Interactive e-government

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Abstract

The use of information technology has been one of the core elements in transforming the way government interacts with its constituents. E-government and the delivery of e-services from government are changing the way government governs and interacts with its citizenry. This study was designed to take a descriptive look at how three local municipalities in northern Sweden are coping with trying to be more interactive with the delivery of e-services from the perspective of the direct service provider. The study examines the current state and the willingness of local government to implement a more interactive website format for the delivery of e-services. The overall conclusion is that the delivery of e-services and the growth and maturity of e-government is being adopted by the municipalities, but all are at the early stages of development and implementation.

E-services delivery is present but the sophistication is still in its infancy when used by local governments. Most local governments only provide published information and downloadable forms. Most local government sites provide only one way communications. All are still at the basic level of publishing information online but little two-way communication exists between the service provider and the citizen user. Delivery of e-services for local government services is far from being mastered by the service providers. It’s particularly lacking attention on making the services more interactive. There is a strong need to develop and implement more effective two way communications between the provider of e-services and the user.
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Chapter 1 Introduction of E-Government and E-Services

1.1 Introduction
The motivation behind this study is to address the lack of researched focused on the level of interaction on local government websites as a tool for providing e-services, in this case the municipal level. According to Sakowicz (2003), E-services describe the use of electronic delivery for government information, programs, strategies and services. These services are available on-line “24h/7 days”. At the same time, e-services emphasize innovative forms of citizen involvement and offer services that demonstrate serious valuation of citizens as customer of administration. The strategic challenge is to deliver services to members of public along with dimensions such as quality, convenience and cost. The study will focus on the direct service provider.

The aim of this study is to describe the level of interaction on local government websites when trying to reach and inform its citizens. This will give the citizen/user the ability to directly contact those that are responsible for the services provided and interact directly with them, allowing direct participation in government and accountability for those in office. The results of this study will provide a view on the role that the Internet can have in the delivery of government services by the citizens of the three municipalities under investigation.

The increasing use of Information Communications Technology (ICT) in government operations is transforming the way governments conduct their business. ICT has great potential to stimulate social development and citizen participation. According to Graber (2003), “Conventional practices must be revised and new norms created to guide behavior in the new environment”. To this end electronic government (e-government) is now taking form and is being used to transform the way government provides services to its constituents and how it interacts with them.

Insidepolitics.org’s e-government report (Sept 2000) defines; E-government as the delivery of information and services online through the Internet or other digital means. Many governmental units have embraced the digital revolution and are putting a wide range of materials from publications and databases to actual government services online for citizen use. Since e-government is still in its infancy, it is a perfect time to measure the extent of web service delivery and compare differences that exist at various levels of government. E-government has opened up many possibilities for improving the efficiency and the quality of public service delivery to its citizens. Moon (2002) states, the use of e-government services has contributed to dramatic changes in politics, government institutions, performance management, red tape reduction, and reengineering. This is further examined in other studies (Graber, 2003; Kendall, 1999; Taylor et al., 2001; United Nations Department of Economic and Social Affairs [UNDESA], 2003; West, 2000) that the diffusion of IT innovations in the public sector are advancing e-governance as a means of enabling government to reach and service its constituents by overcoming obstacles as time and distance in providing public services. Holzer and Melitski (2003) state that, citizens participation in government is a ripe area for e-
governance, because the Internet is a good tool for citizen-users to engage their government, and also because of the potential to decentralize decision making.

The need for government to interact more with its constituents is ever more increasing and citizens are demanding more from their government in the manner of information, services delivered, and accessibility. Citizens want better and more direct contact with their government. And government wants more active participation from its citizens. Technology has proven that it is possible to interact more directly with each other.

As technology evolves, new services and features will be placed online. The goal is to direct web design for government agencies by offering concrete suggestions that can improve organization, and make government more responsive and more accessible. With better organization, more contact information and methods, and more concern for accessibility, web sites of the future will improve the potential of e-government.

Today the internet has brought government closer to its citizen. Governments can reach their constituents faster and with more information. At the same time access and participation by citizens with their government has also increased. According to International Council for Information Technology in Government Administration Waller P, Livesey P, Edin K (2001), the objective of the government is to use the Internet and other communication technologies to facilitate, broaden, and deepen participation in the democratic process. This has increased the interaction between the government and its citizens. This makes government more participatory and democratic. But there is still a long way to go to make this more interactive between the government and its people. Kalu (2007) states that, E-government empowers individual citizens by providing them with an alternative channel for accessing information and services and interacting with government. It also gives the individual citizen another choice: whether to become an active participant in the governing process or remain a passive observer.

Most government e-service sites are just quick sources of information and a place to download forms but lack of proper access to the internet hinders the delivery of e-services. According to Kuk (2002) that, in contrast to regions of high household Internet access, the quality of local government websites in regions of low household Internet access was significantly poorer in terms of information content and relatively limited in terms of the range of e-enabled services.

There is a lack of dialogue between the service provider and the user of that service. Government services need to be more interactive with the people they serve. By making government e-services more interactive, this will increase participation among the governed and those that govern and provide services. This will also hold those responsible for providing service more accountable because they are put up front in this interactive e-service community.

To do build a successful e-government infrastructure for services the citizenry must be educated, a strong technical infrastructure must be developed and put in place. The government needs to provide the e-services that its citizens want and need.
These services must be useful, easy to understand and add value to the service provider and user. The government must be committed to new changes and provide the financial backing to implement these new e-services.

Key Points
- Face-to-face contact is still the most important channel for contacting government -- 81% of all citizens who contacted government in the last year did so in person, although not necessarily exclusively by this channel. However, in some countries, telephone and post have overtaken face-to-face (for example in the UK with 74% telephone and only 51% face-to-face).
- About 11% of the adult population have used the Internet to access government services, and of those who have contacted government in the last year, this figure rises to 20%.
- However, potential demand for e-Government services is about 50% of all government users, and could be higher.
- Potential demand for e-Government is mainly for information services, then communication services, and lowest for transaction services.
- In terms of government services generally, citizens rate their overall satisfaction at about 3.5 out of 5.0, a figure which is almost identical to that for e-Government services.
- Most barriers which users anticipate they will meet when using e-Government relate to difficulty in actually starting, with a feeling that face-to-face is better and the fear about data privacy. However, once citizens have used e-Government services, the barriers appear less though still important, and relate mainly to the difficulty of feeling left alone with problems or questions.
- Users of e-Government services tend to be younger, male and better educated, and have higher socio-economic status and be in employment.

Gronlund (2002) stated that, the use of the internet is becoming common among people to access their government. Governments want to reduce costs, improve the communication between government departments and the public in all possible ways and increase people participations in the government process. Between 1980’s to the late 1990’s there have been a wide range of local communities around the world that have set up citizens networks online and these were often used as experiments for e-governments initiatives for improvements, Peacey (2002).

The main purpose of these experiments was for citizens to express their concerns, interests, and values. This gave a voice to the citizens, which had been isolated from the local governmental institutions. The citizen networks gave people the opportunity to express their views by using ICT to reach others and local government.

According to Castells (2002), citizen networks provide three characteristics.
- They allow the sharing of information by local government and with other institutes in the community.
- The network organized for horizontal communication across all the participants in the network, rather than vertical communication. Because many citizens feel that their voice is lost in vertical communication system of government.
• It is a community based network.

1.2 Current e-Gov status
Many important researches have been done to evaluate e-government efforts at the local, state and federal levels. These efforts generally concern with identifying the objectives which might assess the quality of e-government. “Government websites are not making full use of available technology, and there are problems in terms of access and democratic outreach”, West (2000).

The current level of implementation of e-government as compare to the traditional system of service delivery has been encapsulated in the web-enabled way. This reflects the efforts put behind them and also shows that various services and functions have been adopted by the cities entering the e-government service provision. As constituents needs and demands grow more services and interaction are provided. For example; Payments which could includes Utilities, taxes, fines, permits, and registrations. Images, registrations facilities, customer services, e-procurements, communication, licenses etc.

The use of new ICT innovations provide governments at all levels great opportunities to improve the delivery of their services and to interact more effectively and efficiently with their constituents. The users of these services are used to the quick response from the services provided by the private sector in the delivery of e-services. Consequently they expect the same level of response from their government, Hazlett and Hill (2003). As a result of this, citizens and businesses are demanding more efficient and effective delivery of services as well as an improvement in the quality of information received, Ongaro (2004). Governments at all levels have faced a variety of challenges trying to implement an effective and efficient form of e-government since the mid 90s Ke and Wei (2004). Many ICT initiatives started by government agencies founder because they are poorly managed and because agencies act too autonomously from one another to develop a workable e-service delivery system, Strejc and Theil (2002). Others believe that e-government is an evolutionary process and for that reason e-government initiatives should be implemented accordingly Layne and Lee, 2001; Lee et al., (2005). By learning from the past and from the experiences of others governments are improving the way in which they can deliver better services. Yet, as improvements in technology come to light, governments will still encounter new demands and challenges.
Chapter 2 Problem Discussion and Frame Of Reference

In this chapter, the problem addressed by the study is discussed, along with the theoretical frame emerged out of the literature review, within which the research questions are formulated. Delimitations of the study are also mentioned.

The motivation behind this study is to address the lack of researched focused on the level of interaction on local government websites as a tool for providing e-services, in this case the municipal level. The study will focus on the direct service provider.

The aim of this study is to describe the level of interaction on local government websites when trying to reach and inform its citizens. This will give the citizen/user the ability to directly contact those that are responsible for the services provided and interact directly with them, allowing direct participation in government and accountability for those in office. The results of this study will provide a view on the role that the Internet can have in the delivery of government services by the citizens of the three municipalities under investigation.

Figure 1: Research Problem And Guiding Questions

The study will look at the current state of interaction levels on local government websites for the delivery of government e-services. Additionally, it will look at the barriers and experiences of integrating more interaction on the websites for the delivery of e-services.

Based on the information provided above on the status of e-services today and the need to provide more direct interaction between the service provider and the users of e-services the following frame of reference illustrates the theoretical references that frame the study.
Figure 2: Frame Of Reference

2.1 Guiding questions
The questions aim to identify what types of interactions the websites are using in providing e-services. Additionally, it will investigate the understanding of the individuals providing these services.

RQ. 1 How can the current status of interactive local e-government services from the direct service provider for the delivery of e-services be described?

RQ. 2 How can the obstacles of the direct service provider providing e-services at the local government level be described?

2. 2 Significance of the study
This study will add value and knowledge as to the significance of how to better implement direct contact with e-services users and its providers. The study will also add to theory as to how to better improve the delivery of e-services and what is desired by the users of these services. Additionally, the research will provide a deeper understanding in the field of providing e-services with better interactive websites for the delivery of those services.

2. 3 Model Selection
The selection of these particular models for this study were chosen because although these models differ somewhat in their names, they are very alike in forecasting the somewhat linear and progressive development of e-government from a basic online presence to seamless, transactional, and transformed e-government.

These models were also selected because they all aid in describing and interpreting the where, how’s, and whys of an organizations processes. They all contained elements that are useful in describing the level of maturity in the developmental
process. These models give us an initial entry point. From that initial point they start expanding the process to the next level by building on prior experience. Through the process development they start developing and implementing common aspects of the different development stages. Until they reach full maturity in their development process.

These models are used as benchmarks to aid in the understanding of the developmental process. These models help identify the present level of maturity of e-government services; they identify key process areas and goal, and they also identify common features and key practices in the development process.

Common to all these models are the following stages: online presence, interaction, transaction, transformation and digital democracy. We selected these models because of this commonality. It seemed appropriate to combine these models to form some type of synthesized model for the research. It gives a common reference point to start with and follows through. We see the commonality of these models as a simple and comprehensive way to better study the development of e-government services.

The drawback that we see in all these models is that they all predict that the development of e-government services goes through a linear and progressive pattern. This is not always the case. E-government services can start at different stages without having to go through the growing pains of the previous stages. Governments can use lessons learned from others that have gone through earlier development stages and go directly to providing online transactions for example. These models also do not tell us how the development will progress and what difficulties they will encounter nor how long it takes to develop to the next stage. Among the difficulties that they can encounter are: organizational, financial, technological, political, and legal barriers. We believe that through these models and through their commonality we can study the development of e-government services with empirical data and see at what stages the e-service provider is at and what difficulties they encounter.

**E Gov Maturity Model**

This model is a method for evaluating the maturity level of the processes and progress of an e-government service provider and identifying the key practices that are required to increase the maturity of these processes. This model provides the guidance on how to view the processes for developing and maintaining e-government services. This maturity model can help guide in selecting the process improvement strategies that are most critical to e-government quality and process improvement. It also helps monitor e-services development to see if they are on the right track.

