Public e-Service Stakeholders

A study on who matters for public e-service development and implementation

Ida Lindgren
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Public e-Service Stakeholders
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I was raised up believing I was somehow unique
like a snowflake, distinct among snowflakes
unique in each way you can see

and now, after some thinking, I'd say I'd rather be
a functioning cog in some great machinery
serving something beyond me

Fleet Foxes

“Helplessness Blues”
ABSTRACT

Public e-services are progressively used as a means for governmental agencies to interact and exchange information with citizens and businesses. These services are typically Internet-based and are meant to fulfill the three overarching objectives of e-government; (1) to improve citizens’ interactions with the government, (2) to make governmental organizations more efficient and effective, and (3) to increase the transparency of government and lead to a more democratic society. The work presented in this thesis concerns how to identify those who affect, or are affected by, the development and implementation of public e-services; hence public e-service stakeholders. The underlying assumptions are that public e-services are an essential part in realizing the goals of e-government, and that public e-services affect a whole range of different stakeholders who, ultimately, determine the usefulness of public e-services in various ways. The argument put forth is that in order to develop public e-services that can put the goals of e-government into practice, we must first understand more about public e-services and who the stakeholders are.

The research is conducted according to the qualitative and interpretive research tradition. Based on theoretical and empirical work, conducted and analyzed using a hermeneutic approach, a conceptual framework is presented. The basis of the framework is laid by extracting, structuring, and interrelating concepts, models and methodologies concerning public e-services, public e-service stakeholders, and stakeholder involvement. The empirical foundation of the thesis, an interpretive case study, covers the development and implementation of a public e-service at a Swedish public sector organization. Data collection techniques include interviews, participatory observation, an open-ended questionnaire, and project documentation.

The thesis presents two main knowledge contributions; 1) lessons learned from a public e-service development project involving multiple stakeholders; and 2) a conceptual framework for identifying and characterizing public e-service stakeholders. The framework can also be used to understand how stakeholders can be involved in the development and implementation of a public e-service. The knowledge contributions of the thesis are directed towards researchers and practitioners interested in advancing their understanding of what constitutes a public e-service, how the development of a public e-service is shaped by the stakeholders involved in the development process, and how the implementation of a public e-service can affect the life and work of different stakeholders. The aspiration of this work is to inform multi-relational development and implementation of public e-services and move one step closer to the realization of the overarching goals of e-government.
Information systems development is a discipline within the faculty of arts and sciences at Linköping University. Information systems development is a discipline studying human work with developing and changing computer-based information systems in organisational settings. It includes theories, strategies, models, methods, co-working principles and tools concerning information systems development. Different development/change situations can be studied as planning, analysis, specification, design, implementation, deployment, evaluation, maintenance and redesign of information systems and its interplay with other forms of business development. The discipline also includes the study of prerequisites for and results from information systems development, as e.g. studies of usage and consequences of information systems.

This work, *Public e-Service Stakeholders – A study on who matters for public e-service development and implementation*, is written by Ida Lindgren, Linköping University. She is also a member of the research group VITS. She presents this work as her PhD dissertation in Information Systems Development, Department of Management & Engineering, Linköping University.

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PART I

RESEARCH SCOPE AND APPROACH
Chapter 1: Introduction to the Thesis

1. INTRODUCTION TO THE THESIS

Public sector organizations are progressively using electronic services (public e-services) to interact with citizens in order to increase efficiency and quality of public services. The work presented in this thesis concerns how to identify those who affect, or are affected by, the development and implementation of public e-services; hence public e-service stakeholders. This chapter gives a brief account of the motivation for the work presented in this thesis, the research aim and questions, the outline of the thesis, its knowledge contributions, target audience and delimitations.

1.1. Background and problem description

Since the 1960s, information systems are used as means for transforming governmental organizations (Lenk, 2002). Part of this transformation involves a transition from manual and paper-based work procedures to digitized ones. Information is shared across governmental agencies using interoperable systems. Face-to-face and telephone-based encounters with citizens and businesses are, to some extent, replaced by on-line services through which citizens and businesses can help themselves to public information and services. The organizational changes of government involving information systems and the Internet has been going on for quite some time, but has been given increased attention and importance during the last decade under the label electronic government (henceforth called e-government). E-government initiatives are often associated with the implementation of electronic services (public e-services); as a matter of fact, public e-services and e-government are often treated as synonymous terms in both research literature and practice. In this thesis, these are however seen as separate, but interrelated, concepts and phenomena.

Public e-services are typically Internet-based services through which citizens and businesses can interact and exchange information with governmental agencies. These services are seen as means to fulfill three overarching objectives of e-government; (1) to improve citizens’ interactions with the government, (2) to make governmental organizations more efficient and effective, and (3) to increase the transparency of government and lead to a more democratic society. The first objective involves increasing
citizens’ access to public information and improving the citizens’ means for interaction with governmental agencies (European Commission, 2011; Ministerial Declaration on eGovernment, 2009). The second objective involves reducing the administrative burden and improving organizational processes, meaning that e-government not only includes the use of information technology in government, but also new ways of thinking about organizations and processes. For this second objective, the aim is to change behaviors of employees working in government so that public services are delivered more efficiently to the people who need them (European Commission, 2011). The third objective involves strengthening transparency of government and supplying means for involvement of stakeholders in policy processes; something that, in turn, is considered to lead to a more democratic society (Ministerial Declaration on eGovernment, 2009). To summarize these objectives, public e-services are thus turned both outwards, toward the citizens, and inwards, toward governmental administration and organization.

Designing and implementing a public e-service that fulfills its intended purposes has proven difficult (Jupp, 2003; Goldkuhl, 2007; Persson, 2009). The research literature testifies of difficulties regarding designing and implementing public e-services that citizens want to use (Angelopoulos, Kitsios, Kofakis & Papadopoulos, 2010). A reoccurring problem with public e-service implementation seems to be an imbalance between the supply and demand of the e-service (Axelsson & Melin, 2009; van Dijk, Peters & Ebbers, 2008), meaning that public e-services are developed even when there is no perceived need for them amongst the intended users (Persson, 2009). Others have illustrated how public e-services have involved unforeseen consequences for public sector employees (Giritli-Nygren, 2009a). In addition, public e-services can be understood as information systems, and as such, the implementation of public e-services is accompanied by the same challenges that go along with the implementation of most information systems. An example of such difficulties concerns user resistance. Studies of information systems implementation have illustrated users’ reluctance to use new systems and resistance towards changes in working routines and processes (e.g., Hirschheim & Newman, 1988; Lapointe & Rivard, 2005; Leonardi, 2009). There have been numerous attempts to explain reasons behind such resistance for IS implementation (Keen, 1981; Kim & Kankanahalli, 2009); some argue that reluctant groups are afraid of new things (Joshi, 1991; Marakas & Hornik, 1996), and others state that resistance stems from fear of losing power, freedom of action, or influence (Markus, 1983; Barley, 1986).

Based on the difficulties related to public e-service development and implementation, many scholars have identified a need for more systematic analyses of the various actors who are affected by the development of public e-services. When analyzing the various actors involved, there is however a trend in the e-government literature to characterize the people affected as being either government or citizens (Flak, Sein & Sæbø, 2007). Initially, e-government initiatives focused mainly on the government, as a general actor, and the improvement of governmental processes and services from an internal perspective (Bertot & Jaeger, 2006). As a reaction to this narrow focus, much e-government research
has come to emphasize the role of the external actors of e-government, i.e., the citizens. During the last decade, considerable research has been devoted to the study of public e-services (Dawes, 2009) and the changed relationships between governmental agencies and citizens brought about by the implementation of e-services, (e.g., Ancarani, 2005; Goldkuhl, 2007). In order to open up these two categories, stakeholder theory (Freeman, 1984) has been suggested as a useful framework for understanding actors involved in e-government (Reinwald and Kremmergaard, 2012; Flak and Rose, 2005; Scholl, 2001; 2004), and hence also in public e-service development.

1.1.1. Stakeholder theory in e-government research

Stakeholder theory was first presented by Freeman (1984) as a set of managerial principles for acknowledging the various actors affected by an organization’s objectives. Over time, and through innumerable applications, stakeholder theory has evolved in various directions and is now perceived as a framework from which theories regarding stakeholders can be derived when applied and combined with other theories (Freeman, Harrison, Wicks, Parmar and de Colle, 2010). The public sector in general and e-government in particular, is one such application area. Stakeholder analyses are occasionally used in the public sector and in e-government research. Often, however, stakeholders are taken for granted (Tennert & Schroeder, 1999) or the scope of the stakeholder analysis is set too narrowly (Flak, Sein, & Sæbø, 2007). In 1999, Tennert and Schroeder (1999) argued that how to conduct stakeholder analysis in the public sector is not well defined methodologically. They argued that it often is assumed that stakeholders are already known, or that stakeholders have already self-selected themselves to be involved in the process. It is also assumed that those who have self-selected are representative for all stakeholders’ interests. More recently, Flak and Rose (2005) state that much government-focused research assumes too easily that the interests of government on a managerial level, also represent the interests of other stakeholders. This is clearly visible in the public e-services literature, in which stakeholders other than the citizens and the top-level of government are marginalized. Hence, the literature testifies of a simplistic treatment of stakeholders (Flak et al., 2007; Scholl, 2004; Tennert & Schroeder, 1999). Further methods are needed for identifying other stakeholders than those who are obvious, or have volunteered to be part of the process, in order to get a fuller understanding of who the stakeholders are. Such understanding can be used to assess how these stakeholders affect and are affected by the organization or issue at hand.

