh, no, I can't say that we have. I can only state that we have, or what we previously had was faulty, and due to that we saw the need	
196	I1	And that the earlier applications didn't fulfill the requirements?	
197	O7	Yes, and that we, now I have Treserva in mind, I am a little narrow in my thinking, but there we haven't had any applications as such, in Qlikview regarding that organizational system. and that we realized that it was very difficult to navigate. As it was previously, if you wanted information and facts from Treserva you had to see me or go to a system administrator, because they thought that, even if they had access, it was too difficult. But now with Qlikview the thought is that the administrative managers have access to it and can look at it, and see how it looks. We have developed some key numbers that are important for their organization and there they can see what it looks like today. So it has definitely become easier.	UK, SR, CE
198	I1	Ok, so now on to the next point. The Lack of System Development Method Here they talk about a formalized method that will be used to develop these applications that will be connected to Treserva. Is it something that you feel is lacking? Or is it not a problem?	
199	O7	What do you mean when you say "a special method" to develop applications?	
200	I1	It is something that the consultants struggle with, that it's difficult to develop the applications, that it's difficult to get the system...Since it's the consultants that develop the system, and so on. But do you feel that it has been an issue to obtain solutions?	
201	O7	No, I don't. It has been more so that we might not have understood, and we might not have been on time with expressing what we really want. So they have asked us questions. What are you thinking? What do you want? What do you need? And so on...And there we have varied in the different departments. Here it's about having a conscious awareness about what we need from this. This is what we need to look at, and for that you need to have had discussions, reasoned, and analyzed what that is. So in that aspect we have perhaps been a bit irregular.	IL, MS, UU
202	I1	Do you mean that it's a question about what you need, what you want, and what you actually need?	
203	O7	Yes, but in our current situation it hasn't been that we have presented to them what we want and that they have responded that "no you can have that." Because we have oftentimes...when we haven't been able to retrieve things we need, it has been due to the missing UDP, not due to Qlikview not being able to perform or something like that. The information has not been available for extraction. Then the problem has lied	CE

		with CGI.	
204	I1	Ok, I understand. Hmm, and then the following point is really related to the consultants as well. Do you see...You haven't seen it as a problem that the consultants lack knowledge about your organization, or in how they cater for you?	
205	O7	No, not based on the contact that I have had with the consultant I have had contact with, CE3. He had previously had contact with ME1, so he had knowledge about Municipality, the municipality and so on.	UU
206	I1	The IT infrastructure the, that when talking about hardware and software that there is a clear flow in the program. We often talk about that when there isn't a well developed system it takes a long time Do you see that as a problem or does it have a good flow?	
207	O7	Do you mean in Qlikview, or?	
208	I1	Hm. in Qlikview	
209	O7	It's difficult to say, because we are in the initial part of it, at least I am...I haven't worked in Qlikview before, so I don't have that kind of experience yet. Eh, but I don't see what the limitations are, or that there would be any limitations. The I have a colleague who is organizational controller who is very knowledgeable in Qlikview. He has worked a lot with that before. If I have a question I can turn to him, and he know a lot. And he can create new visions in the program.	UK, UU
210	I1	If we move on to different factors that facilitate the usage of the system and the development of the system. the study's are mostly focused on private organizations. But if we look at the budget for private organizations and public organizations, this one is more 'flat', since you are non-for profit in Municipality. But is there still a need to be competitive? Do you still strive to save time, and save money through the applications?	
211	O7	Well, to really become more efficient is often a part of it...and to simplify and make different flows more efficient.	
212	I1	Well, if we talk about positive organizations then...I forget the words in Swedish, and know them in English instead. Impact...	
213	O7	Which point are you on?	
214	I1	IW are on the second point, on 'facilitators'	
215	O7	Here? (reading in low voice)	
216	I1	Eh...to be Positive attitude to more transparency, more sharing, that the organizational function is better because you can see the datafro more departmnet s. Would that be something that affect your work in a positive way?	
217	O7	Yes, I believe that we can create visibility more, the social services in particular is quite vague seen from the outside. This could contribute to make it more clear, and for politicians as well. Yhat it becomes clear, like how does it look now in the organization, what is the work load, what type of cases are coming in, and so on. So it would be more Black on white, so to speak. It would be clearer to show them what it looks like, this month, this year. And here we have increased, here we have	OS, MS