In addition to providing a plan for development of a fully mature e-government development program, the model helps to guide enterprise-wide direction and thinking. By using the e-government maturity model, Government e-service providers can develop better ways serve their customers, develop an e-government action plan, prioritize e-government related activities, and ensure that the technological
components of the organization work together effectively to develop and meet e-government goals.

**Layne and Lee Model of e-Government**
The Layne and Lee model has been mostly used for those that study the development of e-government to classify different service levels in order to measure the progression of e-government and the service they provide. It does this by distinguishing e-services on different complexity levels from each other.

Many government websites and related e-government services initiatives help to ground and explain this model. These stages delineate and summarize the transformation within government structures and functions as they transition to e-government throughout each stage. The Layne and Lee model reinforces intergovernmental data integration. This makes it useful in our research.

**Moon’s Five Stages Of E-Government**
M.J: Moon’s five-stage system of hierarchy is founded on the interactive features provided by e-government services web sites. This five stage system looks at the technical complexity and web interactivity. Moon’s system is best used to analyze for structural elements of municipal web sites. Moon’s five-stage system incorporated the features approach of interactivity. For this reason we found it applicable to this research.
Chapter 3 Literature Review

3.1 E-Government and E-Services

Today e-government is about how governments interact with citizens, governmental agencies, businesses, employees and other stakeholders. It enhances the democratic process and providing services to its citizens. The term e-Government is relatively new and research in this area is broad.

E-government is can be generally defined as E-business of the state. From a technological point of view, E-government is the use of ICT and multimedia technologies to improve the access to and delivery of government services to stakeholders, such as, citizens, businesses and government employees. E-government basic principles are providing services around citizens needs and desires; making the services more accessible; facilitating social inclusion; providing information responsibly; and using scarce resources effectively and efficiently, Bhoovarahan (2002).

E-government usually covers three broad areas, that is, the government to citizens (G2C); the government to businesses (G2B); and the government to government (G2G). The objectives of E-government are to improve the accessibility, convenience and quality of interactions between citizens, businesses and the government; and to improve the speed and quality of information flow. The major objective of E-government is to serve its citizens more efficiently while lowering operating.

At the third Annual E-government Conference held in Lisbon during May 2002, the term ‘e-government’ was used in the following way: “E-government is the application of Information and Communication Technology by government and public sector agencies, and is transforming the way governments interact with their citizens. It uses promises to enhance the effectiveness and efficiency of government and radically alter its relationship with the public. Improvements in communication and technology are playing a vital role in raising the living standards and empowering people to understand and gain access to all the initiatives and support systems that are available to them”.

The UN Global E-Government Readiness Survey 2005 presents an assessment of how the governments use ICT to provide access for all its citizens. It identified the countries playing leadership role in promoting the e-government readiness and those who have problems in the development and the use of ICT for e-government.

E-government readiness means not just the functioning of a country’s state by online presence but also the availability and full functionality of technological and telecommunication infrastructure and the level of human resource development. This survey provided the strengths and weaknesses in e-government development of countries worldwide. As such it provides a global benchmarking tool for monitoring progress of countries and tells the educational level required. The assessment of online services was carried out during July-August 2005. During that time period it was noted that a few of the countries’ websites were under construction or not
available during that time. Some countries were evaluated by regional, international, and private sectors in which the same countries were rated differently. The reason for this is the level of assessment may vary depending on the definition of e-government and the selection of the services and products.

There are some problems that hamper the implementation of E-government globally but there are some success stories too. Several key success factors for a successful implementation of E-government are the institutional strengths (e.g. political and business support, organizational cooperation); human resources development (e.g. skill and knowledge deficits, new learning curves, mindset changes); changes in ICT and multimedia technologies (e.g. technical infrastructure, integration); locality environments (e.g. digital divide problems, cultural concerns, social exclusion); and availability of funding, as stated by Bhoovarahan (2002).

### 3.2 E-government rankings

The UN Global E-government Readiness rankings in 2005 place the countries of North America and Europe in the leadership position in the world in e-government readiness. In the rest of the world, South and Eastern Asia and South and Central America had the highest indices followed by Western Asia; the Caribbean; South and Central Asia; Oceania and finally Africa.

In 2005 the United States of America was the world leader followed by Denmark. Sweden has bypassed the United Kingdom to arrive at the 3rd global position. Among the developing countries the Republic of Korea leads with Singapore, Estonia, Malta and Chile close behind.

### 3.3 The UN e-Government Survey 2008

Governments are moving forward but slow in e-government development around the world. In order to fully implement e-government services certain prerequisites must be in place. Among those are: infrastructure, appropriate governing policies, capacity development, ICT applications, and relevant content. Progress has been slow as shown by the result of the survey taken in 2008.

The survey indicates that few governments invest in e-government. In terms of connectivity, a strong broadband network is critical and plays an important roll for e-government applications and services. Another issue that came to the forefront is that back office operations need to be integrated into one system for effective governance.

There were large differences between the five regions in terms of e-government readiness, with Europe having a clear advantage over the other regions, followed by the Americas, Asia, Oceania, and Africa. Asia and Oceania were slightly below the world average, while Africa lagged far behind.

For the 2008 survey Sweden surpassed the United States as the leader. Three Scandinavian countries took the top three spots in the 2008 Survey, with Denmark and Norway in second and third place respectively. The United States came in fourth.
Table 1: UN World E-government Ranking

<table>
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<tr>
<th>E-Government Ranking UN</th>
<th>2005</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Position</td>
<td>United States</td>
<td>Sweden</td>
</tr>
<tr>
<td>2nd Position</td>
<td>Denmark</td>
<td>Denmark</td>
</tr>
<tr>
<td>3rd Position</td>
<td>Sweden</td>
<td>Norway</td>
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<tr>
<td>4th Position</td>
<td>United Kingdom</td>
<td>United States</td>
</tr>
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Lambrinoudakis et al. in (2003) stated that, e-government is a concept which attempts to easily provide access to government information and services for citizens, businesses and government agencies and provide improved and advance way for interaction between them. To fulfill the easy usage for citizens’ e-government reflects the use of ICT (information communication technology) and for improving the quality of services and for providing the great opportunity to citizens to take participations in democratic processes.

3.4 E-Government in Sweden
A leader in the use of ICT and has great Internet and mobile phone penetration, Sweden offers ideal conditions for e-government. Sweden is among the more innovative appliers of technology with regard to bringing government and administration online.

**Information Society indicators**
- Proportion of persons using a computer: 76% (2002)
- Internet usage by individuals: 77% (2003)
- Internet usage by enterprises of 10+ employees: 95% (2003)
- Use of broadband connection: households %, enterprises 64% (year)
- Usage of Internet by individuals for purchasing / ordering goods or services (excl. shares / financial services): 23% (2003)
- Enterprises having purchased via Internet: 23% (2002)
- Enterprises having received orders via Internet: 10% (2003)
- Internet usage by individuals for interaction with public authorities: obtaining information 41%, obtaining forms 23%, returning filled forms 12% (2003)
- Internet usage by enterprises for interaction with public authorities: obtaining information 85%, obtaining forms 83%, returning filled forms 41% (2003)

Source: Eurostat.
3.4.1 Sweden e-Government Strategy
24-hour access to public information and services
Sweden’s goal for public information and services is to be available electronically 24 hours a day seven days a week. This is done to provide better services to citizens and enterprises by new electronic channels for information and service delivery. Additionally Sweden wants to strengthen democracy by enhanced transparency and citizen participation in the policy-making and decision-making processes (e-Government in Sweden - June 2005, European Communities 2005).

Sweden takes into consideration the different needs of its citizens so that no citizens are excluded from the new opportunities offered by e-government. They have implemented a multi-channel approach, so that citizens can choose between different service channels - Internet, face to face and telephone. Websites have been designed that facilitate access for everyone.

High penetration of personal computers and Internet
Internationally, Sweden is one of the leading countries in the use of personal computers and the Internet. Over two thirds of the populations between 18 and 64 years have a computer at home. More than 80 per cent have access to the Internet from home, at work or at school. The high penetration means good opportunities for a rapid development of e-Government in Sweden.

Visitors to public websites
Today, almost all of Sweden’s public agencies have websites and all public officials can be reached by e-mail. The number of visitors to public websites grows every year. In 2005 nearly half of all Internet users visited a public website. The most popular agency websites are the National Labour Market Board for job-seekers and the National Tax Board for tax-payers. Also in 2005 almost half a million Swedes used the Internet to deliver their income tax return forms electronically.

Implementing the 24-hour Public Administration
Sweden’s strategy for the delivery of e-government is based on the Swedish decentralized model for public administration. Sweden has small policy ministries and a large number of relatively autonomous agencies which are responsible for implementing government policies. They are managed by a system of performance management, where the Government sets targets, allocates resources, appoints managers and follows up and evaluates the results. These public agencies have thus been given substantial freedom in deciding how to use their resources in order to produce the desired services and results (e-Government in Sweden - June 2005, European Communities 2005).

3.5 E-government Fields
3.5.1 E-Services and Function
According to Bruecher and Scholl (2004), E-Service is a fast growing field that is getting lots of attention and importance. Citizens demand that government should provide e-services with high quality, quantity, and availability 24/7. For the deployment of e-services, governments are developing information systems and electronic services that have the capacity to fulfill the demands of its citizens.
Cook (2002) stated that, a number of studies have been conducted on e-services and citizens desires and needs. The conclusions of the studies state that most government agencies do not provide adequately the e-services the citizen needs or desires but government agencies at all levels have made significant strides in the establishment of e-services by improving staffing, financing, and technology and to make better and more significant improvements in the delivery of e-services to its citizens.

Jaeger and Thompson (2004) argued, the issues of the digital divide, which should be carefully examined theoretically as well as on the practical level for e-government usage by citizens. The primarily issue of the digital divide among the citizen users are their economic gap, cultural difference, and geographical gap. These were some of the reasons identified why some citizens have difficulties and do not use e-government information and services. The success and acceptance of e-government depends on the citizens’ willingness to utilize the services provided.

Sweden is a world leader in accessibility, accountability, and transparency. The national site not only provides information to citizens but also provides innovative ways for better accessibility features. In Sweden online presence drives from national level. Compared to countries which structure their ministry stand-alone, Sweden approach actually seamlessly integrates the main site’s features in a ministry-specific manner.

**E-services in the public sector**

The simplest definition of e-service can be defined as the electronic provision of services to customers (Saanen and Boyer, 1999, 2002) describes e-services as it starts with the initial landing on the home page of the service provider and ends when the requested service has been completed or the final product has been delivered and is ready for final use. This definition is mostly based on private sector assumptions. In order to better understand the definition of e-services in the context of the public sector we must look at the definition of e-government.

Lieber (2000) defines, e-government as: implementing cost-effective models for citizens, industry, federal employees, and other stakeholders to conduct business transactions online. This concept integrates strategy, process, organization and technology.

While Turban (2002) suggests that, e-government uses applications of various technologies: that provide citizens with more convenient access to government information and services; and to provide delivery of public services to citizens, business partners and suppliers, and those working in the government sector.

Whyte and Macintosh (2003) reiterate this, suggesting that e-government can potentially also encompass consultation and active participation, though they recognize that this requires considerable shifts in governments’ current methods of doing business and citizens’ access and knowledge base.
In seeking to define e-service in a public sector context it seems logical to use literature from both private sector e-service and e-government e-services. So a definition of e-public service could be defined to encompass the following:

E-service as defined by Boyer (2002) “The e-service encounter is the initial landing on the home page until the requested service has been completed or the final product has been delivered and is fit for use.”

E-government: provision of government information to citizens, the facilitation of active participation and consultation for citizens. e.g. electronic voting etc.

E-public service: delivery of public services to citizens, business partners and suppliers, and those working in the government sector by electronic media including information, communication, interaction and contracting, and transaction

3.5.2 E-Democracy and Function
E-democracy uses the power of the Internet to bring people closer to their government and enhance the democratic process. E-democracy helps by breaking down the barriers between citizens and government. By using online processing facilities governments aim to help its citizens to better understand their government process and systems, and to encourage citizens to participate in government, keep citizens informed, provide platforms for communication, to have access to the required information, and provide better accountability of government.

Gabardi (2001) states that e-democracy can be something as effortless as electronic access by citizens to governmental information. E-democracy can also be more intricate and can involve more interaction between citizens and government including:

- the capability of citizens to reach and interact with governmental officials (e.g., via email or other electronic means)
- on line review of and comment on government proposals (budgets, land use plans, etc.) and regulations
- electronic citizen participation in governmental actions and decisions through such things as on line forums
- on line consultations and electronic town hall meetings; on line referenda;
- on line registration; e-voting

Kakabadse (2003) provides four other models of e-democracy, which are as follows:

**The Electronic Bureaucratic Model:** Service delivery in which governments provides published and downloadable information and the capability to conduct transactions electronically to improve governmental functions and reduce costs.