Furthermore, there seems to be a ‘silence’, both in practice and research, concerning how stakeholders on the lower levels of government are affected by e-government (Mörterberg & Elovaara, 2010) and public e-services, and how these stakeholders could inform the development of such services. Dividing public e-service stakeholders into two overarching categories conceals many of the stakeholders affected by public e-services; stakeholders that influence the development, implementation, maintenance, and use of public e-services in various ways (Axelsson, Melin & Lindgren, 2010; Söderström,
Aggestam & Holgersson, 2010). An important aim of this thesis is therefore to lay the foundation for a structured and deliberate *public e-service stakeholder identification* that goes beyond the obvious general stakeholders of public e-services.

### 1.1.2. Identifying and characterizing stakeholders

In this thesis, not only the identification of stakeholders is addressed, but the *characterization* of these stakeholders. Characterizing stakeholders refers to the act of describing and relating the stakeholders to each other as they are likely to have different characteristics, and some are likely to be more important than others in relation to a specific public e-service. This assumption builds on the idea of stakeholder *salience* (Mitchell, Agle & Wood, 1997). The notion of stakeholder salience is a significant contribution to stakeholder theory and is widely used. The basic argument is that not all stakeholders are equal; some stakeholders matter more than others, and thus need more attendance than others. A stakeholder’s salience is determined using three attributes; power, legitimacy and urgency. But, even with the help of Mitchell et al.’s (1997) salience attributes, it is not obvious how to identify relevant stakeholders; the typology more or less requires that potential stakeholders are already known before the salience analysis can begin. In this thesis, a guide for identifying potential public e-service stakeholders based on public e-services characteristics is formulated as an initial step of stakeholder identification and characterization.

### 1.1.3. Stakeholder involvement

Identifying and characterizing public e-service stakeholders must be done for some specific purpose. In this thesis, stakeholders are identified and characterized in order to investigate stakeholder involvement and influence on public e-service development. In addition to identifying stakeholders, some stakeholders need to be *involved* in the development of public e-services in order to assure the knowledge and information needed for public e-service development and implementation, and to gain acceptance for and use of e-services (Axelsson et al., 2010). Within the Scandinavian IS tradition (Bansler, 1989; Ehn, 1993; Mathiassen and Nielsen, 2008), the importance of involving future users in system development is stressed. It has been illustrated again and again how user involvement in the development of information systems is necessary in order to design systems that meet the requirements of the users and acquires user acceptance (Heeks, 1999; Damodaran, 1996). Although the evidence for the benefits and effectiveness of user involvement is sometimes unclear and contradictory (e.g., Ives & Olson, 1984; Subramanyam, Weisstein & Krishnan, 2010), there is more or less consensus in the IS research community on the link between user involvement and successful information systems. Still, studies repeatedly report on system development projects in which involvement has not taken place, resulting in systems with e.g., low usability, implementation failures, and economic losses. We know that involvement is important, but when it comes down to a practical level it is far from straightforward how this involvement should be understood and organized. Also in the e-government field, both in
research and practice, user-driven development is promoted (e.g. Millard, 2011; E-delegationen, 2012), meaning that the development of e-government initiatives should be guided by the needs of the users. But, user-driven development of public e-services seldom seems to make it past the rhetorical level (Lindblad-Gidlund, 2012). When it is practiced, difficulties concerning the incentives and organization of involvement have been reported (Axelsson et al., 2010; Hallqvist, 2012), e.g., regarding finding suitable representatives to involve (Axelsson & Melin, 2007). Interestingly, user involvement, as discussed in the general IS discourse, is not as frequently addressed in the e-government context (Karlsson, Holgersson, Söderström & Hedström, 2012). In this thesis, stakeholder theory and theory on user involvement are combined in order to better understand how stakeholders can be involved in the development of public e-services, and to illustrate how issues regarding involvement can inform our understanding of stakeholder salience.

1.1.4. What is the problem?

The risk for any e-government initiative, including the implementation of a public e-service, to fail is high (Heeks, 2006). This thesis builds on the assumption that overlooking stakeholder analyses can lead to exclusion of important stakeholders, on whom the success of the e-service depends (Axelsson et al., 2010; Scholl, 2004). In order to improve current work procedures regarding the development of public e-services, we must first find ways of improving our understanding of the link between public e-services and their stakeholders. A conclusion that can be drawn from the account given of public e-service stakeholders so far is that the current understanding of stakeholders in e-government seems insufficient to inform how to identify, characterize and involve stakeholders in the development of public e-services. Further knowledge and understanding of public e-service stakeholders is needed.

In sum, the work presented in this thesis aims at laying the foundation for a structured and deliberate public e-service stakeholder identification and characterization that goes beyond the obvious general stakeholders of public e-services. A guide for identifying potential public e-service stakeholders based on the characteristics of public e-services is formulated as an initial step of stakeholder identification and characterization. Considering that identifying and characterizing public e-service stakeholders must be done for some specific purpose, the work presented in this thesis focuses on stakeholder identification and characterization for the purpose of investigating stakeholder involvement in development and implementation of public e-services. The managerial perspective promoted in stakeholder theory is insufficient for discussing the wider, democratic, aims of public e-services. Therefore, theory on user involvement is integrated in this work in order to better understand how stakeholders can be involved in the development of public e-services. This, in turn, illustrates how issues regarding involvement can inform our understanding of stakeholder salience.
1.2. **Research aim and question**

Following on the account given above, the underlying assumptions of this thesis are that 1) **public e-services** are an essential part in realizing the goals of e-government, and 2) that public e-services affect a whole range of different **stakeholders** who, ultimately, determine the usefulness of these public e-services in various ways. The argument put forth in this thesis is that in order to develop public e-services that can put the goals of e-government into practice we must first understand more about public e-services and who the stakeholders are. Identifying public e-service stakeholders is not straightforward, and therefore, the research question posed in this thesis is formulated as follows:

*How can stakeholders of a public e-service be identified, characterized, and involved in order to inform the development and implementation process of that particular public e-service?*

For the sake of linguistic flow, the question has been formulated as one sentence, but in order to understand the aim of this thesis, the question can be broken down into two parts. The first half of the question – *How can stakeholders of a public e-service be identified, characterized, and involved* – constitutes the main focus of this thesis. The focus of the work presented here is on how to determine who the stakeholders are (identify) and how to describe and distinguish them from one another (characterize). As discussed previously, the identification and characterization of stakeholders cannot be done without a particular purpose in mind. In this thesis, the identification and characterization of stakeholders is guided by the aim of investigating in what ways stakeholders can be involved in the development and implementation of public e-services. Involvement of stakeholders is treated as a means for 1) improving social relationships, 2) increasing workplace democracy, 3) facilitating acceptance of the up-coming e-service, and 4) ensuring information that can help those responsible for the public e-service to make informed decisions. This, in turn, reveals from whose perspective the research question is asked; namely from the project management’s perspective, as public e-service development typically is organized in the shape of projects.

The second half of the question – *in order to inform the development and implementation process of that particular public e-service?* – sets some delimitations of the scope of the question. For those responsible for the public e-service, stakeholders are indeed important to take into account during all phases of a public e-service’s life cycle, but in this thesis the scope has been limited to the development and implementation phases of public e-services.

In order to address the research question, the thesis aims at formulating a **conceptual framework** for understanding how public e-service stakeholders can be identified, characterized and involved. The conceptual framework is generated through a hermeneutic approach in which both theoretical and empirical work informs the structure and content of the framework. The basis of the framework is laid by extracting, structuring, and interrelating the main concepts, models and methodologies concerning (1) public e-services, (2) public e-service stakeholders, and 3) stakeholder involvement.
Briefly put, the conceptual framework is presented in two versions in this thesis. First, a provisional version is presented after the presentation of the theoretical foundation of the thesis. This version of the framework is then used to analyze an interpretive case study covering the development and implementation of a public e-service at a Swedish public sector organization. This analysis is done in order to test the framework’s applicability and utility, and results in a refined version of the conceptual framework. The mode in which the framework is presented in the text may deceive the reader to believe that the work was sequentially and deductively conducted. Therefore a more elaborate account of the abductive and iterative nature of this work is presented in the following chapter, covering the research approach.

1.3. Outline of the thesis

This thesis is organized in twelve chapters (see Figure 1.1), structured in four thematic parts.