		decreased, and so on. So it would become more understandable and clear. And you could also make prognosis ahead, and look back and see from 2011 how has it looked like. And how can we think and imagine that it will look like in the future. With Qlikview we can also do, well the thought is that you are supposed to be able to what's it called? If we increased the number of placements, what would the consequence be? What is that called? You do...	
218	I1	Prognosis?	
219	O7	No, it wasn't quite what I had in mind... That you can play a little, and see if you do this, then that would happen... I have lost the word. But do you understand what I mean?	
220	I1	I understand what you mean. If we continue with the next point that's called: Having Trust Between Top Executives. This really belongs to the steering of data. When you can see somebody's data. Is something that increases the trust between each other? That you trust the information that you see? Instead of having to go to someone to ask for information, you can give yourself the service. Does that lead to better trust, that you trust the data?	
221	O7	I believe that in the long term it will. But now in the beginning, I feel, It's always a little uncertain in the beginning. Is what we see accurate? Is this right? and so on. But in the long term, that is kind of the purpose of it. That you should be able to see it.	SR, UK
222	I1	Could it be that you become more comfortable with the system and then your trust increases with time?	
223	O7	Yes, and that you might start to see the benefits of using it.	
224	I1	If we look at the...the level of CIO? What is the definition of the CIO? Because I tend to forget it. The CIO?	
225	I2	Chief Information Officer. But we've established there is no general Management for Information systems across all of Municipality. That is the...	
226	I1	That is the general consensus. Is there a...?	
227	I2	So the most senior information systems person in all of Municipality, would that be Cecilia? The head of IT? Or would there be another strategic information systems person that falls at a higher level hierarchically? Does there exist a person that deals with information systems across all of Municipality in a general management sense?	
228	O7	If there is that?	
229	I1	Yeah, If there is someone at the Top of the Pyramid, that manages all the systems?	
230	O7	I really don't know.	
231	I1	So you don't have an overview of...?	
232	O7	No, I don't feel that I have full insight in that really.	
233	I1	So you don't know who to turn to to get the most general opinions? From the highest decision making possibility, that is?	
234	O7	So what are you thinking about? When it comes to IT questions specifically?	

235	I1	Yes, but within the IT section that is, since they at a general level, manage all the systems.	
236	O7	Well, if I speak for myself, and my own experience, I know that within the IT section there are different people that know, and are responsible for different systems. And if I don't know, I turn to whomever I have closest, which is the contact person for Treserva. And the he can channel me in the right direction. "Speak to that person, or that person" and so on. "Because that's the person that has best knowledge regarding Qlikview, or that program" and so on. So that's what I do in my everyday work. If I have questions then I ask the person that is closest, and if he doesn't know, he channels me further...	OS, UU, UK
237	I1	The CIO would be...There is no CIO. Remove the C, it's the, eh...she talks to the nearest person in relation to the system basically.	
238	I2	Because the way we understand the...You are the Treserva system administrator and who, what department do you fall under?	
239	O7	Ehh, which...?	
240	I1	Eh, which department...eh..Are you in, so ME2 is Service and Technology, then he has Support, IT and so on. Which department do you belong to? Because there is Finance, Service, Technology?	
241	O7	Well, I belong to The Child and Educational Department, as I said earlier.	
242	I1	The Children and Educational Department	
243	O7	But then I cross walk through other departments, since I have Treserva, that is used by other departments, not just by the Child and Education department.	
244	I1	So it's not a silo oriented approach.	
245	I2	It's not?	
246	O7	She moves, because Treserva is gathering information, and uses information from other departments, other than the one she's working in. So it's kind of a flat approach, kind of	
247	I2	As far as data gathering, data input into the system. But you work underneath the Children and Education dep? And do the system administrators for the other systems, they fall under their respective departments that they mainly service, right?	
248	O7	Mmmm, yeah.	
249	I2	Ok. And there is no general managements systems person?	
250	I1	And we have come to the last point now: Have positive individual impacts...oh, I can still not remember the word. Impact the individual in a positive way. As we previously talked about, distribute information to the entire organization. If we talk from the perspective of the individual, in this case, would it lead to a better understanding, to feeling more confident in your job, if you can view information from other departments easier? Or do you want me to clarify?	
251	O7	No, I'm just thinking that we have, that is, as it looks today, well now I have a narrow mind, since I only work with Treserva. Thus, today it's not like thethe	UK