**The Information Management Model:** Better levels of interactivity between citizens and governments especially in terms of access to governmental information and contact with officials.
The Populist Model: Citizens make known their preferences on a range of issues through mechanisms such as electronic town hall meetings.

The Civil Society Model: Assumes that e-government is transformational. That the use of ICT, especially the Internet, will transform the political cultures and strengthen connections between citizens and promote a robust and autonomous site for public debate, which in turn will strengthen democracy.

Norris, D. F. (2003) states, that these and other models of e-democracy provide useful theoretical insights into how ICTs may affect the improvement of democracy, especially democratic participation. Furthermore, to wholly understand e-democracy, it is essential to begin with a clear definition of the term. At a minimum the definition of e-democracy would include at least three components:

- Electronic access to governmental information and services
- Electronic access to and the ability to interact with governmental officials
- Online transactions with governments.

Norris again states that democracy implies that citizens have the ability to act both directly and through their chosen representative to govern themselves and their communities. Any meaningful definition of democracy must include elements of citizen involvement (direct and indirect) in democratic self governance. A broader definition of e-democracy, therefore, would include electronic expressions of self governance that go beyond information, contact and transactions. These are:

- Citizen participation or involvement in routine governmental activities and programs
- Citizen participation in governmental decision-making
- Citizens ability to vote in referenda and for office holders

These points may include any number of specific mechanisms of e-government including e-issues forums, e-town halls, e-consultations, e-policy dialogues, e-public hearings, e-comment periods (e.g., on proposed regulations), e-referenda, e-voting, and perhaps many more.

Online e-Democracy should:

- Help the citizen understand their government
  - Government structure
  - How laws are made
  - How the budget process works.

- Help the citizen participate in government
  - Find out how to get involved through public meetings and hearings
  - Contacting officials
  - Running for office
  - Serving on a boards
  - Participating in town meetings
  - Working on a citizen's initiatives
• **Stay Informed**
  - Keep track of government happenings through electronic newsletters, official state news, national and world news services, and legislative information.

• **Elections & Voting**
  - Election information at the local, state, and national level
  - Election news about the candidates
  - Where to vote
  - Election ethics
  - Voter registration
  - Absentee voting

• **Access to Public Information**
  - Freedom of Information laws
  - Information about accessing public records

• **Democracy for Kids & Young Voters**
  - Resources for young and first-time voter

• **e-Democracy Resources**
  - General e-Democracy related organizations and web sites
  - Discussion forums, news, election information.

Eiffert and Puschel (2004) said that, governments at all levels including national, local and international levels are interested in following and implementing e-government as it has the capability to efficiently administer government business. But have sometimes given secondary priority to e-democracy. Therefore governments are now taking a more in-depth interest in the initiatives of e-democracy. Same as citizens themselves are taking interest in the effective usage the internet and technology.

According to the project report by Rose (2005), e-democracy reduces the investment of government. Citizens can contact government officials easily by using internet, mails and text messages as an efficient way to contact politicians. The communication process, of using ICT and web-technology has been improved and simplified. It works independently and does not required synchronization in communication. Citizens, especially young people, and politicians are the targeted groups for e-democracy.

Torres (2005) states that, e-democracy facilitates the contact between citizens and members of government by using the citizens’ suggestions boxes or complaints about public services. Hence it shows that e-democracy provide the way for the government to easily informed the citizens and reduce the gaps which exist between and citizens and government. This provides a better opportunity for government to offer better services for its citizens.
3.5.3 E-Security and Function
Governments are investing in ICT in hopes of increasing high levels of online participations by citizen, business and inter-government agencies. As we can see, the usage of the internet has brought revolutionary way for society, government and businesses to operate. Löfstedt (2005) said that, it is important for the services provided to the citizens in e-government have to be safe and secure. In order to maintain the trust by both citizens and government the system should perform its function securely. Information security and users privacy is an important aspect since it influences the citizens’ willingness to assume the services offered. Joshi (2001) described that for the management of information system security, e-government must accomplish the fundamental security properties which include availability, confidentiality, integrity, accountability and assurance of accurate information. That the information is secure for transmission and that the delivery of the information is accessible for those who need it and for those who are authorize.

3.5.4 E-Management and Organization and Function
Löfstedt (2005) stated that, still there is a need for the development of theories, models and methods in the field of e-government. To overcome these gap lots of research, case studies, theoretical research and empirical studies have been conducted. Among those is the survey conducted by Grönlund (2004). The survey found that the generation and testing of theories are not so frequent, but case studies and product descriptions are. Different stages of e-government development have been described by Layne and Lee (2001) and stages of growth models have been developed for the fully functional e-government. Riley (2004b) has explored how information and new methodologies designs can be helpful for government to better share the information with the public for their common good. Grönlund has tried to overcome the gap of e-government effectiveness by his theories of e-government to provide a general framework which also shows that it is a system rather than a single unit or process and focuses on information system as a whole as important.

According to Löfstedt (2005) evaluation and measurement are used to find out in what area of e-government needs more research for proper development. According to Gupta and Jana (2003), the flexible frameworks are used to choose the appropriate strategy to measure the tangible and intangible benefits of e-government. Additionally it has stated by Löfstedt, that there is shortage of flexible and understandable rules and models to guide the ethical behaviors in e-government. To overcome these deficiencies Mullen and Horner (2004) proposed a framework to identify the mistakes specifically related to the technologies used and to find out the deficiencies of rules and models of ethical behaviors.

Löfstedt also stated that a broad range of researches has been conducted in the development of e-government services and citizen participation. However there is a need for more research about the organizations, i.e. the governments, in order to determine how to transform the organization in order to facilitate the development and deployment of the e-government. Aicholzer and Schmutzer (2000) discuss three major organizations challenges faced when taking initiatives of implementing e-government which are: (1) guiding principles and problems of restructuring administrative functions and process; (2) requirements of and barriers to
coordination and cooperation within public administration; (3) the need to organize monitoring of performance in terms of e-government.

3.6 Online Interaction
Today the internet has brought government closer to its citizen. Governments can reach and interact with their constituents faster and with more information. At the same time access and participation by citizens with their government has also increased. According to the International Council for Information Technology in Government Administration, Waller P, Livesey P, Edin K (2001) the objectives of the government is to use the Internet and other communication technologies to facilitate, broaden, and deepen participation and interaction in the democratic process. This has increased the interaction between the government and its citizens. This makes government more participatory and democratic. But there is still a long way to go to make this more interactive between the government and its people. According to Löfstedt (2005) there are number of categories of interaction in e-government includes: government-to-citizen (G2C), government-to-employee (G2E), government-to-government (G2G) and government-to-business (G2B). Internet technology is being used as a medium for providing these services to citizens. According to Carter and Bélanger (2004a), G2C allows citizens to retrieve information and complete government transactions, such as license renewal, online. G2E involved that government agencies can interact with their employees online. G2G helps for online communication and interaction among government agencies. G2B allows businesses to retrieve timely government information and complete transactions with government agencies online such as bid submission, online.

3.7 Models of E-Government
For this thesis three models of e-government have been selected. They have been selected because they offer explicit theories or models of e-government relative to its growth and development. These models are: Layne and Lee Model of e-Government (2001), Moon Model Five Stages of e-Government (2002), and the Maturity Model of e-Government (2002).

According to Coursey and Norris (2008), these models are to a certain extent descriptive, somewhat predictive and to a degree normative. All claim to describe what the normal evolution of e-government should be, from a basic simple presence on the web, to fully developed e-government that is transactional and integrated. Based on a study of these models, the descriptions in these models provide a plausible portrait of e-government in its early stages, from initial web presence and information provision to interactivity. After their early stages of development, these models turn out to be predictive and normative.

The models have many similarities between themselves. They all work with the linear development and/or evolution of e-government from basic online presence to full integration, seamlessness, and transformation. They all work on the presumption that the development of e-government is progressive, that each successive stage is better than the previous stage. They also assume that governments must progress through these stages in a given order.
The models predict that e-government will move beyond information provision and interactivity to become fully transactional and integrated. They also assume that e-government will fundamentally transform the relationship between governments and citizens. After becoming fully transactional all the models become normative in stating what e-government should be. The models wholly suppose that fully transactional systems are better and that more interaction with its citizen will result in better and improved e-services.

These models forecast linear development of e-government. They all go through conventional stages of e-government, from simple online presence and information delivery, interactivity, online transactions, and full integration to seamless delivery of governmental information and services, e-participation, e-democracy, and governmental transformation. Some times it’s a mixture of all that works to the benefit of both the service provider and the user.

One drawback of these models is that they do not describe how this e-government transformation will happen or how long it will take to happen. At best they tell us that more e-government is better for the government and its citizens.

3.7.1 Layne and Lee Model of e-Government
A model for different degrees of interaction has been developed by Layne and Lee (2001) that, addresses the requirements for interaction. The model has four stages that show the growth of interaction in e-Government. They are: cataloguing, transactions, vertical and horizontal integration. The put they their focus on the citizen as the primary user of government e-services and then let the service provider build its services according to the needs of the citizen. This will also include changes in the government structure and the adaptation of new technology to support those changes.

Meijer (2004) said that the internet has been discovered all over the world and is being used to inform the citizens. Most of the governments have been using the facilities of a central portal to provide the access to its citizens with a great variety of information. With this aspect it could said that the openness of the government has increased with its citizens by providing better information and interaction when dealing with the government.

3.7.2 Moon Model Five Stages of e-Government
Furthermore, Moon (2002) describes 5 stages of e-government at various levels of interaction by its users and the degree of technical sophistication. They are listed in the table below.

Table 2: Moon's Five Stages Of E-Government

<table>
<thead>
<tr>
<th>Moons five stages of e-Government</th>
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<tbody>
<tr>
<td>Interaction with users</td>
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<tr>
<td>Simple information dissemination</td>
</tr>
<tr>
<td>Request and response</td>
</tr>
<tr>
<td>Service and financial transaction</td>
</tr>
<tr>
<td>Integration (horizontal and vertical)</td>
</tr>
<tr>
<td>Political participation</td>
</tr>
<tr>
<td>Technical sophistication</td>
</tr>
<tr>
<td>One-way communications</td>
</tr>
<tr>
<td>Two-way communications</td>
</tr>
<tr>
<td>Two-way communications</td>
</tr>
<tr>
<td>Two-way communications and inner and cross agency communications</td>
</tr>
<tr>
<td>Two-way communications</td>
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</tbody>
</table>

Moon, summarizes the table above as: there are various stages of e-government, which reflect the degree of technical sophistication and interaction with users: (1) simple information dissemination (one-way communication), (2) two-way communication (request and response), (3) service and financial transactions, (4) integration (horizontal and vertical integration), and (5) political participation.

Stage 1 is the most basic form of e-government and uses IT for disseminating information, simply by posting information or data on the web site for constituents to view.

Stage 2 is two-way communication characterized as an interaction mode between government and constituents. In this stage, the government incorporates email system as well as information and data-transfer technologies into its websites, where the agency receives new applications and requests, then process and responds to service request.

In stage 3, the government allows online service and financial transactions by completely replacing public servants with “web-based self-service”. This is “transaction-based e-government”. Through this online service and financial transaction, for example, constituents can renew licenses, pay fines, and apply for financial aid.
In stage 4, the government attempts to integrate various government services vertically and horizontally for the enhancement of efficiency, user friendliness, and effectiveness. This stage is a highly challenging task for governments because it requires a tremendous amount of time and resources to integrate online and back-office system because both vertical and horizontal integration push information and data sharing among different functional units and levels of government for better online public services.

Stage 5 involves the promotion of web-based political participation; in which government website include online voting, online public forums, and online opinion surveys for more direct and wider interaction with the public. While the previous four stages are related to web-based public service in the administrative arena, the fifth stage highlights web-based political activities by citizens.

Moon also states that it should be noted that the five stages are just a conceptual tools to examine the evolution of e-government. The adoption of e-government practices may not follow a true linear progression. Many studies of technological innovation also indicate the diffusion and adoption of technology may never follow a curvilinear path. For example, a government may initiate stage 5 of e-government without full practice of stage 4. It is also possible that government simultaneously. Like other stage models of growth, the framework simply provides an exploratory conceptual tool that helps one understand the evolutionary nature of e-government.

3.7.3 Maturity Model of e-Government

Another model that we can use to explain the development of e-services is the maturity model. The maturity model is a method for evaluating the maturity of the processes of an organization and for identifying the main procedures that are required to increase the maturity of these processes. Maturity models exist for a number of processes. One of the most well known is the Capability Maturity Model (CMM) for software development from the Software Engineering Institute at Carnegie Mellon University, Windley, P.J., (2002)

This e-Government maturity model provides us with guidance on how to evaluate the processes for developing and maintaining e-Government services and how to develop a culture of excellence when providing and managing e-Government. This maturity model can direct us in selecting process improvement strategies by determining current process maturity and identifying the major issues that are most critical to e-Government quality and process improvement. At present there are no well-developed maturity models for e-Government that exist; the best available models are simple, but still useful for understanding some key information about e-Government.