I. Research Scope and Approach
   1. Introduction to the Thesis
   2. Research Approach

II. Theoretical Foundation
   3. Public e-Services
   4. Stakeholder Identification and Characterization
   5. Stakeholder Involvement
   6. A Provisional Conceptual Framework

III. Empirical Foundation
   7. The Anonymous Exams Case Study
  10. Lessons Learned from the Anonymous Exams Case Study

IV. Discussion and Conclusions
   11. Public e-Service Stakeholder Framework
   12. Conclusions and Future Research

Figure 1.1: An overview of the outline of the thesis
• **Part one: Research scope and approach**
  The first part of the thesis introduces the scope of the research (chapter 1) and the research approach applied (chapter 2).

• **Part two: Theoretical foundation**
  The second part contains three theoretical chapters, covering public e-services (chapter 3), stakeholder identification and characterization (chapter 4), and stakeholder involvement (chapter 5). This part of the thesis is concluded with a fourth chapter summarizing the theoretical foundation into a provisional conceptual framework (chapter 6).

• **Part three: Empirical foundation**
  In the third part of the thesis, the interpretive case study is discussed. After an introductory chapter on the case study (chapter 7), the provisional conceptual framework put together in the second part is applied to the empirical case study (chapter 8 and 9). This part of the thesis is concluded with a chapter on lessons learned from the case study (chapter 10).

• **Part four: Discussion and conclusions**
  The last part of the thesis discusses and concludes the work presented in the thesis. First, a revised version of the Public e-Service Stakeholder Framework is presented (chapter 11). Last the results of the study, the quality of the work, and implications for future work are discussed and concluded (chapter 12).

1.4. **Knowledge contributions**

The uttermost goal of any research endeavor is to generate new knowledge. The knowledge contributed can be of various forms and character, and is generally seen as the result of addressing the research questions posed. The types of knowledge represented in this thesis can be understood as descriptive, explanatory, prescriptive, critical and normative (Goldkuhl, 2011). Descriptive knowledge can be understood as knowledge aimed at describing and classifying phenomena. Explanatory knowledge seeks to explain grounds, reasons and prerequisites for the given phenomenon. Prescriptive knowledge often includes some guidelines or advice for action. For this reason, prescriptive knowledge can be understood as methodological knowledge on how to do things. Critical knowledge seeks to question and scrutinize a phenomenon, often based on a set of values. Last, normative knowledge refers to knowledge about the desirable; including values, goals, preferences and visions (Goldkuhl, 2011).

The theoretical foundation of the thesis (part two of the thesis) results in a provisional conceptual framework aiming at theoretical refinement by contributing with descriptive and explanatory knowledge on the phenomenon called public e-service, the stakeholder concept, and stakeholder involvement. When put together, the framework can be
understood as a prescriptive knowledge contribution, as it outlines a structure for how to analyze empirical data in order to identify, characterize, and involve public e-service stakeholders.

In the third and empirical part of the thesis, the provisional framework suggested in the previous part is used to analyze textual descriptions of an extensive interpretive case study. The analysis aims at contributing with descriptive, explanatory, prescriptive, and critical knowledge on how stakeholders in public e-service development can be understood and described. From the interpretive case study, some prescriptive and normative 'lessons learned' are extracted and presented.

In the last part of the thesis, insights from the empirical and theoretical work of the thesis are discussed, resulting in a revised version of the conceptual framework. In relation to the framework, some prescriptive knowledge on how to use the framework and for what purposes is presented. Finally, the research question is addressed and concluded. These final chapters of the thesis contribute with some prescriptive statements regarding how to understand and investigate stakeholders in public e-service development. In this final part of the thesis, all knowledge contributions discussed here will be re-addressed and elaborated on.

1.5. Target audience

This thesis is directed towards researchers and practitioners interested in advancing their understanding of what constitutes a public e-service, how the development of a public e-service is shaped by the stakeholders involved in the development process, and how the implementation of a public e-service can affect the life and work of different stakeholders. The aspiration of this work is to function both as a descriptive and prescriptive guide for how to understand public e-services, public e-service stakeholders, and the linkages between them. Also, those working with IS development in general and who struggle to determine and understand the importance and impact of stakeholders in relation to any information system might find the logic of this work useful in their work. In addition, the people who generously let me take part of their work during the empirical data collection are part of the intended target audience of this thesis. It is my hope that they will find parts of the thesis useful in their understanding of IS development and future work of this kind.

1.6. Delimitations

A researcher’s interests can be divided into foreground and background, where the foreground represents the main interest and the background represents the context in which the main interest is particularly relevant. The foreground of this work is represented by the characterization of public e-services, and the identification and characterization of public e-service stakeholders. The background, in which the focused issues become relevant, is made up by e-government in general, system development, and user involvement. For this thesis, the implication of this division is that although e-
government, system development, and user involvement is continuously addressed, they are so only on the general level. For example, the importance of user involvement is taken somewhat for granted, meaning that purposes and methods for user involvement are not discussed in detail.

Concerning the subjects put in the foreground, several delimitations have been made. In this thesis, the focus lies on electronic services in the public sector, as understood from an IS perspective. Much is written on public e-services by researchers in other research fields, but I have chosen to focus on literature produced by IS-related researchers. Therefore, I have included only some theory from the e-commerce/e-business fields of research; i.e., from the traditional management literature focusing on e-services. Similarly, I have only included a handful of references from the public administration field, although it could be argued that it is an important research field for understanding the context of the public sector. The peculiarities of the public sector, in comparison to the private sector, are however addressed in publications on which this thesis is build (see Lindgren & Jansson, 2013; Jansson & Lindgren, 2012).

Regarding the choice of theoretical lens for understanding those involved with public e-service development, I have chosen stakeholder theory (Freeman, 1984). There are, of course, other theoretical frameworks that can be applied when wanting to understand issues of this kind, e.g. Actor Network Theory (e.g. Law, 1992). Stakeholder theory is however widely applied in most social sciences research fields and has been recognized and acknowledged by several scholars in the IS and e-government fields. The growing interest for stakeholder theory in e-government research (e.g. Angelopoulos, et al., 2010; Hellang, Flak & Päivärinta, 2012; Reinwald & Kraemmergaard, 2012) reinforced this choice. In the empirical case study, I have focused on internal stakeholders within the public sector organization implementing a public e-service. External stakeholders, such as citizens and businesses, are also addressed but remain partly black-boxed in this work as this group has already gained considerable attention under labels such as the digital divide (e.g., Helbig, Gil-García & Ferro, 2009), e-participation (e.g., Kamal, 2009), and e-democracy (e.g., Grönlund, 2003).
Chapter 2: Research Approach

2. RESEARCH APPROACH

In this chapter, the research approach is addressed by presenting (1) the research process, and then discussing (2) the philosophical assumptions underlying the work presented in the thesis, (3) the research method, (4) data collection techniques, (5) data analysis approaches, and (6) the logic of the written account of the work (the thesis).

2.1. Introduction

This is a doctoral thesis that builds on and contributes to Information Systems (IS) research. IS research emerged in the 1960s (Ehn, 1995; Davis, 1991; Goldkuhl, 1996). In Scandinavia, Börje Langefors founded the field originally called Information Processing (Administrative Data Processing). Langefors asked the question: “How can data inform and how can data processing contribute to information processing?” (Ehn, 1995, p. 159) and formulated a theory of information through data – the infological approach. According to the infological approach, information processing is not only dealing with a machine and data, but with the contextual use of this machine. Langefors’ ideas were radical at the time and are fundamental to the IS discipline. Nowadays most researchers in Scandinavia refer to the field as Information Systems. In this thesis, the Swedish concept Informatik (Ehn, 1995; Goldkuhl, 1996) is treated as being equivalent to Information Systems. Having to do with the contextual use of information technology and information systems, IS origins, but is different, from Computer Science (Davis, 1991; Dahlbom, 1996). Although there are similarities between the two, there are essential differences between computer science and IS, such as difference in subject matter, research methods, underlying disciplines, and users. The IS field differs from computer science “by defining its subject matter, information technology, as a social phenomenon” (Dahlbom, 1996, p.45). IS research can be described as “an artificial science with the intertwined complex of people and information technology as its subject matter” (Dahlbom, 1996, p.29). In short, IS research focuses on the phenomena that emerge when technological and social systems interact (Baskerville & Myers, 2002). In this thesis, information technology is perceived as a social

[325x646]Chapter 2: Research Approach

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phenomenon, and the contextual development and use of a particular type of information technology is in focus.

To state that this thesis contributes to IS research says something about the design and content of the research presented in this thesis, but not all. Miles and Huberman (1994, p.4) point out that “[t]o know how a researcher construes the shape of the social world and aims to give us a credible account of it is to know our conversational partner”. A thesis can, indeed, be viewed as a mode of scholarly communication (Huff, 1999). With the help of this thesis, I am trying to get a message across to the audience of this work. In order to understand the motivation of this work, its inherent logic, and how to judge its quality, its audience must know something about me as a researcher, my view on knowledge, and in what ways I believe that knowledge can be achieved. In this chapter, I first present the journey I have undertaken in order to produce this thesis. Thereafter, I use Myers’ (2009) model of qualitative research design (see Figure 2.1) to structure and clarify the research design of the work presented in this thesis.