		Heads of the Child and Education Unit can view the Work and Support Unit's applications. They can only see their own application. We don't have the transparency where everybody can enter each other applications and see. You only have access to your own.	
252	I1	And that information that could possibly assist in your work I assume?	
253	O7	Yeah, I believe...As it is today, it's not that if I am the chief of Social work at the Investigative Department, for example, then I can ...I might not have much joy of seeing to the other departments information. But I use it based off of my own function, and how I would work with it form the activity follow-up. So it's not really that we see each others applications. It's is really only me, as a coordinator, that can view all the applications. That is, those three.	UU, UK
254	I1	Ok.	
255	O7	So we have a limited use of Qlikview. Because it's the Heads of units that access them, so it's not spread to all the co-workers.	
256	I1	If we say...If we go back to the point of Positive Individual Impacts, do you believe that hat would increased, if the whole organization used Qlikview? So it becomes more transparent? That with the information you want to retrieve, like "Oh, I want that information for that unit". ould That be something that would affect you work in a positive aspect? Because that is what Qlikview is all about. Business discovery, and data discovery. That you discover data that previously would have been a question mark, unknown.	
257	O7	Well, that depends somewhat where in the organization I am, what role do I have, what do I work with. That is, if I work as a Case Manager, or Social Worker within Child and Family, I might not have that need...It might not add value to my work.	
258	I1	That is completely understandable.	
259	O7	So it depends on which role I have. And that is why we have chosen a limited accessibility, to avoid everyone entering. Because it's important that you understand what you see. Now we also have and it's very special information we have, since it's about children, children with special needs and so on. It's particular information that we produce.	UU
260	I1	Yes, of course. Ok. I think we touched on everything now at least.	
261	I2	And the Mora study...	
262	I1	Yes.	
263	I2	The...Would there be anything that you'd like to tell us in general, that you think might be relevant to what we are studying, that maybe we haven't touched on?	
264	O7	I am thinking...But I have probably forgotten a lot myself, since I could...it's always like that. No, I feel like, no I am a bit narrow minded in my thought process since I only have this based off Treserva. So I can't see this in an overall picture. And that is possibly an indication that we aren't completely finished from the organization and Qlikview. Because if that would have been the case, then we probably would have had an overall picture.	UU, UK, IL

265	I1	Hm. That makes sense. The reason why we ask somewhat dumb questions, we ask some here and there, because we want to find out about things that we didn't know before. Because we develop the interview as time elapses. As with ME3, he has a very all-encompassing perspective, so we can ask him about everything. So that is...	
266	O7	And I have a more narrow...in that sense.	
267	I1	Hm, it's more system specific in that sense. I think we have touched on the major points at least.	
268	I2	And thank you. I mean, your perspective is unique in the sense that you absolutely only deal with...you're a system administrator and expert for Treserva. And you might have a unique perspective on issues with implementation situations, four systems that you have dealt with very directly in a very more specific role. That of course somebody that has a general higher management role wouldn't be able to see, because you...you can give us that perspective. So absolutely.	
269	O7	I was thinking...Do you have...Because I was thinking...Do you know what Treserva is? And what information we have?	
270	I1	It is...	
271	O7	Or maybe it's not very significant for you?	
272	I1	Well, please explain a little bit. I could surely be...We'll see which information is of importance later on.	
273	O7	Since you are talking about information that would be public. Because Treserva is used based off of The Individ and Family Unit, the Social Services. And all information, that is, all reports and applications, are received due to children being at risk. People that apply for financial aid, addictions, and so on. That is what we have in Treserva. It is our management system to manage all those cases, so to speak. We make decision from that...	
274	I1	Those are important issues.	
275	O7	Yes. And that is why i was mentioning that it's important to know what you see in the Qlikview application, for example. Because you can see and analyze it form a larger perspective based off of pure facts.	
276	I1	Yes, of course.	
277	O7	Yes.	
278	I1	It has definitely been uplifting to us. We learn more and more for each interview that we conduct. And...	
279	O7	Have you been to other municipalities? Have you talked to other...?	
280	I1	No, we work specifically with one consultant and one client. So it's The company and the municipality of Municipality.	
281	I2	So the idea was to get an indepth look into the case of Municipality and decision support development and implementation...planning. And how everything was	