E-Government Applications go through various stages of development from publishing of information on the web to delivering online transactions and even up to integration with government agencies to bring in the true value and benefits of e-government to its citizens and users. The model below can serve as a reference for governments to determine where a project fits in the overall evolution of their e-government strategy. This model does not mean that all governments must go through all of these stages in a linear or sequential manner. There is no need for one
phase to be completed before the other can begin since these phases offer an only conceptual framework. Each of the four level use ICT to deliver the online services.

The below table shows an e-Government maturity model develop by Broadvision. The overall model is probably a good compromise of where e-Government is headed and can bring to light a path for us to follow as e-government e-services move forward.

Table 3: Broadvision e-Government Maturity Model

<table>
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<tbody>
<tr>
<td>Attributes</td>
<td>Attributes</td>
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<td>Attributes</td>
</tr>
<tr>
<td>• Static pages</td>
<td>• Departmental focus</td>
<td>• End-to-end electronic</td>
<td>• Community-centric, integrated,</td>
</tr>
<tr>
<td>• Lists of departments</td>
<td>• Online forms for</td>
<td>transactions</td>
<td>intergovernmental processes</td>
</tr>
<tr>
<td>and contact information</td>
<td>• applications and</td>
<td>• Automated RFP and procurement</td>
<td>• Common platform for</td>
</tr>
<tr>
<td></td>
<td>• Online payment</td>
<td>• registration</td>
<td>• marketing and</td>
</tr>
<tr>
<td></td>
<td>• Request information or service via email</td>
<td>• Cross-departmental sharing of information</td>
<td>• targeted content through any channel/touch point</td>
</tr>
<tr>
<td></td>
<td>• Respond to online surveys</td>
<td>• Automated advice and problem resolution data</td>
<td>• Internal/external business process integration and collaboration (planning, workflow, design)</td>
</tr>
<tr>
<td></td>
<td>• Limited online help, FAQs, resolution services</td>
<td>• Limited configuration capabilities</td>
<td>• Constituent case tracking to ensure resolution and satisfaction</td>
</tr>
<tr>
<td></td>
<td>• Basic account inquiry</td>
<td>• Self-service HR administration</td>
<td>• Highly configurable HR (benefits, career planning, development training)</td>
</tr>
<tr>
<td></td>
<td>• Basic benefits enrollment</td>
<td>• Web-based training</td>
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</tbody>
</table>


Level 1
The first level of maturity is a simple website. This simple website is a static collection of web pages, focused on the department or division providing the services, with a few downloadable forms and some phone numbers. This level represents only a start; there are very little changes in the way citizens or businesses interact with government. This level uses ICT to deliver and expand citizen access to government information and makes it possible to disseminate government information to a global audience in a fast and convenient manner.

ICT technology keeps evolving in ways that helps in the disseminating of information. A typical way for a developing nation to establish this level of maturity is to set up a portal providing comprehensive access to information online, ranging from national/regional/local profiles, Division of governing agencies, government
publications, and government services. Setting up a portal will enable citizens and businesses to readily access government information and services without having to go to government offices.

**Level 2**
The second level is called online government. The principal difference between a simple website and online government is the addition of two-way communication based services in order to provide better value and services to the customer. Now the site focuses on the department and the services it provides. To do this a variety of online interaction mechanisms, such as email, web based forms, and FAQs, are used to obtain information from the user and provide feedback.

The second level enhances public involvement in the process of government. Technology is used to increase and improve the interaction between the governments and citizens/businesses. Users are able submit their questions and requests for services through means like email or specially designed forms. They can check the status of their submitted questions. At this level they can also voice their opinion and help in influencing policy formulation on important issues through online opinion polls and discussion forums. This raises the trust level of the citizens in the government with the addition of saving time by providing services on a 24/7 basis.

**Level 3**
The third level is the integrated government. In the integrated government, the service has moved from individual, department-based transactions and towards more interactions that brings multiple processes together in a consequential way. One of the important features is end-to-end electronic transactions, meaning that the website is not merely a high tech way of conducting business with the old processes, but fully integrated into the back office systems and processes.

In the previous level the user was able to exchange information online and get feedback. Then when it comes to the actual transaction they had to resort to the old status quo of doing business. Conversely, in level 3 the website provides new technology and applications that allow users to conduct transactions online. The ability to provide online monetary transaction and payments is a central factor of this level because the user makes the necessary transactions without having to go to the government office. Services such as online payment of traffic tickets, tax payments, land registration, ID card renewals, and utility payments can be effectively provided at this level through web enabled applications.

**Level 4**
The fourth level in the maturity model is transformed government. To operate at this level, the e-Government processes are functioning in ways that change the very way of how government works. In the fourth level of e-Government maturity, the services offered are developed from the citizen’s viewpoint to provide individual requirements and needs.

In this level the government has gone through the full transformation process and all the user services are being made available online 24/7. Here the user has the
capacity to instantly access any online service. Different levels of government agencies lines of demarcation are removed and services are clustered along the user’s common needs. To provide such integrated and transformed government requires wide and comprehensive organizational change such as integrating the back-end operations and infrastructure in a consistent and seamless manner, so as to work for the user and not disrupt the business of government.
Chapter 4 Methodology

In this chapter the procedure of the research is presented. We will describe the methods used and the steps taken to undertake the research.

4.1 Research Purpose
According to Yin (2003), the purpose of a given research is to state what is to be accomplished by conducting that same research and how the upcoming results can be used. According to (Reynolds and Yin, 1971, 2003) research can be divided into different groups of nature and purpose, namely, exploratory, descriptive or explanatory.

Exploratory research is appropriate when a problem is difficult to structure and when there is uncertainty regarding what models to use, what characteristics and relations that are important. The research is designed to allow an investigator to just “look around” with the respect to some phenomenon, with the aim being to develop suggestive ideas. Reynolds stated that the purpose of an exploratory research is to gather as much information as possible about a specific subject. It is further common to use many different sources to gather this information. The technique that is best suited for information gathering when performing an exploratory research is interviews stated by Yin.

The objective of descriptive research is to provide a description of various phenomenon connected to individuals, situations or events that occur. The purpose might be to develop empirical generalizations. Once such generalizations begin to appear, they are worth explaining, which might lead to theory development, stated by Reynolds. Moreover, descriptive research is often used when a problem is well structured and there is no intention to investigate cause/effect relationship by Yin.

The objective with an explanatory research is to analyze cause-effect relationship, explaining what cause produces what effects, described by Yin. According to Reynolds, the goal with the explanatory study is to develop a theory that could be used to explain the empirical generalization that was developed in the descriptive stage. This provides a cycle of theory construction, theory testing and theory reformulations (and back to step one).

The research purpose and research question of this thesis indicates that this study is primarily descriptive. This study is descriptive, since it is our intention to describe the area of research and try to explain the data collected in order to find out the differences and similarities with frame of reference.

4.2 Research Approach
While conducting a research, there are different ways to address the matter. Research approaches can be divided in two categories, first deductive versus inductive research and secondly qualitative or quantitative. It’s quite clear from the starting that our research is deductive due to the way we developed our purpose and research questions. We have stated the existing theories relating to our research,
which will be later compare with reality. Finally, we aim to draw logical conclusions from our findings.

The qualitative and quantitative methods refer to the way one chooses to treat and analyze the selected data. Selectivity and distance to the object of research characterize a quantitative approach, whereas a qualitative approach is characterized by nearness to the object of research. Both approaches have their strengths and weaknesses and neither one of the approaches can be held better than the other one. The best research method to use for a study depends on that study’s research purpose and the accompanying research questions Yin (2003). There is one significant difference between these two approaches. In the quantitative approach, results are based on numbers and statistics that are presented in figures. In the qualitative approach, the focus lies on describing an event with the use of words. Which approach to choose depends on the problem definition together with what kind of information is needed. The two approaches are used as per their suitability and also be used in combination Holme and Solvang (1997).

The quantitative approach is also characterized by study of few variables on a large number of entities. To find answers to its research problem, this is normally done in a broad sense by using surveys with already set answering alternatives. Furthermore, this approach is considered especially useful when conducting a wide investigation that contains many units, stated by Holme and Solvang.

Characteristics of qualitative studies are that they are based largely on the researcher’s own description, emotions and reactions, Yin. The qualitative approach also includes a great closeness to the respondents or to the source that the data is being collected from, Holme and Solvang. It is characterized by gathering abundant information and to investigate several variables from a few numbers of entities. To make use of the possibility to gather high quality data, the most common way to do this is with the use of case studies and interviews where no set answering alternatives are being offered, been described by Holme and Solvang.

As the intention with this thesis is to describe, and find as complete and detailed information as possible, the qualitative approach is the most suitable method. That is based on the fact that its purpose is to gain better understanding of the level of interactive websites when used in a context of providing online facilities to citizens. For doing so, we established close contact with the subjects, instead of a generalized approach.

4.3 Research strategy
According to Yin (2003), there are five primary research strategies in the social sciences: experiments, surveys, archival analysis, histories, and case studies. Each strategy has its own advantages and disadvantages depending on three conditions:

• The type of research question posed.

• The extent of control an investigator has over actual behavioral events.

• The degree of focus on contemporary, as opposed to historical, events.
By applying Yin’s (2003) reasoning and solely looking at the stated research questions, it appears that an experiment, history or a case study could fit as appropriate strategies. We have chosen to conduct our research with the help of the case study, which is generally superior when answering "how" and "why" questions about a specific topic stated by Yin.

Case studies have a unique place in the assessment of research for the following reasons:

- For describing a course of real life context, case studies are suitable,
- Case studies are necessary, when a researcher wants to explain the links involving complex real-life situations,
- Case studies can exemplify certain topics in an evaluation
- Case studies are useful for exploring situations with unclear outcomes.

By selecting case studies it also makes it possible for researchers to be selective in picking what to study, which is not always possible with other strategies like surveys, Miles and Huberman (1994). In this study, the case was selected based on its probability of providing the required information concerning the research topic. A case study can involve a single case or multiple cases. A case study makes a deep exploration and description of a single unit whereas a multiple case study uses two or more entities, which provides an opportunity for cross-case comparison, described by Yin. Miles and Huberman state, investigating similar and contrasting cases adds more value to the result, because it provides varying pictures of the studied phenomenon.

Therefore, it was deemed most appropriate to apply a single case-study approach with multiple respondents. We have selected this research strategy because it was consider being the most appropriate strategy as the thesis aims for deeper and detailed study, but at the same time having an opportunity for comparison between different respondents. This gives us the opportunity to discover similarities and differences between the respondents.

As the research questions in this study is based on how questions, the investigators have no control over the actual behavioral events, and the focus of the study is on the “how” of a contemporary event, the choice stands between conducting a survey or a case study (or studies). However, as it has been stated that this research will have a qualitative approach, a survey is not appropriate because of its quantitative character. Therefore, the strategy chosen for this thesis is the case study. More specifically, a case study is an empirical research that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used. This definition not only helps us to understand case studies, but also distinguishes them from the other research strategies, stated by Yin. Also according to Yin, a case study can involve a single and a multiple-case study. The single case study makes an in depth investigation regarding only one entity, such as an
organization or a decision. However, when making a multiple-case study, two or more entities are studied which gives the opportunity of comparisons. Yet, there is a risk with the multiple-case study, since each case might be less in-depth investigated, by Yin. Also, according to Miles and Huberman, the use of multiple-case studies will add to the confidence of the findings. By investigating similar and contrasting cases, the researchers have the opportunity to better understand the findings than if they came from a single case, stated by Miles and Huberman.

An understanding of this study’s unit of analysis is central to the understanding of the research. The phenomenon under study is to be inside some bounded framework, which can be referred to as the unit of analysis, Miles and Huberman. In this study, the main unit of analysis is the direct service provider of e-services (building permits) at the municipality’s level. Therefore, to get a better understanding of the phenomenon under study, the Chief or city architect for the respective municipality was selected as the appropriate person to interview in order to get their knowledge about the municipality’s level of providing e-services for their branch of government. They are also most likely to be able to present a closer and “holistic view” of the research topic.

4.4 Selection of Case and Respondents
In this study, multiple respondents were selected because each respondent could provide variety within the case given a certain commonality. By selecting similar respondents (Local municipalities in a common geographic area) and contrasting (unlike in other aspects), it was possible to better understand the case study findings, grounding them by specifying how and where, possible, why they behave as they do, Yin (2003). Therefore, the logic for case selection was to find an interesting case with multiple respondents that were close to one another, but at the same time different enough to provide variety (different views).