The model of qualitative research design (Figure 2.1) is read from the bottom up and indicates that the foundation of all research is the researcher’s philosophical assumptions. Furthermore, the chosen research method, data collection technique, data analysis approach, and mode of presentation will determine the shape of the research, what contributions it can bring, and how it can be evaluated.

The short version of my standpoint can be presented as follows; the work presented in this thesis is conducted according to the qualitative research tradition and is built on interpretive assumptions of the world. Two research methods have been used in order to address the research question posed in this thesis; 1) the formulation of a conceptual framework, and 2) case study research. For the theoretical foundation of the conceptual framework, hermeneutic literature reviews have been conducted. For the case study, data
Chapter 2: Research Approach

has been generated using mainly face-to-face interviews and participatory observation, but an open-ended questionnaire and documents have also been used to generate supplementary data. The data have been analyzed using a hermeneutic approach. In the subsequent parts of this chapter, the reader interested in the details finds the more elaborate account of the research design.

2.2. The research process
Like many IS researchers, I have an interdisciplinary background. This background has shaped the perspectives applied, the questions posed, the methods used; in short, the research process. In this section, my research process, of which this thesis is the final product, is briefly described in order to illustrate how various decisions were informed and how these decisions shaped the work presented in this thesis.

2.2.1. The background and context
In order to illustrate the background and context of the work presented in this thesis, Figure 2.2 presents my research process in the shape of a timeline. The left side illustrates empirical work. To the right, the theoretical focus, in broad terms, is illustrated. As is illustrated on the time line in the middle, my doctoral studies have been paused twice due to extensive parental leaves.

After finishing a Master in Cognitive Science, I began my doctoral studies at Linköping University in 2005. At that point, I was a PhD-student in Industrial Ergonomics. I worked in a research project in which I investigated dimensions of cultural diversity that can pose barriers to efficient cooperation in multinational emergency management teams during humanitarian relief operations. This work was funded by the Swedish Rescue Services Agency and resulted in my Licentiate Thesis\(^1\), which I completed and defended in February 2007. The thesis (Lindgren, 2007) combined theories from cross-cultural psychology to understand cultural barriers to communication and cooperation experienced in ad-hoc emergency management teams.

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\(^1\) The licentiate thesis was conducted under the supervision of visiting prof. Kip Smith, PhD, Linköping University. Three papers were included in the thesis, all of which investigate various aspects of group behavior in relation to cultural issues and emergency management. The results presented in the thesis were meant to supply emergency management personnel with general knowledge on cultural differences and ideas for future 'cultural awareness' training.
After presenting my Licentiate Thesis, I received a research contract from the Swedish National Police Board (NPB) to interview personnel at the NPB and various Police

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**Figure 2.2: An overview of the research process - a timeline.**
Departments in order to investigate the impacts of organizational changes on work procedures and the relation between the National Police Board and its Police Departments. The NPB was experiencing difficulties after introducing new work procedures for administrating IT-purchases at the Police Departments. They needed help to pinpoint how the change was perceived by the employees at the NPB and a subset of Police Departments. The research project resulted in practical implications for the NPB as it helped to demonstrate a number of problematic areas concerning user involvement and gave suggestions on how to approach them. The work at the NPB illustrated difficulties associated with implementing new technology at governmental agencies and awakened my interest for e-government related research. Due to issues regarding research funding and a shift in research interest, I decided to transfer my disciplinary belonging and supervision from Industrial Ergonomics to Information Systems in order to receive better support in the research process.

2.2.2. The SAFe and FACe research projects

In 2008 the second phase of my doctoral studies began, now with new supervisors, prof. Karin Axelsson and prof. Göran Goldkuhl, and with new theoretical and empirical challenges. I immediately started working with the case study that forms the empirical basis of this thesis (which is further discussed in section 2.4.2). The case study was conducted as a part of two interrelated research projects, both run as collaborative efforts by researchers from Information Systems and Political Science at Linköping University.

Safe public e-services - an issue of trust and organisation (SAFe)

The SAFe project was led by prof. Elin Wihlborg, ran from 2008 to 2011, and was funded by the Swedish Emergency Management Agency. The overall aim of SAFe was to analyze how and why ‘secure’ public e-services are constructed (both as a social and a technical activity) within different practices. Three senior researchers\(^2\) and four PhD students\(^3\) participated in the project, which consisted of three major case studies:

- The Anonymous Exams case study (presented in this thesis, briefly introduced in section 2.4.2 below and further discussed in chapter 7).
- A case study of the implementation of an electronic medical records system at a Swedish county council (e.g. Andréasson, 2011).
- A case study of the implementation of public e-services at two Swedish municipalities (e.g. Jansson, 2011).

Showing another face? – A study of how professional actors’ roles, competencies and behaviour are influenced by public e-services (FACe)

The FACe project was led by prof. Karin Axelsson, ran from 2009 to 2011, and was funded by the Swedish Council for Working Life and Social Research (FAS). The project

\(^2\) Karin Axelsson (Professor, LiU), Ulf Melin (Associate Professor, LiU), and Elin Wihlborg (Professor, LiU).

\(^3\) Gabriella Jansson, Ester Andréasson, Mattias Örnheim (Political Science, LiU), and Ida Lindgren.
aimed to study how e-government initiatives and public e-services influence different professional actors' working situations and roles at governmental agencies. Four senior researchers\(^4\) and two PhD students\(^5\) participated in the project. The project consisted of three major case studies:

- The Anonymous Exams case study.
- A case study of the implementation of an electronic medical records system at a Swedish county council.
- A case study of the effects of a public e-service implemented at the Swedish Board for Study Support for handling financial aid for students (e.g. Giritli-Nygren, 2009b).

The first two case studies were part of both SAFe and FACe, but contributed with somewhat different content and focus for each research project. As illustrated in the brief account of the research projects, the case study that makes up the empirical foundation of this thesis has been informed by two overarching themes; (1) how are public e-services constructed and perceived, and (2) how are various actors within a public organization affected by the implementation of a public e-service.

2.2.3. Publications

During the whole research process, ideas and results have been written up in the shape of workshop- and conference papers, as well as journal articles. The scholarly work discussing parts of the work presented in this thesis are presented in chronological order in the list below (newest first);


\(^4\) Karin Axelsson (Professor, LiU), Ulf Melin (Associate professor, LiU) and Elin Wihlborg (Professor, LiU), and Katarina Giritli-Nygren (Assistant Professor, Mid University).

\(^5\) Ester Andréasson (Political Science) and Ida Lindgren.
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As illustrated above, I have authored or co-authored 11 peer-reviewed publications in which parts of the work presented in this thesis are covered. The relationships between the publications and the chapters of the thesis are presented in Figure 2.3 below. The common denominator for the thesis and most of the publications presented in the figure is the Anonymous Exams case study. In several of the publications, subsets of the data from the case study have been used for discussing e-government and public e-service development in relation to various theoretical topics. Five of the publications represent different steps taken in my conceptual advancements towards an understanding of public e-services. This track of publications started out with workshop papers that were later developed into conference papers, and finally converted into a manuscript that got published as a journal article (together with Gabriella Jansson). The introductory parts of the thesis and the framework in its totality have not yet been subjected to peer-review or other scrutiny and are hence novel contributions of the thesis. Being part of these writing-and-review processes has helped me immensely in my thesis work as it has provided valuable input on my research, and functioned as a way of validating my work along the way. The thesis is hence based on a solid ground, but the ideas presented in the publications have been allowed to progress and evolve in the thesis, which contains novel and additional discussions on the themes presented in the publications.

After this overview of my research process, I now turn to the research design of the work presented in this thesis, starting with the philosophical assumptions underlying this work.
2.3. Philosophical assumptions

The question guiding the work presented in this thesis is formulated as follows: How can stakeholders of a public e-service be identified, characterized and involved in order to inform the development and implementation process of that particular public e-service? In this thesis, a public e-service is foremost understood as a social phenomenon, and different peoples' interpretations and conceptions of that specific phenomenon are of special interest. As such, the work adheres to social sciences and focuses on qualitative aspects of the world; it focuses on phenomena such as peoples’ self-expressed beliefs, attitudes, and experiences. The choice of research focus is inherently based on my philosophical assumptions about the nature of social and physical reality (ontology) and assumptions concerning the nature of knowledge and how it can be obtained (epistemology) (Walsham, 1995). Given the vast amount of phenomena and settings a researcher could want to investigate, it is important to clarify the ontological and epistemological assumptions underlying any scientific endeavor as they determine what is in focus and what knowledge can be obtained (Klein & Myers, 1999; Butler, 1998).