		happening here. Kind of, piecing everything together.	
282	I1	So we learn more and more for each interview.	
283	O7	Are you meeting more people in Municipality?	
284	I1	In terms of planning this was the last interview. We have interviewed three consultants, and with you a fourth..What is it called? eh, an Municipality employee. ME1, ME2, ME3 and you have been interviewed.So seven in total. So we'll probably reach about a hundred pages of transcriptions. Because we will listen, and write, and add codes to the text. So it will probably take a some time. So that's approximately where we are...	
285	O7	Hm.	
286	I1	So I think we are...I'm satisfied at least.	
287	I2	Thank you.	
288	O7	Thank you.	
289	I1	Thank you for your time.	
290	O7	Thank you.	

Appendix 8 Interview Guides

Exploratory Interview Guide (First Interview - CE1)

Exploratory Interview - DSS Consultancy

Introduction

Q1: What is your position in the company?

Q2: How many years have you worked at this company, and in the field of DSS in general?

Q3: What was the reason for creating this company?

Q4: What services do you provide that help the client implement your DSS tool as well as their overall DSS strategy?

Technical

Q5: Do you provide the components necessary to implement the entire end to end DSS environment? (The whole package basically, which may include *data integration, ETL, data cleansing, data warehousing, performance management, training in the software, portals*)

Q6: Is it a common for the customer to have a data repository that doesn't meet the quality levels which you are used to?

Customers

Q7: What is your primary type of customer?

Q8: What are the biggest challenges and pitfalls when working with the solution for a customer? (Technology and process change for instance)

Q9: Do you conform yourself to any special segment/market of organizations? Different organization types may require different expertise in order to be given a certain product/service standard.

Q10: If you consider a customer's previous business capabilities without your DSS tool compared to post implementation, what are the main differences and improvements in their everyday business?

Varying customer demands

Q11: Are there trends in DSS which you have picked up as a result of market trends of IS solutions? Has it changed the way you implement your services?

Q12: When you first started with DSS, what is different today compared to e.g 10 years ago in terms of customer service demand? Do customers want different solutions today than e.g 10 years ago?

Closing questions

Q13: Do you see any trends of future DSS as i.e mobile is becoming increasingly usable?

Q14: Are there businesses that you believe do not utilize DSS tools to any large extent today?

DSS Implementation Interview Guide (2nd - Last)

Introduction

Q1: Tell us about yourself.

Q2: What is your role in the DSS project?

Q3: What role does the consultancy have in the adoption of the DSS solution?

The decision of DSS

Q4: What reasons are behind the municipality adopting a DSS solution, why is it needed?

Q5: What has been the major facilitators towards moving into this?

Q6: Tell us about the different directions the municipality wants the project to take, and who will facilitate it?

Q7: What kind of source systems will the solution involve?

Q8: Which organizational processes/departments will the solution support?

Q9: What problems/issues is the solution supposed to solve?

The steering committee/project group

Q10: Tell us about the steering committee, what power do they have?

Q11: Where does the decision of forming the committee come from?

Q12: What benefits do the committee bring?

Q13: How did the municipality take IS/IT decisions without the steering committee before?

Q14: What are the expected benefits of this solution from consultancy's point of view? How will the organization benefit after the implementation compared to before?

Challenges

Q15: What are the main challenges of adopting this type of solution?

Q16: What has been the major roadblocks and stoppers to implementing the solution?

Q17: What could be the future implications of implementing the solution?