Case selection was guided by the following factors. First, the municipalities were the lowest level of government of interest to the case. They are the ones that provide most of the e-services to their constituents. Second, since the study focuses on the delivery of e-services at the local level, it was seen as fitting to include only local municipalities that are already providing some sort of e-services to its citizens. Because the municipalities are already providing e-services at some level, this provided a better opportunity to gather valuable data about providing e-services at the local government level. Lastly, only the municipalities that had been active in providing e-services for a few years were selected, so that they had reached some level of stability and maturity.

4.5 Data Collection
Yin (2003) states, “a major strength of case study data collection is the opportunity to use many different sources of evidence”. By using multiple measures of the same phenomenon, the validity of any scientific study increases. Findings or conclusions resulting from a case study are likely to be more convincing and accurate if based on several different sources of information. No one of the different sources has a complete advantage over the others. The different sources are highly complementary; hence, as many sources as possible should be used, Yin. The six most commonly used sources for data collection in case study is: documentation, archival records,
interview, direct observations, participant-observation, and physical artifacts. All these sources have their own strengths and weakness, by Yin.

The data collection methods that were used for this research are interviews. The interview was chosen as the major primary data collection method because of its strength in focusing directly on the topic of the case study. Interviews can be conducted personally and via telephone. Some potential disadvantages with an interview are that it can be biased on poorly constructed questions, there is a risk for reflexivity, i.e. that the interviewee tells the interviewer only what he/she wants to hear, Yin. Yin also, describes the following three different types of interviews: open-ended, focused, and structured.

The most commonly used interview method is the open-ended, where the researcher asks the respondent unstructured questions, thus allowing the interview to be more of a discussion. The respondents can be asked for facts as well as their own personal opinion. When a focused interview takes place, the respondent is interviewed during a brief period of time. Still, the character of the interview is open, and it may be conducted by a conversation between the respondent and the researcher. However, the researcher is most probably following a questionnaire. The purpose with a focused interview could be to confirm certain facts that are already known to the researcher. The third form of interview, survey, is more of a combination of an interview and a survey. The interview is structured and based on predetermined questions, Yin.

For this research, interview was performed personally and via telephone. Telephone interview was considered as a follow-up to clarify unclear answers. Then interview guide was written in English and the interview was also conducted in English in order to avoid any chance of misinterpretations and translations errors. Also an interview guide was sent in advance to the interviewed, so that they would have sufficient time to prepare for the interview and gather necessary information.

4.5.1 Case Material Collection
For the case study, the interview was the primary source of data collection. Each Municipality was first contacted by telephone to set a date for a personal interview. It was easy to find the most appropriate person for the interview. In each case, either the city architect or someone of similar position was interviewed. These respondents were contacted for the interview due to their knowledge of City building codes and that they were responsible for providing the e-services related to building permits. Follow-up interviews included questions that had emerged after the first interview or questions that had not been answered completely in the first interview. The follow-up interviews were conducted by telephone.

The interviews were made in a semi-structured manner, using an interview guide (Appendix A). During the interview, the respondents were asked to describe how they viewed the delivery of their e-services to the public. They were asked about the interactivity level of their websites. They were made aware of the functionality of a interactive website and how it could be used for the delivery of e-services. They were made aware of the tools used on a interactive website such as: technological tools or functions such as the Internet, e-mails, e-commerce (paying of fees), and e-business, discussion forums, and ways for users to have their opinions and inputs heard. As
such each of these functions was addressed during the interview, and detailed information about their use was obtained. If the respondents had overlooked some important information, they were pressed to explain a bit more about the topic. By using this approach it ensured that we obtained detailed information, which was mostly obtained by the respondents’ views and opinions. Each interview lasted for approximately two hours. During the interview notes were made. Notes were not made in detail but were used for to note their reflections and thoughts.

All the chosen Municipalities had well-developed websites, which provided important information about the Municipality’s objectives and their services. Before, during, and after each interview, the website was referred to in an attempt to enhance the collected information.

4.6 Sample Selection
When conducting research, it is often impossible, impractical, or too expensive to collect data from all the potential units of analysis included in the research problem. Hence, a smaller number of units, a sample, are often chosen to represent the relevant attributes of the whole set of units, the population. Because the samples are not perfectly representative of the population from which they are drawn, the researcher cannot be certain that the conclusions will be generalized to the entire population, Graziano and Raulin (1997).

For our thesis, we used multiple-respondent sampling, because multiple respondents could add confidence to findings. By looking at a range of similar and contrasting respondents, we can understand the case finding, grounding it by specifying how and where and, possible, why it carries on as it does, Yin (2003).

For reasons of information access, the elected samples are the e-service providers at three municipalities in northern Sweden. They are the municipalities of Luleå, Piteå, and Boden. Finally, the persons approached were the direct service providers.

4.7 Data Analysis
Data analysis consists of three concurrent flows of activities. These three are data reduction, data display, and conclusion drawing and verification.

- Data reduction should not be considered to be separated from analysis, but as a part of it. This reduction of the data is analysis that helps to sharpen sort, focus, discard, and organize the data in a way that allows for “final” conclusion to be drawn and verified. Data can be reduced and transformed through such means as selection, summary, paraphrasing, or through being subsumed in a large pattern, Miles and Huberman (1994).

- Data display is the second major activity which the research should go through, and this means taking the reduced data and displaying it in an organized, compressed way so that conclusions can be more easily drawn. Miles and Huberman state that, as with data reduction, the creation and use of display is not separate from analysis, but it a part of it. These authors explain that, “humans are not powerful processors of large amounts of information,” and that “extended text can overload humans’ information-processing capabilities”. It is further explained that good display are, “a major avenue
to valid qualitative analysis". In our research the reduced material was used to form a table which illustrated each municipality’s state of interactivity on their website and their future trends. This table helped to create patterns between interaction and usability.

- Conclusion drawing and verification is the final analytical activity for the qualitative researcher. It is here that the researcher begins to decide what things mean. They do this by noting regularities, patterns, explanations, possible configurations, causal flows, and propositions. However, Miles and Huberman also add that competent researcher should hold such conclusions lightly, while maintaining both openness and degree of skepticism. The identified patterns were compared with the theory, in order to investigate similarities and differences between the empirical material and theory. This specific type of analysis is referred to as “pattern-matching analysis”, Yin (2003). The research followed these three steps for data analysis. First, we reduced the data so that only the important and relevant ones were discussed. As we conducted a multiple respondent case study all the reduced data was displayed, so that within-respondent and cross-respondent analysis could be done. And finally we drew conclusions and verified our findings with the theories explained before.

4.8 Delimitations and limitations
This study is clearly limited in its scale. It will be limited to investigating the current level of interaction on local government websites to reach and inform its citizens. The study will focus on three local municipalities in northern Sweden and compare their similarities and differences of level of interaction with its constituents when providing e-services.

The study will involve one case with multiple respondents. They are the Luleå, Piteå, and Boden municipalities. We chose these municipalities because of the closeness to the university. The university is in Luleå and the other two municipalities are only 30-40 minutes drive from Luleå, which provides the researchers easy access to the municipalities in order to collect the data. We will focus on the person directly involved in providing the services. We chose the direct service provider in order to narrow the focus of the research. How the services are provided today and what is the level of interaction on their websites for delivery of e-services. The study will stay within the framework of government e-services, usability and interaction of the websites within government e-services.

The collection of data was made just at one point of time, which limits the possibility to draw causal conclusions. Follow-up to the data collected was conducted by later telephone. Another limitation of the study is the amount of secondary data used in the analysis. This secondary data was the viewing and downloading of the forms available online at the websites. The data that was used in this analysis are based on the questionnaire, and are thus self-reported. Overall, interesting outcomes were identified from this study, but further research is needed to identify other related factors that were overlooked by this study.

4.9 Validity and Reliability
Validity and reliability helps to measure the research and add strength to the findings. According to Yin (2003), validity is the most important requirement on a
measurement instrument. Three sorts of validity need to be considered by, Yin. According to Yin, there are three forms of validity: construct validity, internal validity, and external validity.

• Construct validity: establishing correct operational measures for the concepts being studied.

• Internal validity: Internal validity is a matter of establishing causal relationships, which means that this study should explain how certain conditions are shown to lead to other conditions, as distinguished from spurious relationships such as, how does A influences B, according to Yin.

In this study two tactics were used employed to ensure internal validity, namely pattern matching and explanation building. Pattern matching is done when multiple cases or respondents are included in the analysis, as was done in this study. It allows comparing different perspectives of the different respondents regarding the same research phenomenon. After the pattern matching, it was possible to combine the findings from different cases and form an overall explanation regarding the research topic.

• External validity: establishing the domain to which a study’s findings can be generalized. A study that has been generalized provides opportunities for others than the studied respondents to gain valuable information from the results. A case study has lower generalization ability. This study only focused on three small municipalities in northern Sweden. Thus, while the results are valid for similar small municipalities in northern Sweden, generalizations involving other small municipalities should be made with caution.

To increase the validity we sent and called a head the questionnaire by e-mail in advance containing the issues that we are going to discuss and as far as possible to avoid misunderstandings. We increased validity of the research by constructing an interview guide. This increased the external validity and replication logic in multiple-responder studies. Theories must be tested through replication of the findings in similar surroundings meaning that a specified theory has to come up with the same result.

Reliability is the extent to which research results would be stable or consistent if the same techniques were used repeatedly. Also the role of reliability is to minimize the errors and biases in a study. Two things can increase reliability: the use of a case study protocol and the development of a case study database. Regarding reliability of observations, Yin says, that to increase the reliability a common procedure is to have more than a single observer making an observation, whether it is of the formal or the casual variety. Hence, when resources permit, a case study investigation should use multiple observers.

To increase the reliability in our study, we also took notes during the interviews. These notes were both answers and reflections that came from the respondents. Further the researchers attempted to avoid leading and subjective questions, which was facilitated by the use of a more structured interview guide. In addition, the same
interview guide was used during all these sessions. The reliability was influenced by the fact that peoples’ perceptions vary over time, which makes it difficult for another researcher to achieve the same results even if the same sample were to be used. A change like that could affect the reliability negatively hence making personal interpretation and giving leading questions difficult to avoid.

Hereby we progress on to the next chapter where we present the empirical data collected and analyze them for the research.
Chapter 5 Empirical Data

This chapter presents the theoretical data collected from each of the three respondents studied in the case. Each respondent’s description starts with introductory facts on the organization and the interviewed individual, followed by the presentation of some validation aspects to ensure suitability of each sample according to the purpose of the study. Then the collected data is structured and presented addressing each of the formulated research questions. Along with the empirical data, some empirical findings on each respondent were referred.

5.1 Respondent A – Boden Municipality Samhällsbyggnadskontoret (community building permits office)

5.1.1 General Data on Respondent A

Boden Municipality lies in the northern part of Sweden. It is 35 kilometers from the coast with a population of little over 28,000 inhabitants living in an area of 4,500 km². Boden’s Municipality considers the environment as an important ingredient in everyday life. Boden is a very eco-friendly municipality which protects the environment in many different ways. They strive for a good building culture and landscape environment. They do it through information, advice and planning in various ways and by monitoring and enforcing the building and environmental laws of the area.
The Municipality provides a variety of e-services to its citizens mostly by providing online information or downloadable forms. The municipality has a great interest in developing its e-service capabilities but feels it still has a long way to go to make it more user-interactive.

The interview for this thesis was conducted at the Samhällsbyggnadskontoret (community building permits office). The community building office meets land and planning needs from business communities, individual and municipality through forward looking physical planning.

The respondent was the person in charge of delivering and developing e-services for the community building permits office. After contact with respondent A and information retrieval, the respondent was acknowledged as a valid sample for the study, in the way it configured the problem being study and possessed appropriate and good potential features, regarding the aspects being studied.

The matrix below summarizes the present level/stages of e-service delivery in the Boden Municipality, respondent A, for the delivery of e-services, in particular the requesting and delivering of building permits. The check mark ✓ indicates a positive acknowledgement and the ✗ indicates a negative acknowledgement.

Table 4: Boden Level e-Government Maturity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Website</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Graphs, links, navigation</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Clear Text</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Search function</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Feedback</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Multimedia</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Table 4 shows the level of interaction and e-Government maturity of the present website of the Samhällsbyggnadskontoret (community building permits office) at the
Boden Municipality. The table gives a breakdown of the website’s interactive characteristic against the stages of interaction.

Stage 1 is the first stage of interaction in which the site is just a catalogue of available information for its users. Stage 2 allows users to access explore and browse the data bases. Stage 3 allows users to input the information and for agencies to identify and track users request and information. Stage 4 allows the vertical and horizontal integration of different government agencies sharing and processing the user’s information.