The IS field encompasses research from a variety of different traditions and epistemological foundations. Orlikowski and Baroudi (1991) have divided research epistemology in IS research into three categories; positivist, interpretive, and critical. Interpretive research is the dominant form of qualitative research in the IS field (Klein & Myers, 1999; Goldkuhl, 2012). Interpretive research focuses on understanding
phenomena through the meanings that people assign to them (Orlikowski & Baroudi, 1991) and assumes that access to reality is “through social constructions such as language, consciousness, shared meanings, and instruments” (Myers, 2009, p. 38). This thesis too adheres to the interpretive research paradigm. Although the work presented in this thesis is both qualitative and interpretive, it is important to keep in mind that these two words are not synonymous (Myers, 2009); all three epistemologies are present in both qualitative and quantitative research. The interpretive paradigm works well for investigating public e-service stakeholders since it is a complex social phenomenon with little consensus in the literature regarding definitions of key concepts, and few illustrations of how to investigate it in a systematic manner. The basic assumption in this work is that we first must try to understand what the stakeholder concept in relation to public e-services entail, and that this understanding can be achieved through an interpretive approach. This assumption is visible in the research question presented above. Note that the question is initiated with the modal verb can, and not should. This marks that the investigation is done without normative aims of illustrating or testing how it should be done. The aim of this thesis is hence to provide a useful way of investigating stakeholder issues in relation to public e-services, but does not claim to provide the only way of studying these issues.

The interpretive paradigm is tightly coupled with hermeneutic philosophy, which asserts that understanding arise from interpretation of meaning (Butler, 1998; Klein & Myers, 1999; Myers, 2009). Contemporary hermeneutics can be divided into four distinct perspectives; conservative, constructivist, critical, and deconstructionist (Butler, 1998). In accordance with the recommendations of Butler (1998) and Klein and Myers (1999), the perspective adopted here is the constructivist perspective, which is built on phenomenological philosophies of Gadamer and Heidegger (Butler, 1998). According to this school of thought, in order to understand social actions, we must see that people conceive their social world through interpreting and assigning meaning to actions and objects in their world. Meanings are assigned both subjectively and inter-subjectively as people interact with the world around them (Orlikowski & Baroudi, 1991). Given that the researcher is also a human, this applies also to the scientific process of obtaining knowledge; the researcher interprets and assigns meaning to observed phenomena. This is sometimes referred to as the ‘double hermeneutic’; i.e., the researcher interprets interpretations voiced by the people s/he interacts with. Interpretation, in this sense, involves entering “into the interpretive norms of a community; meaning here operates and is to be found within the historical context of the interpreter and interpreted” (Butler, 1998, p.286). Interpretive studies thus reject the possibility of ‘objective’ or ‘factual’ accounts of events and situations; instead, relativistic, albeit shared, understanding of phenomena is sought after (Orlikowski & Baroudi, 1991).

Considering the focus of this thesis, it is important to clarify that a consequence of this perspective is that organizations, groups and social systems cannot be characterized or

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6 The concepts that these philosophers elaborate are too detailed and complex to be dealt with comprehensively herein; I refer to (Butler, 1998; Klein and Myers, 1999) for further reading on this topic.
measured in some objective or universal way (Orlikowski & Baroudi, 1991). These social systems are made up by people, and the meanings they assign to social actions and objects in the system are not fixed; they are formed, transferred, used and negotiated, and change over time as objectives and circumstances change. As a consequence, the focus of study for interpretive researchers is often referred to as a ‘moving target’ (Klein and Myers, 1999).

Some parts of the focus of study in this particular thesis are somewhat less elusive and ‘moving’ than others; the IT artifacts that are part of the public e-services. An artifact can be understood as a cognitive tool (Hollnagel & Woods, 2005; Norman, 1993), and hence also a tool for action. To state that something is an IT artifact means that the artifact is made up by some information technology. In this thesis, Orlikowski and Iacono’s (2001) description of IT artifacts is adopted, meaning that IT artifacts (1) are not natural, neutral, universal or given, (2) are always embedded in some time, place, discourse, and community, (3) are usually made up of a multiplicity of components, whose interconnections require bridging, integration and articulation in order for them to work together, (4) are neither fixed nor independent, but emerge from social and economic practices, and (5) are dynamic. In addition, the view on technology present in this thesis corresponds with what Orlikowski and Iacono (2001) calls an ensemble view on technology, in which technology often is studied in terms of (1) how technologies come to be developed, or (2) how technologies come to be used in certain ways. In this work, focus lies on the former; i.e., how the technology comes to be developed. The IT artifact is further addressed in chapter 3, section 3.2.2.

Furthermore, when considering the role and nature of information systems, such as IT artifacts, as part of social systems, the perspective present in this thesis aligns well with the emergent perspective presented by Markus and Robey (1988). In their prominent paper on different perspectives on the causal relationship between information technology and organizational change, Markus and Robey (1988) distinguish between three conceptions of causal agency; 1) the technological imperative, 2) the organizational imperative, and 3) the emergent perspective. The technological imperative views technology as a force that determines and constrains the behavior of individuals and organizations; in this perspective information technology is seen as a cause of organizational change. The organizational imperative, in turn, assumes that behaviors are chosen according to a set of consistent preferences and that the impact of information technology on organizational change is a result of the motives and actions of the designers of information technology. This perspective assumes more or less unlimited control over both technological options and their consequences. In this thesis, I adhere to the third conception; the emergent perspective on the relationship between information technology and organizational change, namely that “the uses and consequences of information technology emerge unpredictably from complex social interactions” (Markus & Robey, 1988, p.588). This perspective acknowledges that behaviors and consequences, of both humans and their
Chapter 2: Research Approach

environment, are difficult to predict \textit{a priori}. It also acknowledges interplay between conflicting objectives and preferences, and existence of non-rational behavior. Researchers adhering to the emergent perspective on causal agency allow for greater complexity and, as a consequence, are less prone to state normative implications considering the \textit{relationship} between technology and organizations (Markus & Robey, 1988).

The philosophical assumptions underlying any research endeavor and the research questions posed by the researcher are tightly interrelated and it is difficult to determine the causality between these two; i.e., if a researcher’s philosophical assumptions shape the questions posed, or if the questions posed determines what assumptions are made. This thesis is not the place for a philosophical discussion on such causality. Here, I settle with the conclusion that the philosophical assumptions underlying this work are aligned with the questions posed; what came first, I do not know.

2.4. Research method

The work presented in this thesis is the result of the use of three interrelated research activities; I have (1) formulated a conceptual framework; (2) conducted an interpretive case study; and (3) conducted literature reviews.

2.4.1. Building a conceptual framework

As introduced in chapter 1, a conceptual framework has been formulated as a means of addressing the research question. A conceptual framework can be defined as “a form of lens through which an observer can view and understand (i.e. make sense of) a range of concepts, models, techniques and methodologies. In essence, a conceptual framework is a meta-level model through which a range of concepts, models, techniques and methodologies can be clarified, categorized, evaluated or integrated.” (Jayaratna, 1994, p.42). As used in this thesis, the conceptual framework can be understood as the core of a theory for analyzing and explaining (Gregor, 2006) public e-service stakeholders. This means that the conceptual framework formulated in this thesis aims at analyzing the essence of public e-services, stakeholders, and stakeholder involvement, through the use of e.g., descriptive typologies and characterizations. Based on this ‘what is’ type of knowledge, the framework aims at explaining \textit{how} and \textit{why} things happen in a particular real-life situation (Gregor, 2006, p.624). The goal of theory for explaining, and hence also the framework presented in this thesis, is not to make predictions about the future, or to suggest testable propositions. Consequently, this type of theory is typically the result of hermeneutic approaches and interpretive field studies (Gregor, 2006), and therefore corresponds well with the aim and approach adopted in this thesis. The argument in this thesis is that a conceptual framework is necessary in order to better capture and understand the complexity of stakeholders affecting/affected by the development and implementation of e-services in governmental organizations.
The framework is the result of iterative work combining insights from both theoretical and empirical work. Observations made in the interpretive case study have evoked considerations that have guided my attention to specific theoretical work. Similarly, findings in the literature have suggested new considerations and have made me see empirical findings in a new light. Revisions of the empirical data, based on the theoretical findings have, in turn, suggested considerations that have been reflected back onto the theoretical work. During this whole process, textual descriptions of the empirical work have been produced in parallel with the compilation of theoretical findings into a provisional conceptual framework. The make-up of the conceptual framework is tightly interrelated with the formulation of the research question; the question has guided the content of the conceptual framework, and the content of the conceptual framework has forced me to continuously refine the research question. This means that a means in understanding how the conceptual framework has evolved, is to take a closer look at how the research question has evolved.

**The development of the research question**

Figure 2.4 below is designed to illustrate the dynamic moves back and forth between the empirical and theoretical work making up the foundation of this thesis.