Q18: Have there been issues with the municipality that could potentially hinder the implementation?

Q19: What have been past challenges/problems, decisions and how did the municipality address them?

Q20: How do you believe these challenges will be solved?

Q21: Do you see the solution strictly as a technology upgrade?

Influence and involvement

Q22: What degree of influence do you have during the implementation process?

Q23: What degree of involvement do you have in the development of the solution itself, i.e do you reiterate to previous implementation processes to fine tune them?

Q24: What influence does the municipality and customers in general impose during the implementation process?

Additional questions - based on Mora et al.

Q25: How involved is the municipalities in house IT department in the deployment of your solutions?

Q26: Does the consultancy manage the entire project lifecycle by itself, regardless of the municipalities IT department?

Q27: Was the steering committee a result due to.. i.e the lack of strategic alignment or top sponsor executives?

Q28: Do you consider a lack of strategic alignment a roadblock for implementing DSS and IS in general, and why?

Q29: Was there a cost/benefit study?

Q30: The municipality pointed out that they aim to deploy an organization-wide license, could there be any potential problems with this approach? Technology acceptance for instance or a lack of IT infrastructure within the organization?

Q31: Besides the roadblocks/inhibitors that you have experienced in this implementation, are there additional factors that generally hinder DSS projects?

Q32: What is the intention of the steering committee, and what kind of power do they have? I.e hierarchical power, increasing trust within the organization?

Talking points based on Mora et al Study:

In summary, the set of top-five implementation inhibitors identified are:

- Lack of Strategic alignment (3). Lack of strategic alignment of the proposed system with the business strategy.
- Lack of Top executive sponsor (4). Lack of a sponsor top executive which promotes the system.
- Lack of cost/benefit study (6). Lack of a suitable cost/benefit feasibility study to justify the system.
- Lack of System Development method (8). Lack of a well-structured methodology to develop these systems.
- Lack of Trained Developers (10). Lack of trained developers in the organization.
- Lack of IT infrastructure (11). Lack of a IS/IT infrastructure (i.e. data warehouse).

The set of top-five implementation facilitators identified are:

- Having Competitive Pressure(3). The competitive pressure of the business environment of the organization.
- Having Positive Organizational Impacts(3). The positive impacts estimated in the performance of whole organization.
- Having Trust between top executives(8). The level of trust in the relationships between the CEO and other top executives and the upper management levels of IS/IT.
- Having Strong IT infrastructure(8). The availability of a strong IS/IT infrastructure in the organization.
- The Hierarchical level of CIO(10). The hierarchical level of the top IS executive.
- Having Positive individual impacts(10). The positive impacts estimated in the performance of individual users or small groups of users.

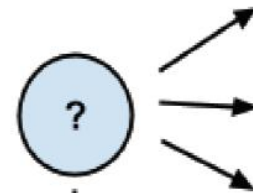
Appendix 9 - CE1 - Meeting notes and summary - Independent meeting with consultancy.

Today we talked about the potential customers that we could possibly interview and thus gather data for the empirical investigation. The respondent, CE1 brought up the possibility of us interviewing and gathering data from the municipality. The municipality has previously attempted an implementation in Qlikview, but the first implementation was not successful, neither from the consultancy's point of view or the municipality. The steering committee (6-7 people) are those who make decisions based on each subsidiary department of the municipality.

Key issues according to the CEO (CE1) are:

- KPI issues
- Knowledge issues
- Flat budget (Different incentives)

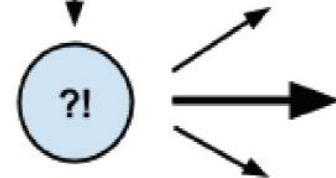
Prior to consultancy, the organization have no clear focus and all the managers (each arrow) have different goals, focuses and makes decisions based on different data



The consultancy has the focus on aligning focuses, KPI's so that the organization reaches a common goal



Implementation phase one failed due to weak management, which implies that some of the implementation was successful, but not entirely.



Second implementation implies that organizational structure is slightly changed so that the manager from each subsidiary department has increased control over implementation decisions being made (See figure 1).



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