Below is an explanation of the data collected. The website has a clear indication of its purpose. It has a variety of information and links available for its users. It allows the users to explore, browse and access the data and download forms. The user can fill out the form online but then must print the completed form and send either by post or scan the completed form and send it as an attachment to an email. There is one form that is an exception to this rule. The form is a request for an exemption for garbage pick up. Users can fill out this form electronically and submit it electronically. The form is then processed and a record is made in the Municipality’s registry. The forms that are mailed either by post or email are processed and then manually entered into the computer-based register at Boden's Municipality. For users this website just provides them to access explore and browse the data.

It took three clicks or page changes to access the appropriate site. The website has some very good usability functions such as clear and understandable content. There are a variety of ways to search for information on the site, through either the search engine or different links on the site. Users coming to the site will find the information they are looking for but no further direct interaction with the service provider. Further contact is made either by telephone or email.

Feedback to the user is in the form of an approved or disapproved request 2 to 3 weeks later, both by email if the form was submitted by email and by post.

Graphics and link are clear and understandable. The forms are also very clear to see and fill out. There is no other type of multimedia available on the site.

The site’s level of interactivity is stuck on stage 2. The site has very good access to databases and published information but no direct interaction between the user and the service provider. The user has no sense that his information is being tracked. He has no way to directly input information into the system and the system has no vertical or horizontal sharing of user’s information with other agencies.
Table 5: Boden Website Interactivity Level

<table>
<thead>
<tr>
<th></th>
<th>Stage 1: Simple information dissemination / One-way communications</th>
<th>Stage 2: Request and response / Two-way communications</th>
<th>Stage 3: Service and financial transaction / Two-way communications</th>
<th>Stage 4: Integration (horizontal and vertical) / Two-way communications and inner and cross agency communications</th>
<th>Stage 5: Political participation / Two-way communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>User engagement</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Direct contact</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Identification and follow up</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Levels of communication</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>User interaction with service providers</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Table 5 represents the current interaction level of e-services based on Moon’s five stages of e-Government; its interaction with users and technical sophistication.

Here stage 1 presents simple information dissemination based on one-way communication, in which only the service provider provides information to its users. Stage 2 is request and response based on two-way communication in which the user requests information and the provider responds in some form. Stage 3 is based on services and financial transaction on two-way communication which means that the services are requested and respond by government as well as provides two-way communications in financial transaction. Stage 4 is integration (horizontal and vertical) based on two-way communications with inner and cross agency communications. Stage 5 is political participation, the two-way communication between users and government in order for users to deliver their suggestions and be heard.

The information gathered by the interview represented the current level of interaction. The site is mostly setup for one-way communications, mostly by providing users with published information. Further two-way communications at all stages is done using email first to a general email post box then to the individual service provider after initial contact and furthering of the request.
Stages 3 and 4 are not functional on this site. There are no means to do any type of financial transactions such as paying the fees for the building permit and receiving a receipt for payment, stage 3. There is no stage 4 because there is no means for the user to follow-up and track or send their request up the line in the agency or send it to another agency.

Interesting enough, is that there is a sort of political dialogue with the politician in the form of email contact. Mail sent to the general post box is forwarded to the appropriate government official for action and response. The dialogue only exists between one user and the government official. There is no forum available for discussion or for users to publish their thoughts and opinions.

Users engage themselves in the site only through email contact or later contact by telephone. Direct contact is limited to specific request by users. The only way records of contact with users or identifying users is by filling out a form and sending it in for processing. The users information is them entered into the municipality’s registry. There are no predefined rules for users to contact or engage with the service provider. New offerings of information are provided by a section on the site called news. The site does have a good presence because of its wide use for issuing building permits. It gives a feeling of relationship building between user and provider because the information provided is current and reliable.

5.1.2 General interview Impressions on Respondent A
As stated, the interview for this thesis was conducted at the Samhällsbyggnadskontoret (community building permits office). The respondent was eager and willing to help in the study.

The first part of the interview was discussing the purpose of the study and that it could also help the respondent by helping them take a more objective look at their e-services. This was followed by accessing the websites and going over each page and function on the website. It was interesting to see their reactions over the functionality of their website. For the most part they were satisfied on how the site operated but were surprised to see that the information provided was not up to their standards and could be clearer for the user. They stated, “We have taken it for granted that the information provided was always clear and up to date, now we see that more attention has to be paid to verifying what information is presented and its usability”.

The second part of the interview dealt with interactivity with the users, the website and the service provider. The respondent felt that they had a good website with good usability but acknowledged that “more could be done to make it more interactive and interesting”. The respondent did not feel the need to have multimedia functions since the purpose of the website in its present form was only to provide information. While discussing about more direct contact with the service provider and the user their reaction was to say “to what end do we need more contact, we provide what they need as far as information and forms. There is no real need to communicate with the user”. They did state that they had nothing against having that functionality and would gladly use it if needed.
The third and last part of the interview dealt with their future direction. They are all well motivated in moving forward with online transaction. They feel “it is necessary today for local government agencies to provide those transactions services” This should automate the processes and alleviate the work load for the service provider and simplify the request for the user. They are also very motivated in integration of their office with other government agencies both horizontally and vertically. They see the need for this and how it can simplify their work and that of the user. They feel that there is a lot of redundant paperwork and forms that can be eliminated by doing so thus speeding up the process and alleviating the work load for service provider and user.

5.2 Respondent B – Luleå Municipality Stadsbyggnadskontoret (City Building Permit Office)

Website: http://www.lulea.se/forinvanare/byggaochbo/bygglovrivningslov.4.6ebed23a109d954a35980004463.html

Figure 5: Luleå Municipality Stadsbyggnadskontoret (City Building Permit Office)

5.2.1 General Data on Respondent B
Luleå Municipality lies in the northern part of Sweden. Luleå has 73,000 inhabitants, making it the 25th largest municipality in the country. The population of the northern region in which Luleå is the most populous, including the neighboring municipalities, totals 168,000. Luleå is a large port of export, as well as being the economic, administrative and political center of Norrbotten – taking up a quarter of Sweden. The
commercial and industrial life has a wide base: steel and engineering industry, many IT-companies, commerce, and leisure.

The City Building Permit Office processes requests for construction - and demolitions and inspects conditions for handling of fire dangerous product, ventilation control, elevators and room adaptation's.

The municipality provides a variety of e-services to its citizens mostly by providing online information or downloadable forms. The municipality has some interest in developing its e-service capabilities. To do this they are outsourcing services for the user to get information and help from a building contractor.

The interview for this thesis was conducted at the Luleå Municipality Stadsbyggnadskontoret (City Building Permit Office). The respondents were the city architect and his assistant. They are in charge of delivering and developing e-services for the community building permits office. After contact with Respondent B and information retrieval, the respondent was acknowledged as a valid sample for the study, in the way it configured the problem being study and possessed appropriate and good potential features, regarding the aspects being studied.

Table 6: Luleå Level e-Government Maturity

<table>
<thead>
<tr>
<th></th>
<th>Luleå Levels of e-Government Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>✓</td>
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<tr>
<td>Website</td>
<td>✓</td>
</tr>
<tr>
<td>Graphs, links, navigation</td>
<td>✓</td>
</tr>
<tr>
<td>Clear text</td>
<td>✓</td>
</tr>
<tr>
<td>Search function</td>
<td>✓</td>
</tr>
<tr>
<td>Feedback</td>
<td>✗</td>
</tr>
<tr>
<td>Multimedia</td>
<td>✗</td>
</tr>
</tbody>
</table>

Table 6 shows the present of level of interaction of Luleå Municipality Stadsbyggnadskontoret (City Building Permit Office) website. The table gives a breakdown of the website’s interactive characteristic against the stages of interaction. It is based on four different interaction levels. Stage 1 is the first stage of
interaction in which the site is just has catalogue of available information for its users. Stage 2 allows users to access explore and browse the data bases. Stage 3 allows users to input the information and send that by electronically and for agencies to identify and track the users and their requests and information. Stage 4 allows the vertical and horizontal integration of different government agencies sharing and processing the user's information.

The information below is based on the data collected during the interview conducted at Luleå Municipality. The website has the clear indication of its purposes. The purpose being to provide information on all that entails building permits for Luleå Municipality. It fulfills stage 1 very well by providing a catalogue of information for the user to access. It also fulfills Stage 2 characteristics of providing access to databases of information. It provides a clear way for users to access, browse and explore the databases. This is where it stops on the level of interaction. There is no way available for the user to enter information to the site. Users can only download and print the necessary form, then fill it in by hand and mail it in for processing. This leads to Stage 3. The site provides no means for user input or for agencies to identify and track the users and their requests. User information and their request are entered into the municipality’s data registry after the request has been hand processed. Otherwise there is no tracking of user information. There is no available electronic means of vertical and horizontal sharing of user’s information with other agencies other than by emails.

On the user’s perspective they are not allow to publish any type of information or opinion. Contact with the service provider is through telephone or email. The only thing the user can do on the website is access, browse, explore the databases and download and print forms.

It took three clicks or page changes to access the appropriate site. The website has some very good usability functions and the general information given on the site is clear and understandable. The site is well constructed with clear text and links. The down side is the quality of the downloaded forms. Some forms were very clear in PDF format while others were very fuzzy. They looked like a copy of a copy. This then made the quality of the site look unprofessional.

The searching function worked properly on the site. The site provided other links to desired information.

There is no means available for the user to get any feedback through the site. Feedback is provided through the post or in special cases through telephone contact.
<table>
<thead>
<tr>
<th>Stage 1: Simple information dissemination / One-way communications</th>
<th>Stage 2: Request and response / Two-way communications</th>
<th>Stage 3: Service and financial transaction / Two-way communications</th>
<th>Stage 4: Integration (horizontal and vertical) / Two-way communications and inner and cross agency communications</th>
<th>Stage 5: Political participation / Two-way communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>User engagement</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Direct contact</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Identification and follow up</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Levels of communication</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Allow User to interact with service providers</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Table 7 represents the current interaction level of e-services based on Moon’s five stages of e-Government; its interaction with users and technical sophistication.

In this table stage 1 present's simple information dissemination based on one-way communication, in which the service provider only provides published information to its users. Stage 2 is request and response based on two-way communication in which the user requests information and the provider responds in some form. Stage 3 is based on services and financial transaction on two-way communication which means that the services are requested and respond by government as well as provides two way communications in financial transaction. Stage 4 is integration (horizontal and vertical) based on two-way communications with inner and cross agency communications. Stage 5 is political participation, the two way communication between users and government in order for users to deliver their suggestions and be heard.

The Luleå website is limited on its interaction and relationship building with its users. For the most part there is only one way communication and that is via published information from the service provider. The user is limited to the accessing and downloading the available information from the site. Limited two way communication through email is available for simple questions. The overall process for requesting
building permits is still handled through the postal system. This leaves the Luleå website closer to stage one of maturity than stage 2.

Stage 3 for service and financial transaction with two-way communications is not available. There are no means to handle financial transactions. Fees are paid through the post and receipts are also mailed through the postal system.

There is no integration (horizontal and vertical) with two-way communications between inner and cross agency communications. There is no direct contact with the processing officers. Further processing of a user’s request to another agency is done via email from agency to agency without any record available to the user.

The Luleå website for the City Building Permit Office provides no means for political participation with two-way communications. There are no links to the political officers nor are there any types of forums available for discussion or publishing of opinions.

There are no predefined rules of communications that the user must use for contact with the service provider. Users needs are identified through the mailed in building permits requests. There is no online means of collecting information from the users.

The user has no means to identify new information. There is no section available that states new information is available. Only through updates to the databases is the new information available.

There is a presence only because the site is available on the municipality’s website. Trust in the site is established because the information available on the site follows the law of the land.

5.2.2 General interview Impressions on Respondent B
The interview was conducted at the Luleå Municipality Stadsbyggnadskontoret (City Building Permit Office). The respondent was willing to help with the study but stated that “we don’t think it pertains much to us because we are starting to outsource much of the service provided”. We explained further the purpose of our research and then proceeded with the interview.

Following the procedure that we did with the first respondent, the first part of the interview was discussing the purpose of the study and that it could also help the respondent by helping them take a more objective look at their e-services. This was followed by accessing the websites and going over each page and function on the website. Upon reviewing the website, its functionality, usability, and content provided, the respondent stated “we are happy with how the websites functions at its present level. Because at this time all we want to do is provide information to the users. Later this information will be provided by an outside third party source, then we will only do the processing of the users requests”.

The second part of the interview dealt with interactivity with the users, the website and the service provider. The respondent felt that they had a good website with good usability but stated that “In near future they will have less contact with the user because all contact with the user and request for information and forms will be
handled by a third party”. Their only interest was to approve or disapprove the building permits request. They felt that information available was sufficient for the user to submit their requests. Further contact would slow down the processing of the request. The information that will be provided by the third party would be in accordance with the law of the land and would be monitored by their office to ensure information accuracy. They felt that for what they are tasked to do, that direct contact with the user was not needed nor really desired. Therefore they had decided to outsource that function.