 Basically, this thesis revolves around two overarching themes; (1) e-services in the public sector, and (2) the various actors (stakeholders) involved with these e-services. These two themes are visible throughout the research process, although in various forms at different times. The starting point of the work presented in this thesis was the start-up of the interpretive case study (see upper right corner of Figure 2.4). The empirical work was at that time loosely guided by a general consideration inherited from the FACe research project, namely; how are different actors within an organization affected by the implementation of an e-service? Based on my previous work at the Swedish National Police Board, I was also interested in user involvement issues concerning e-services; if and how the actors affected by an e-service are involved in the development of that e-service. The public sector setting of the interpretive case study and this first consideration directed my attention towards general theory on electronic government. This initial consideration also guided an exploratory phase during which I searched both the empirical case study and e-government literature for further questions.

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7 These dynamic movements back and forth illustrate the hermeneutic nature of this work; hermeneutic analysis is further addressed in section 2.6 ahead.
Soon, the first in-depth question arose; what is a public e-service? How can it be conceptualized and characterized? Based on the characteristics of the information system I was observing in the interpretive case study, in combination with e-government literature and policy documents on e-government initiatives in Sweden, I had the notion that I was studying an e-service. I searched the literature for a useful definition of ‘e-service’ that I could adopt in my work, but none of the definitions I could find matched what I observed in the case study in a satisfactory way. In addition, I observed that in many of the publications and policy documents I found on e-services, the authors did not define the concept at all. Furthermore, in parallel another question arose; are there differences between public and private organizations that are of importance for our understanding of e-services? The theoretical neglect concerning the concept and the difficulties I experienced in applying the existing definitions of it on my own work made me want to explore this topic further. Hence, conceptual exploration of the meaning of e-services in the public sector became one of the main themes of my dissertation work. These theoretical explorations have fed into the theoretical foundation of this thesis (illustrated in the left side of Figure 2.4). During my PhD studies I have written several...
workshop and conference papers on this topic, initially on my own (Lindgren, 2010a; 2010b) and later together with Gabriella Jansson (Lindgren & Jansson, 2013; 2012; Jansson & Lindgren, 2012); as discussed in section 2.2.3 above.

After an extensive parental leave, the second phase of the data collection for the case study was initiated. The parental leave thus enabled a longitudinal approach to the case study. The questions from the first phase still remained as a backdrop for the case study, but now my attention was more clearly focused on the various different actors present in the case study. I discovered that I needed theoretical support in describing and understanding these actors. Together with my colleagues, I had already explored the stakeholder concept (Axelsson et al., 2009) and decided that I would apply it also in my dissertation work. Considering the size of the body of literature covering stakeholder theory, I soon decided that I had to delimit my theoretical work on this topic to the e-government context. The literature on stakeholders in the e-government field illustrated the need for elaborate strategies for stakeholder identification. At this point, a more detailed question emerged that embodied all my work to that point; what are important factors for identifying and characterizing public e-service stakeholders? It seemed to me that the literature focused on how to characterize stakeholders already identified and that few cues on how to perform the initial search for potential stakeholders were available. Therefore, my curiosity about whether or not public e-service characteristics could guide this initial search in a fruitful way arose. I also realized, however, that the identification and characterization of stakeholders must be done for a specific purpose; this helps to set the frames for the analysis. An additional question therefore became how identification and characterization of stakeholders can be achieved for understanding issues concerning involvement of stakeholders in the development and implementation of a public e-service. There is a large body of stakeholder literature also on this topic, but I found that I could not fully sympathize with the perspective on users as discussed in stakeholder theory (discussed further in section 5.1). I therefore turned to the IS field for further literature on user involvement.

As illustrated, the formulation of the research question guiding the work presented in this thesis has been refined over time. The final wording of the research question, as presented in chapter 1 and last in Figure 2.4 above, encompasses all of the considerations previously discussed. Based on this question, the theoretical foundation has been revised and synthesized into a provisional conceptual framework. This revision and synthesis is reported in chapters 3-6. In addition, the provisional conceptual framework was applied on the textual descriptions of the case study (from which these considerations arose) in order to test the utility of the framework. The interpretive case study and the application of the conceptual framework on the textual descriptions of the case study are presented in chapters 8-10. Applying the framework on the case study resulted in two main results (see Figure 2.5 below). First, some lessons were learned from the case itself concerning stakeholder identification, characterization and involvement. These lessons learned can be
seen as a side-effect of applying the framework and are discussed in chapter 10. But, most importantly, it resulted in a revised, theoretically and empirically grounded, conceptual framework for identifying and characterizing public e-service stakeholders for investigating issues concerning stakeholder involvement – the Public e-Service Stakeholder (PeSS) Framework.

Figure 2.5: The main knowledge contributions of the thesis.

As stated in the introductory chapter, the research question is posed from the project management's perspective. In relation to the framework, this means that the framework was formulated with the project management perspective in mind. The intended users of this framework are therefore researchers and practitioners interested in development and implementation of public e-services from a project perspective. The conceptual framework aims at functioning as a tool for thinking about and dealing with stakeholders in relation to public e-services in a deliberate and structured manner.

In this section, the development of the conceptual framework has been discussed on a general level. In chapter 6, I return to the conceptual framework, presenting the formulation and content of the provisional conceptual framework. In chapters 8, 9, and 10, the provisional framework is used and discussed in relation to the interpretive case study. In chapter 11, the refined version of the Public e-Service Stakeholder Framework is presented together with a more elaborate discussion on the target group of the framework and its intended use.

After this overview of how the conceptual framework evolved over the course of the work presented in this thesis, the empirical foundation is presented; the interpretive case study.

2.4.2. Interpretive case study
As previously introduced, I was assigned to design and conduct a case study. I contacted management representatives of a Swedish university and asked if they had any ongoing
IT-projects that I could follow. The inquiry was well received. I was given immediate access to a project that had just started, assigned to develop and implement a system for handling student anonymity for written exams. The project was called the _Anonymous Exams Project_ by the university management and made up the focal point of my case study. As was discussed in the previous section, the observations and experiences made in this case study has continuously informed the questions asked, the theoretical foundation of the thesis, and the formulation of the conceptual framework. The e-service development project as such and the reasons for designing an interpretive case study for studying it are further discussed in chapter 7; this section focuses on the interpretive case study as a method.

A case study can be understood as a detailed study of a single social unit, such as a social process, an organization, or any collective social unit (Myers, 2009, p.74). A frequently cited scholar discussing case studies is Yin (1994, p.13), who defines a case study as an empirical inquiry that “investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident”. An important implication of this definition is that the phenomenon of interest is necessarily difficult to separate from its context. Bearing in mind the philosophical assumptions underlying interpretive research, _interpretive case studies_ aims at studying people in their daily work, focusing on understanding meanings that people assign to the phenomena in focus. As a result, this kind of case studies is typically an iterative, dynamic, process that is not possible to plan perfectly in advance (Myers, 2009). As such, this case study format goes hand in hand with the hermeneutic approach adopted in this work.

The interpretive case study method rests on the ethnographic research tradition in anthropology (Walsham, 1995) in which the researcher goes ‘out’ into the world of the people s/he is interested in. In the subsequent parts of this thesis I use the term ‘data collection’ to discuss the activities conducted to gather information for analysis. It is however important to point out that in interpretive studies, _data_ are basically the researcher’s construction of other people’s accounts of their constructions of the world (see ‘the double hermeneutic’ in section 2.3). Subsequently, the ‘data’ are not really ‘collected’. The constructions (the ‘collected data’) are turned into rich texts for analysis, referred to as _thick descriptions_. The researcher’s ability to make constructions rely on “good theory and insightful analysis, and mere collection of in-depth case study data does not provide these concepts in itself” (Walsham, 1995, p.75). It is true that deductive hypothesis-testing is not practiced in interpretive case studies; this does not mean, however, that interpretive case studies are entirely inductive. Theory plays an important role in this research method, a topic to which I return in section 2.6.4 below.

An advantage with case study research is that a well written case study has ‘face validity’ (Myers, 2009), meaning that it represents a real story that most people can identify with.
Another advantage is that it provides opportunities for the researcher to explore or test theories within the context of messy real-life situations (Myers, 2009, p.80). Potential disadvantages with case studies include that (1) the researcher has no control of the situation, meaning that the case study may take turns the researcher does not expect and can do little to affect (e.g. the process the researcher set out to study is suddenly abandoned); (2) it can be difficult to stay focused on the most important issues, or even know what the most important issues are; and (3) it takes a long time. As a matter of fact, Myers (2009) concludes that it is a serious mistake to think that case study research is an easy choice of method.

One of the most frequent claims against interpretive case studies is that generalizations from this kind of studies are not possible (Myers, 2009). This is, however, a misconception that is based on positivist standards that do not apply to this kind of research. Case study research must be evaluated on the grounds of its own tenets, and not on the assumptions of other research methods (Myers, 2009). For example, case study research is sometimes mistakenly evaluated on the grounds of the logic behind statistics (Myers, 2009). There are however major differences in the logic of quality; e.g., in case study research, it is fine to conduct just one case study. Also, in interpretive case study research, respondents for interviews are not chosen based on sampling logic, as the aspiration is not to generalize to a well-defined population from which a 'representative sample' is identified. Similarly, concerning generalizations, these can and should be made (Klein & Myers, 1999; Walsham, 1995). In contrast to positivistic research, in which generalizations are done in relation to the population from which the representative sample was made, in interpretive research generalizations are mainly done in relation to theory; referred to by Yin (1994) as analytic generalization. Walsham (1995) has extended Yin’s view and claims that generalization from interpretive case studies can take on four different shapes; 1) development of concepts, 2) generation of theory, 3) drawing of specific implications, and 4) contribution of rich insight. The issue of generalization is further discussed below (in section 2.6.4).