The third and last part of the interview dealt with their future direction. They are also interested in having an online payment system in place to facilitate the processing of the users requests. They see this as a time saving factor. The vertical and horizontal integration of government agencies they see as a positive factor but see it at someone else’s responsibility and would welcome it if implemented. They see this too as a time saving factor. The over all impression was that they want to just do the processing of the request and outsource all other functions of the service provider. It seemed like they want to keep the bureaucracy but delegate the responsibility while still keeping the old guard working with some use of technology.

5.3 Respondent C – Piteå Municipality Miljö- och Byggkontoret (Environment and Building Office)

Website: http://www.pitea.se/templates/Pitea_Page_____20463.aspx?epslanguage=SV

Figure 6: Piteå Municipality Miljö- Och Byggkontoret (Environment And Building Office)
5.3.1 General Data on Respondent C

Piteå is a major town situated on the Gulf of Bothnia, 900 km north of Stockholm and 100 km south of the Arctic Circle. With 40,500 residents it makes a significant contribution to the 260,000 population of the County of Norrbotten, the largest and most northerly county in the country. Piteå Municipality stretches wide with its 310 square kilometers. There are more than 40 population centers of different sizes within the district. Piteå is progressive town and has taken its first steps towards becoming a key center for development of events and industry.

The City Building Permit Office processes requests for construction - and demolitions, environmental and health inspections. The municipality provides a variety of e-services to its citizens mostly by providing online information or downloadable forms. The municipality has some interest in developing its e-service capabilities but at the present feels comfortable with the level of services provided online.

The interview for this thesis was conducted at the Piteå Municipality Miljö- och Byggkontoret (Environment and Building Office). The respondent was the city engineer who is in charge of delivering and developing e-services for the Environment and Building Office. After contact with respondent C and information retrieval, the case was acknowledged as a valid sample for the study, in the way it configured the problem being study and possessed appropriate and good potential features, regarding the aspects being studied.

Table 8: Piteå Level e-Government Maturity

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Graphs, links, navigation</td>
<td>✓</td>
<td>✓</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Clear text</td>
<td>✓</td>
<td>✓</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Search function</td>
<td>✓</td>
<td>✓</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>Feedback</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Multimedia</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

45
Table 8 shows the present level of interaction of Piteå Municipality Miljö- och Byggkontoret (Environment and Building Office) website. The table gives a breakdown of the website’s interactive characteristic against the stages of interaction. It is based on four different interaction levels. Stage 1 is the first stage of interaction in which the site is just has catalogue of available information for its users. Stage 2 allows users to access explore and browse the databases. Stage 3 allows users to input the information and send that by electronically and for agencies to identify and track the users and their requests and information. Stage 4 allows the vertical and horizontal integration of different government agencies sharing and processing the user’s information.

The information below is based on the data collected during the interview conducted at Piteå Municipality. The website has the clear indication of its purposes. The purpose being to provide information on all that entails building permits for Piteå Municipality. It fulfills stage 1 very well by providing a catalogue of information for the user to access. It also fulfills Stage 2 characteristics of providing access to databases of information. It provides a clear way for users to access, browse and explore the databases. The site provides access to downloadable forms and some forms are able to fill in online. Regardless all forms must be printed and mailed in. There is no way available for the user to enter information to the site. Users can only download and print the necessary form, then fill it in by hand and mail it in for processing. This leads to Stage 3. The site provides no means for user input or for agencies to identify and track the users and their requests. User information and their request are entered into the municipality’s data registry after the request has been hand processed. Otherwise there is no tracking of user information. There is no available electronic means of vertical and horizontal sharing of user’s information with other agencies other than by emails.

The users of the website have no means to publish any type of information or opinion. Contact with the service provider is through telephone or email. The only thing the user can do on the website is access, browse, explore the databases and download and print forms.

It took three clicks or page changes to access the appropriate site. The website has good usability functions and the general information given on the site is clear and understandable. The quality of the downloadable forms is very good. The site is well constructed with clear text and links.

The searching function worked properly on the site. The site provided other links to desired information.

There is no means available for the user to get any feedback through the site. Feedback is provided through email, the post, or in special cases through telephone contact.
Table 9: Piteå Website Interactivity Level

| Present Configuration of Interaction based on Moons five stages of e-Government |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| **Stage 1:** Simple information dissemination / One-way communications | **Stage 2:** Request and response / Two-way communications | **Stage 3:** Service and financial transaction / Two-way communications | **Stage 4:** Integration (horizontal and vertical) / Two-way communications and inner and cross agency communications | **Stage 5:** Political participation / Two-way communication |
| User engagement | ✓ | ✓ | ✗ | ✗ | ✗ |
| Direct contact | ✗ | ✓ | ✗ | ✗ | ✗ |
| Identification and follow up | ✗ | ✓ | ✗ | ✗ | ✗ |
| Levels of communication | ✗ | ✓ | ✗ | ✗ | ✗ |
| User interaction with service providers | ✗ | ✓ | ✗ | ✗ | ✗ |

Table 9 represents the current interaction of e-services based on Moon’s five stages of e-Government; its interaction with users and technical sophistication.

In this table stage 1 presents simple information dissemination based on one-way communication, in which the service provider only provides published information to its users. Stage 2 is request and response based on two-way communication in which the user requests information and the provider responds in some form. Stage 3 is based on services and financial transaction on two-way communication which means that the services are requested and respond by government as well as provides two way communications in financial transaction. Stage 4 is integration (horizontal and vertical) based on two-way communications with inner and cross agency communications. Stage 5 is political participation, the two way communication between users and government in order for users to deliver their suggestions and be heard.

The Piteå website is very limited on its interaction and relationship building with its users. For the most part there is only one way communication and that is via published information from the service provider. The service provider prefers to have the customers come in for questions and services. The web user is limited to the accessing and downloading the available information from the site. Limited two way communication through email and telephone is available for simple questions. The
overall process for requesting building permits is still handled through the postal system. This makes the Piteå website closer to stage one of maturity than stage 2.

Stage 3 for service and financial transaction with two-way communications is not available. There are no means to handle financial transactions. Fees are paid through the post and receipts are also mailed through the postal system.

There is no integration (horizontal and vertical) with two-way communications between inner and cross agency communications. There is no direct contact with the processing officers. Further processing of a user’s request to another agency is done via email from agency to agency without any record available to the user.

The Piteå website for the City Environment and Building Office provides no means for political participation with two-way communications. There are no links to the political officers nor are there any types of forums available for discussion or publishing of opinions.

There are no predefined rules of communications that the user must use for contact with the service provider. Users needs are identified through the mailed in building permits requests. There is no online means of collecting information from the users. The user has no means to identify new information. There is no section available that states new information is available. Only through updates to the databases is the new information available.

5.3.2 General interview Impressions on Respondent C
The interview was conducted at the Piteå Municipality Miljö- och Byggkontoret (Environment and Building Office). The respondent was eager and willing to help in the study.

As with the previous two interviews, the first part of the interview was discussing the purpose of the study and that it could also help the respondent by helping them take a more objective look at their e-services. This was followed by accessing the websites and going over each page and function on the website. The respondent was very happy to go through their website with an outside observer. After an exhaustive review of the website and its functions and information provided the respondent was satisfied with its present status. They felt that “we are providing the latest information available for our users”. Additionally, they stated “we pride ourselves on the level and quality of information we provide. We take great effort to maintain all information current and up to date” This was verified by checking the latest web update and that was done one week prior to the interview.

The second part of the interview dealt with interactivity with the users, the website and the service provider. Here also the respondent felt that they had a good website with good usability but acknowledged that improvements are always welcomed if they help both the user and the service provider. The respondent did not feel the need to have multimedia functions since the purpose of the website in its present form was only to provide information and that it did very well. While discussing about more direct contact with the service provider and the user, their response was that “we always have direct contact with our users since we follow up their request with a physical visit
to the site where they plan to build and discuss all the issues concerning that particular building permit request”. As far as online contact they say that it will be welcomed because it can facilitate and speed up the process to make physical contact with the requesting user. But at present request for visiting the building sites and talking with the requester are still handled by post. Their attitude was that “online interactivity is good and welcomed but we do not want to lose the close physical relationships that we have built with the community and will always want to keep physical contact”.

The third and last part of the interview dealt with their future direction. As with the other respondents they too wanted to implement online payments for fees and other transactions. They see the need to do so in order to facilitate their job and make it easier for the user to work with the service provider. They see it as “an evolutionary step in the way government does business today”. They too are very motivated in integration of their office with other government agencies both horizontally and vertically. They see the need for this and how it can simplify their work and that of the user. They feel that there is a lot of redundant paperwork and forms that can be eliminated by doing so, thus speeding up the process and alleviating the work load for service provider and user.
Chapter 6 Data Analysis

6.1 Data Interpretation method
To present a better understanding of the data we have compared the data across all the three respondents in the case according to the conceptualized frame of reference. In order to make this data display as clear and concise as possible, the case data will be presented in an abbreviated and coded manner, in order to help obtaining a more integrated understanding of interactions.

(A, B and C will represent Boden, Luleå and Piteå Municipalities respectively)

Table 10: Boden, Lulea, Pitea Cross Respondent Analysis

<table>
<thead>
<tr>
<th>Present Configuration of Trends based on Moons five stages of e-Government</th>
<th>Stage 1: Simple information dissemination</th>
<th>Stage 2: Request and response</th>
<th>Stage 3: Service and financial transaction</th>
<th>Stage 4: Integration (horizontal and vertical)</th>
<th>Stage 5: Political participation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
<td><strong>C</strong></td>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
<td><strong>C</strong></td>
</tr>
<tr>
<td><strong>Current trends for better application tools</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Barriers observed</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Maintain site current</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>“what it does” to “what users do with it”</strong></td>
<td>✓</td>
<td>✔</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Make the website more attractive</strong></td>
<td>✓</td>
<td>✔</td>
<td>✔</td>
<td>✓</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Making site more interactive</strong></td>
<td>✓</td>
<td>✔</td>
<td>✔</td>
<td>✓</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Works with other Municipalities</strong></td>
<td>✓</td>
<td>✓</td>
<td>✔</td>
<td>✓</td>
<td>✔</td>
</tr>
<tr>
<td><strong>More interaction with users</strong></td>
<td>✓</td>
<td>✓</td>
<td>✔</td>
<td>✓</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Improve interaction with users</strong></td>
<td>✓</td>
<td>✔</td>
<td>✔</td>
<td>✓</td>
<td>✔</td>
</tr>
</tbody>
</table>
Table 10 represents the current and future trends for the Municipalities websites based on Moon's five stages of e-Government; its interaction with users and technical sophistication.

Here in this table the names of A, B and C are given to Boden, Luleå and Piteå Municipalities respectively. The mark ✓ will show that the Municipalities are currently implementing the characteristics and the mark with ✗ will show that the Municipality is not currently implementing the characteristic in future in their website. The remaining are stages in which stage 1 present’s simple information dissemination based on one-way communication, in which only the service provider provides information to its users. Stage 2 is request and response based on two-way communication in which the user requests information and the provider responds in some form. Stage 3 is based on services and financial transaction on two-way communication which means that the services are requested and respond by government as well as provides two way communications in financial transaction. Stage 4 is integration (horizontal and vertical) based on two-way communications with inner and cross agency communications. Stage 5 is political participation, the two way communication between users and government in order for users to deliver their suggestions and be heard.

The information gathered by the interview will represent the current situation and the willingness of the Municipalities to implement a more interactive website for the delivery of e-services.

6.1.1 From individual to social practice
All three municipalities acknowledge the fact that their website and the information presented on the website should have some sort of importance to the community. They are keen to publish and present downloadable information for their users. They are interested in improving two way communications with their users but vary in their approach. Boden municipality would like to have a more interactive presence with more direct communications such as scheduled time for direct contact online and discussion forums. The only restrictions they do not like or want is to have their picture published. They are afraid of retribution. Luleå municipality is aware of the technology available for closer contact with its users but chooses to outsource any type of direct help to the customer to a building contractor for question and help with drawings. Piteå municipality would like to use the new technology but still hold on to the old fashion way of doing things with more physical contact with the users. All want to implement ways of conducting financial transactions using the new technology. They all would also like horizontal and vertical integration with two-way communications between inner and cross agency communications.

6.1.2 Current trends of working, better application tools
All three municipalities are interested in working with better application tools. They are aware of the new technology available and are willing to try to implement them. Piteå municipality is a little more hesitant about having more two way communication just by technology alone. They still want to maintain very close physical contact with its users. All want the technology to help with financial transactions, vertical and horizontal integration and political involvement.
6.1.3 Barriers observed during past and the future
Barriers encountered in the past are similar to barriers that they face in the future. Among these barriers is fear of the unknown. They are not sure what benefits the new technology will provide. So they are reluctant to implement the changes. Money does not seem to be a big discouraging fact. The money is available in some form or other to make the changes. More so is the reluctance of the old guard willing to let go of the old way of doing things and accepting the new.