The account of interpretive case studies given here covers the methods used in general terms. In the next section, the data collection techniques used are discussed. First, however, the literature review methods used in this work are presented.

2.4.3. Literature review
As presented above, there has been a dynamic movement between the empirical and theoretical work underlying this thesis; this movement can be further explained by looking closer at the literature review technique used in this work. How to deal with the vast amount of scholarly work available for consideration on any topic, in order to formulate a comprehensive conceptual framework, requires a method in itself. For example, literature reviews can be constructed deductively as the result of a strictly organized search, e.g. by searching databases for pre-defined keywords and then
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synthesizing the results of such a search into a general framework of concepts (see e.g. Webster and Watson, 2002). The construction can also be of a more qualitative, inductive, nature, e.g. when the researcher uses an explorative approach to the body of literature on a topic and searches the literature without pre-defined keywords. The theoretical framework presented in this thesis is chiefly based on a literature review conducted as a hermeneutic process (Boell & Cezec-Kecmanovic, 2011).

![Hermeneutic circle for literature reviews](image)

**Figure 2.6: The hermeneutic circle for carrying out literature reviews (adapted from Boell & Cezec-Kecmanovic, 2011, p.9)**

The review method (as described in Figure 2.6), starts with the search for publications on some identified concept and different terms used to describe it. After reading publications on this topic, the researchers’ understanding of the phenomenon of interest increases; based on this understanding, the search for further publications can be refined. This is an iterative process in which the review and analysis processes are inherently intertwined, aimed at identifying interesting themes, contrasts, and ‘gaps’ in the body of literature. In this thesis, the observations made in the interpretive case study were also allowed to inform the search for appropriate literature. The flexibility built into this technique would not have been able to achieve with a more structured approach. The literature presented in this thesis concerning e-government, public e-services and user involvement was identified using hermeneutic literature reviews.

Concerning the literature on stakeholder theory, the hermeneutic literature review was complemented with a more structured *backward- and forward search* for publications based on citations (Webster and Watson, 2002). This method involves that the researcher identifies one (or several) central publication, for which the researcher tracks down the
publications on which that publication is based (its citations) and then searches for other publications in which the central publication is cited. This search technique supplies the researcher with a body of literature on the same, or related, topic. The reasons for applying a slightly more structured literature search method on this topic were that (a) it is the main theoretical focus of the thesis, and (b) the literature on stakeholder theory is very extensive and encompasses research from several different research fields and traditions.

In order to use stakeholder theory in a meaningful and cumulative fashion, a literature review focusing on e-government research utilizing stakeholder theory was conducted. By doing so, this thesis aims to contribute with further knowledge on the use of stakeholder theory in e-government research and practice. The starting points of the review were two publications on the applicability of stakeholder theory to e-government research; Rose and Flak (2005), and Scholl (2001). Using these two publications as hubs, a forward and backward search was made in order to find other related articles. I wanted to identify a “trail” of articles that were interrelated and build on each other’s work; therefore I focused on finding publications cited by several authors. The search resulted in a list of 20 interrelated articles. In order to get a fuller view on the relationships of the publications, a sociogram was created using software called Ucinet (Borgatti, Everett & Freeman, 2002). The table of publications generated in the search and the analysis of their relationships (the sociogram) are presented in appendix A. The 20 articles generated by this literature search are to be considered as the core literature in the section on stakeholders (chapter 4), but in accordance to the hermeneutic approach, other publications have been added when deemed appropriate. The aim of the analysis was to identify a path on which others had already started walking, walk it, and see if I could take some additional steps on that path. This inevitably means that other, alternative, paths are left undiscovered. For the purposes of this thesis, the ability to illustrate that the work is cumulative weighed higher than claims of ‘completeness’.

2.5. Data collection techniques

The work presented in this thesis rests on two main data collection techniques; 1) participant observation; and 2) interviews. In addition to these data collection techniques, 3) documents, and 4) an open-ended questionnaire have been used to generate supplementary data. Here, the techniques are discussed in general terms; how they were applied in practice is presented and discussed in relation to the case study in chapter 7.

2.5.1. Observations

Considering that the interpretive researcher wishes to understand the world of other people, the researcher should ‘enter the field’ at one point or another. One way of entering the field is to conduct observations. In this type of research, these observations are typically classified as being ‘naturalistic’; referring to that the researcher observes

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8 A search for “stakeholder” (2012-11-26) resulted in 565 000 hits in Google Scholar, 48 760 hits in Scopus, and 9570 hits in Web of Science.
people in their natural work or life situation. Observations in the field can differ in the degree of involvement between the researcher and the people under study. For example, Myers (2009) distinguishes between observation and participant observation. Observation refers to when the researcher is watching people from the outside, e.g. by attending and watching a meeting as a spectator, with little or no interaction with the people being observed. Participant observation, on the other hand, refers to when the researcher is not only observing people doing things, but is also participating to some extent in the activities of those people. By interacting with the people under study, the researcher attempts to gain an understanding of their beliefs and activities from the inside. There is, obviously, no clear cut dividing line between these two modes of observation; a researcher may end up being an observer in some situations, while interacting with people in others (Myers, 2009). When adhering to this classification of observations, the observations made in the interpretive case study covered in this thesis can be classified as participant observation; I was part of the ongoing activities to some extent, although the degree to which I participated varied across observations and was most often kept to a minimum.

Another way of distinguishing between different forms of observation is to discuss whether the people being observed are aware of the researcher's presence; whether the observations are open or covert (Myers, 2009). Distinguishing if an observation is open or covert is important for several reasons; first of all, if the observation is open, the researcher must be aware of that the observed people may adjust their behaviors in accordance with what they believe that the observer wants to see. In naturalistic observations such as the ones in this thesis, it is however very hard (if not impossible) for the researcher to see if such adjustments are being made. In contrast, if the observations are covert, this raises considerations concerning if it is ethical to observe people without their consent. Some argue that covert should be avoided (Myers, 2009) since it is desirable that all observed participants are aware of the researcher’s presence and objectives. Others point out that covert observations can be made as long as ethical deliberations are made. For example, Barrett (2000) states that covert observations can be undertaken in situations and places in which those observed would expect to be observed by strangers; provided that the researcher respects the privacy and well-being of those being observed.

The observations covered in the work underlying this thesis were all made in the natural working environment of the people being observed. There was a variation in the extent to which the observed people were aware of my presence; most observations were overt to all participants, but some were overt to some people, but covert for others. The practitioners whose work I was following in the case study, i.e., the members of the project group, were part of all observed activities and had legitimized my presence. This means that these particular individuals were always aware of that they were observed when I was present. In contrast, the people with whom the project group members
interacted were not always informed about my identity as a researcher. The make-up of the observed groups of people was however such that they did not all know each other; hence, for these people I was just another person in the crowd. This means that the requirements suggested by Barrett (2000) were fulfilled in the observations that were partly covert; they were all conducted in situations in which the observed people were surrounded by strangers.

Depending on issues such as how involved the researcher is in the ongoing activities, and the level of detail wanted in the empirical data, participant observation can be documented in various different ways, e.g., using video camera or audio recording. Most often, however, in interpretive case studies of this kind, field notes serve as the dominant form of documentation (Silverman, 2006). Field notes can vary in how ‘systematic’ they are, referring both to how they are created and their final shape. Field notes can range from adhering to a strict observation scheme, with which the researcher is actively searching for specific behaviors or instances, to taking notes in a more ‘free’ manner, with which the researcher tries to tell a story of the ongoing events observed. In the case study present in this thesis, the observations were documented with field notes that were only loosely structured. These were later used to write narrative accounts of the events and people observed. The practicalities of the observations are presented further in section 7.3.1.

2.5.2. Interviews

In interpretive case studies, interviews are often the primary data source (Walsham, 1995). Interviews are usually characterized in relation to how ‘structured’ they are, referring to how strictly the researcher is adhering to a pre-defined manuscript for the interview. The interview technique applied in the current case study can best be described as semi-structured (Kvale, 1997; Silverman, 2002); referring to an interview format in which the interview is guided by some overarching and open-ended questions and themes. This format allows for spontaneous follow-up questions following the respondents’ answers to the initial questions posed. In fact, this type of interview can be described as a formalized conversation and is sometimes referred to as a structured conversation (see e.g., Kvale, 1997). The major strength of this type of interview is that it is flexible, and that it allows the researcher to “access the interpretations that participants have regarding the actions and events which have or are taking place, and the views and aspirations of themselves and other participants” (Walsham, 1995, p. 78). Furthermore, based on this technique, the researcher can generate texts based on several different peoples’ interpretations of a phenomenon (Kvale, 1997); texts that, in turn can be used to generate thick descriptions (Walsham, 1995).