6.1.4 Work to maintain things current on the site
They all work hard to maintain all information current on the site, even if they are not interested in the political aspects of the site. All information and changes are uploaded and available for publishing as soon as the changes are made. They all seem to take a lot of pride in that fact.

6.1.5 Focusing on “what it does” to “what users do with it”
All three municipalities want to improve their sites to make it work better with their users. They do want their users to be more involved and be able to do more online. They all want their forms to be able to be filled online and submitted online. At this time none have the ability to do financial transaction but all are moving in that direction.

6.1.6 Things added to make the website more attractive
All want to improve the appearance of their site. They would like a more modern look and maybe some multimedia capabilities if it enhances the functionality of the site. Luleå and Piteå think that their site is okay when it’s just for downloading information.

6.1.7 Municipalities works with other Municipalities
They all work with other municipalities in one way or the other but Piteå takes the view that it is a small municipality with a little different attitude and regulations and that it is not in their best interest to work with other municipalities with regard to building permits issues and regulations.

6.1.8 Want more interaction with users on site
Boden is the only municipality that really states that it wants more interaction with its users. They want their users to be involved at all levels. They feel that the more the user is involved the less work they have to do. So they want the site to have all the possibilities for the user to be engaged and do most of the work themselves. Luleå and Piteå again differ with Boden as far as user involvement. They also differ amongst themselves. While Luleå agrees that user involvement is good they believe that the user does not always know what they want so they will be swamped with useless questions about user functionality and not about building permits. Piteå also agrees that user involvement is good but still would rather hang on to the more physical one on one contact.

6.1.9 Willingness to improve interaction with users to improve services
They all are willing to improve user interaction to improve services. They just all vary to the degree in which they are willing to go. Boden wants as much integration and interaction as possible. Luleå wants to improve interaction as long as it does not
interfere with their daily routines. Piteå accepts that new technology will help improve interaction and integration but is sadden to loose the close physical.

6.2 Empirical Findings
This research allows us to make some statements about e-government e-services at the local level that provide a better understanding of this phenomenon than is possible from reading the models.

• E-government e-service delivery is mainly an extension to the traditional ways of delivering governmental information and services, not a replacement for them.

• There does not appear to be any noticeable steps or stages in e-government e-service delivery and implementation. It seems that after an initial e-government presence at the lowest level i.e. online presences with published information, governments adopt and implement e-government e-services delivery very slowly and incrementally.

• E-government is not linear. Late adopters of e-government and the delivery of e-services do not necessarily need to start at the most basic level of e-government e-service delivery. They can and do learn from the experiences of other governments and the private sector and begin with more sophisticated offerings.

• E-government has great potential to do or be many things; many of those things cannot be predicted. Some of the potentials of e-government suggested by the models (e.g., seamlessness and e-transformation) seem not to have been developing according to the models but instead on the needs of the service provider to simplify their work.

• Technology is not likely a primary barrier to e-government and delivery of e-services, since governments are constantly gaining experience with the new technology. Organizational willingness decision maker’s opinions are factors that are more likely to heavily influence e-government application development, performance, adoption and implementation.
Chapter 7 Findings and Conclusion

In this chapter we will conclude the findings from our research question, thereby fulfilling the stated purpose of the study. In order to do so, we will reaffirm each of the research questions and answer them in separate sections, based on the research conducted. Based on the empirical data and the analysis, findings and conclusions will be drawn. We will also give overall conclusions before presenting implications for management, theory and future research.

7.1 RQ. 1 How can the current status of interactive local e-government services from the direct service provider for the delivery of e-services be described?

The conducted research indicates that there very little problems concerning financial or availability of resources to implement an interactive website model for local government for the delivery of e-services. The possibility exists with a few apprehensions. The major problem is changing attitudes, mostly by changing the old way of doing things for the new. This is followed by fear of being exposed to the public. The current status of the respondents studied in this case show that all three respondents are doing well at a level two of interaction with limited two-way communications but working toward developing and implementing online financial transaction and more horizontal and vertical integration with other government agencies.

We derive the main conclusions from the research, concerning the first research question as:

- Attitude is the driving force behind making the delivery of e-services more interactive. Some municipalities see interaction as a benefit to their municipality and its citizen. While others think that the closer the contact the more it inhibits the effectiveness of their work. At present they feel that their current status and level of interactivity fulfill the current needs of their users.
- All expressed a fear of too much exposure to the public. They like the fact of remaining somewhat anonymous to the public. Mostly because of fear of possible future retribution.
- There is concern that having a discussion forum on their site is good but that political discussion on the building permit site is better served on the municipality’s homepage or forum.
- The most interest expressed was for all forms to be able to be filled online and electronically submitted and then automatically registered into the municipality’s registry. This was followed by having the possibility to make fee payments online.
- The next issue of concern was personal information security and the issuing of electronic signature.
- Improve two way communications but keep the politics out of the scope of the website.
- It is reasonable to conclude that the possibility exists to implement a more interactive website to better improve contact with its users but with some limitations to full availability of the service provider.
7.2 RQ. 2 How can the obstacles of the direct service provider providing e-services at the local government level be described?

The conducted research indicates above that there are little obstacles presented today to implement a more interactive site. The financial resources are available and so is the technology. The strongest obstacle was a willingness to change the old way of doing things, maintaining the status quo. All municipalities expressed interest and willingness but with reservations. The strongest reservation was too much exposure. This was followed by fear of turning the site into a political discussion forum.

We derive the main conclusions from the research, concerning the second research question as:

- Research gives bases to the finding that all the municipalities are aware of the need to be more interactive with their citizen.
- Based on the findings of the research most of the municipalities researched are making some progress of making their sites more interactive.
- The research also shows that the level of interactivity being offered varies within each municipality. While one municipality chooses to be very interactive, another chooses to outsource any direct contact with the public. Still yet the last municipality will implement website interactivity but still choose to hold more physically direct contact with its users.
- It is reasonable to conclude that there is a strong interest and awareness to implement an interactive website for the delivery of e-services at the local level of government. Though the willingness comes with some reservations concerning too much expose to the public.

7.3 Overall conclusion

The purpose of this research was to provide better understanding of the current status and obstacles of an interactive website can be described when providing e-services at the local government level. We have conducted an extensive analysis and managed to collected sufficient information in order to provide comprehensive answers to the research questions, therefore considering the results satisfactory.

7.4 Implications

In this final section of the thesis, we will provide implications for managements i.e. managers and practitioners who work with providing e-services to government agencies. We will conclude the thesis with recommendations for researchers who can use this thesis to further creating a deeper understanding in the field of e-services.

7.4.1 Implications for management

The following are the main implications for managers and practitioners originated from the research conducted:

- Delivery of e-services for local government services is far from being mastered by the service providers. It’s particularly lacking attention on making the services more interactive.
• E-services delivery is present but the sophistication is still in its infancy when used by local governments. Most local governments only provide published information and downloadable forms. Mostly one way communications.

• There is a strong need to develop and implement more effective two way communications between the provider of e-services and the user.

• Because users are demanding more and better e-services the service provider needs to be better informed and educated on the benefits of the new technology and how best to use it for its own purpose.

• Small differences in opinions can make a big difference in the acceptance and implementation of e-services.

• Those working to provide e-services should be aware of the difficulties of change from the old guard when implementing new changes. They are usually the decision makers and working with them will make the transition smoother.

• When providing e-services not only take into consideration how does the direct service provider want to offer their services, i.e. how much contact do they really want with the public.

7.5 Recommendations for further research

Today's local governments are striving to improve the delivery of their services to their constituents. A major force in the delivery of these services is through the web. Local governments are going through great growing pains to make the delivery of these electronic services more user friendly and interactive. At the current state the delivery of these services are in their infancy when compared to the delivery of e-services in the private sector. Users of these government e-services are used to more interactive and useful service delivery. They are demanding that their local government can provide the same level of quality and interaction on the delivery of these services.

Research in the area of e-services delivery should among other things study the effects of personal opinions and regional differences when implementing interactive e-services. While today most research focuses on the delivery of the technology not everyone is ready to accept big rapid changes no matter how well intended the change is. The adoption of new changes is still dependent on the individuals using and providing the services. Careful consideration must be taken to understand their sensibilities and attitudes.

Future research into local e-government e-services should continue the examination of local governments that have adopted e-government. While at the same time examine local governments that have not adopted to learn what has kept them from adopting and implementing interactive e-services. The data for this analysis came from the responses of the local governmental officials directly responsible for the delivery of e-services. It would also be important in future research to examine citizen uptake and use of e-government. How and why do they come to the website? What are their needs and desires? And why do some people not use the e-services already provided? Finally, future research should work to understand the maturity and sophistication of e-government offerings (not all services are equal or equally desired). Each of these added research areas will further our understanding of e-government and e-services delivery in significant ways.

Bertucci, G. United Nation Global E-government Readiness Report, From E-government to E-inclusion, 2005


E-Government in Sweden - June 2005, European Communities 2005


Löfstedt, U. 2005, e-Government – Assessment of Current Research and Proposals for Future Directions, Department of Information Technology and Media Mid Sweden University


Peacey, B (2002), Socio-Economic Impacts of ICT E-government@ the Local Level – A Discussion Paper, Department of Sociology and Anthropology University of Canterbury


Rose, J. Democracy Squared, Designing On-Line Political Communities to Accommodate Conflicting Interests, Scandinavian Journal of Information Systems, 2005


Sakowicz, M., 2003 Electronic Promise for Local and Regional Communities, LGB Brief, Winter 2003, p. 24-28


UN Global E-government Readiness Report, From E-government to E-inclusion, 2005


Appendix

**Interview Guide**

Name: _________________________________________________
Position: _______________________________________________
Contact Information: ______________________________________

Questionnaire for providing e-services by means of a social interaction websites

**Present website configuration**

1. Is the site easy to find?
2. Is there a clear Indication of purpose?
3. What exists in the site?
4. What can the user do?
5. Do you know who visit the site and why?
6. First impression of site, Is it visually appealing?
7. Simplicity, graphics, links, downloads navigation.
8. Is text clear and understandable?
9. Is there a search function?
10. Can the user get feedback?
11. How does the problem solver get the data? Is the data supplied by some source or request to supply?
12. If data requested to supply then what is the process for it?
13. Can critical information easily and quickly be found?
14. What type of Multimedia exists?
15. What is the current navigation scheme?
16. How long does it take to fulfill the request what is the timeline for that, and how do you organize it?

**Interaction**

17. How do users access the site?

18. How users can engage in the site?

19. Is there direct contact with the processing official?

20. How do you identify and keep contact with the user?

21. Is there are pre-defined rules for users to know and understand before get in the website?

22. What is the current way to identify the people’s information or needs?

23. Can users contribute how to communicate? Can user define any different way for communication with the service provider?

24. Do users interact with the service providers?

25. What level of accessibility is recommended for your site and what level of accessibility is been offering?

26. What is the current procedure to organize the contact meeting and what do you think how to make it more improve and convenient?

27. Is there a means for a discussion forum?

**Relationship Building**

28. How does the site maintain the trust and relationship of its users?

29. Is there is any special design for User Interface for interaction and interface?

30. How can users interact with the service providers?

31. What are the things which are undertaken in order to develop the user’s interest?

32. Do you want close contact?

**User Input**

33. What can the user do?

34. What type of data collection exists?
35. If data input is supplied by users then what is the process?
36. Is there any alternate solution for data collection?
37. Can users contribute how to communicate? Can user define any different way for communication?
38. Can user provide content and can define new mode of communication?
39. How much control will the users have about his input?
40. Is there is any design for user generated contents?

System Monitoring
41. Is there is any monitoring system for the performance of the system?
42. How could you measure the success of the site and if the site is not working successfully then how would you make it work properly?
43. Is there a system to monitor user feedback?
44. What type of format is the system running on?
45. Does the system monitor interaction?

Trends
46. Which is environment do you choose to work in?
47. What are the trends, on which you are working, is there is a better application tool?
48. What do you see as the future?
49. What are the barriers you observed during past and the future?
50. What type of work and what do you do to maintain the things in the site?
51. Can the site change from focusing on “what it does” to “what users do with it”?
52. Are there any boundaries if yes then what are those boundaries on which you are working?
53. How will this change the way you work?
54. What do you think what should be added to make the website more attractive?
55. What are the economic implications for your office to change the site to a more interactive site?

56. Do you think other offices in the Municipality would be interested in making their site more interactive?

57. Does your Municipality work with other Municipalities, for example sharing web resources?

58. Is there an advantage of working together with other Municipalities?

59. Do you want to have more interaction with the users of your site?

60. Which mode of interaction do you prefer or can help improve your services?

61. What are the percentages of contact with the users, for example, telephone, email, personal meeting, forums etc?