An important feature of interviews, when seen from an interpretive angle, is that they are inherently co-constructed by the interviewer and interviewee (Kvale, 1997). This means

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9 In addition, this means that informed consent was not obtained from all observed participants in the case study.
that the interplay between the researcher and the person being interviewed shapes the outcome of the interview; it determines the length, depth, and quality of the conversation. Some level of trust between the interviewer and respondent is needed for the respondent to feel comfortable in the interview situation, to answer questions, and to reveal information about her-/himself. It is also important that the interviewee wants to participate in the interview and that the interviewer and interviewee share some interest that they can talk about. In short, issues like the aforementioned are recognized as natural characteristics of interviews and it is therefore acknowledged that the researcher cannot fully control the interview situation. The researcher can however be more or less successful in performing interviews, but the success is seen as being based on acquired skill, rather than on following a structured and pre-arranged method (Kvale, 1997; Silverman, 2002).

In the empirical work presented in this thesis, the interviews were all conducted face-to-face. Most of the interviews were also conducted in the respondents’ home territory, meaning that I visited them in their offices as they were engaged with their everyday work. The questions guiding the interviews were designed to generate thought and discussion on the respondents’ attitudes towards and expectations of the development and implementation of a public e-service. In line with the philosophical assumptions and research method described above, the purpose of the interviews was to understand different peoples’ accounts of interpretations and constructions of a shared social phenomenon, including the IT artifacts under construction and in use. In order to pose this kind of questions, some understanding of the context of the interviewees is needed (Kvale, 1997). In the empirical work presented in this thesis, the interviews were preceded by observations in order to gain the contextual knowledge needed to pose informed questions.

In conformity with the conditions for observations, there are ethical considerations to be made when interviewing people. These mainly concern protecting the integrity and welfare of the interviewees. In order to ensure that the interview situation was encouraging and appropriate for the interviewees, the respondents were informed about the research project and the aim of the interviews. All participants were also informed of the voluntary nature of the interview and their right to withdraw from the interview at any time. This information was presented both orally and in writing. In order to respect the integrity of the participants, the interview accounts have been kept as anonymous as possible. When the interview accounts had been transformed into thick descriptions of what happened during the case study (the descriptions given in chapter 8 and 9), the main interviewees were asked if they wanted to read and comment on the text. All of these interviewees read and commented on the text. Based on their comments, I made slight changes to the thick descriptions. All in all, the interviewees’ comments on the thick descriptions functioned

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10 All interviewees were given an informed consent form prior to the interview that they were asked to read, and then sign if they agreed with the conditions of the interview.
as a form of validation of the accounts given in chapters 8 and 9, and therefore also gives weight to the subsequent analysis in chapter 10.

The use of interviews in qualitative research has been debated and much of the discussion concern two issues summarized by Silverman (2002, p. 117);

- interviews do not appear to give us direct access to the ‘facts’
- interviews do not tell us directly about people’s ‘experiences’ but instead offer indirect ‘representations’ of those experiences

Seen from a positivist angle, interviews pose an obvious problem; it can be very hard for the researcher to avoid ‘influencing’ the respondent’s answers in a certain direction (i.e., to avoid ‘bias’), and to know what parts of the respondent’s story are ‘true’ or ‘accurate’. Seen from the interpretive perspective, the circumstances posed by the interview are challenging, but not necessarily a problem. Concerning both bullets above, and in line with the previous discussion on interpretive research, the interpretive researcher denies that there is an ‘objective’ social reality and is, hence, interested in the respondents’ interpretations of a specific phenomenon. Furthermore, by acknowledging the ‘double hermeneutic’, the interpretive researcher also recognizes that during the interview, the interviewer and interviewee co-construct the conversation\(^\text{11}\). Seen from this angle, the interview is to some extent as ‘messy’ and ‘complex’ (Kvale, 1997) as the social reality it is targeted to capture. Interviews of this kind therefore correspond well with the purpose of the work presented in this thesis, as it is targeted at investigating several different stakeholders’ views and experiences of their work and life in relation to a public e-service.

### 2.5.3. Documents

In order to obtain as rich descriptions of the case as possible, it is usual for interpretive case study researchers to use documents as supplementary data to interviews and observations (Myers, 2009; Yin, 1994). Documents may include emails, blogs, web pages, survey data, corporate records, newspapers, and records of what someone said or what happened. They can provide useful background information on which interviews and observations can be based, as well as provide evidence for cross-checking findings with other sources (Myers, 2009). In the empirical work underlying this thesis, documents was used in this supplementary manner. The documents I was given access to during the case study were authored by project management representatives and employees in the organization. The documents mainly included project documentation (e.g., project directives, project plans) and email conversations about the project. These documents were used to gain background information to the events observed and the interview accounts and were not subject to thorough analysis on their own.

\(^{11}\) The researcher’s influence on the data collection is further discussed below in section 2.6.3.
2.5.4. Open-ended questionnaire
As an additional supplementary data collection technique, an open-ended questionnaire was used to generate data for analysis. In this particular case study, this questionnaire was a supplement to interviews with representatives of a particular stakeholder group of which I already had a fairly articulated picture based on previous interviews. The open-ended format means that the respondents are given written questions to which they are asked to write down their responses the way they see fit (Fife-Schaw, 2000). Similarly to the technique presented above, the responses to such questions can be used to supplement the text produced by the researcher. A subset of the questions was made up by statements. For each statement the respondent was asked to estimate to what degree s/he agreed or disagreed with the statement (on a six-item scale, including ‘I don’t know’). The responses to these statements were used to see overall patterns in the experiences of this stakeholder group. Together with interview records, field notes, and various documents, the questionnaire responses helped to produce thick descriptions of different persons’s interpretations of the circumstances present in the case study; descriptions that laid the foundation for analysis.

2.6. Hermeneutic analysis
The data analysis approach used in this thesis is hermeneutics. As discussed previously, hermeneutics provides the philosophical foundation of interpretive research, but can also be understood as a specific mode of analysis. As a data analysis approach, it is a method focusing on the interpretation of meaning of qualitative data (Johansson, 1999), especially textual data. Hermeneutic analysis origins from literary interpretation (Ödman, 2007), but has become a well-grounded analysis method in social sciences (Myers, 2009), as well as recognized and suitable for the IS field (Klein & Myers, 1999).

The hermeneutic approach fits well with the case study research method, as the researcher gathers much textual data in case studies through e.g., field notes, transcribed interviews, and various documents. The researcher’s task is to gather these textual data and then try to order, interpret and explain it in order to make sense of it in the shape of new texts. These texts are processed until the researcher has reached a comprehensive and coherent interpretation. An important heritage from the literary interpretation origin of hermeneutic analysis is the acknowledgement that the text inevitably has an autonomous existence, independent of the author or the world it describes (Myers, 2009). A difference from the literary origins of hermeneutics is however that, in case study research, the researcher is to some extent a co-author of the texts subjected to analysis. Since the analysis is both based on texts and results in the production of texts, it can be hard to know when to stop this iterative process of creating texts. Myers (2009, p.194) suggests that the process can stop when “you have satisfactorily explained most, if not all, of the ‘puzzles’ or apparent contradictions in the story”. This is perhaps the most elusive characteristic of hermeneutic analysis and its main disadvantage (this issue is discussed further in section 2.6.1 below).
Chapter 2: Research Approach

Considering the focus of this thesis, the strengths of using hermeneutic analysis in interpretive studies outweigh the disadvantages. The main strength is that it enables a deep understanding of people in organizational settings. Hermeneutic analysis also allows for multiple interpretations, as it is inherently directed towards trying to look at an organization through the eyes of various stakeholders and from many different perspectives (Myers, 2009). These features of hermeneutics are what make it especially suitable for studying stakeholders’ perspectives on public e-services.

Table 2.1: Seven principles for conducting and evaluating interpretive research (Klein and Myers, 1999).

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<th>Principle #</th>
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This section deals with hermeneutics as an analysis approach, and as a consequence, expand on its philosophical roots by discussing Klein and Myers’ (1999) set of seven hermeneutical principles for conducting and evaluating interpretive field studies in IS. All principles are interrelated and partly overlapping. The principles are introduced in Table 2.1 and presented in the subsequent sections. By discussing these principles, some important quality criteria for interpretive case studies and the data collection techniques mentioned above are also addressed.

2.6.1. The fundamental principle of the hermeneutic circle

Perhaps the most well-known feature of hermeneutics is that of the hermeneutic circle. It is not only its most prominent trademark, but also the most fundamental principle of hermeneutic philosophy and analysis, on which all other principles expand (Klein & Myers, 1999). The idea represented by the hermeneutic circle is that “…we come to understand a complex whole from preconceptions about the meanings of its parts and their interrelationships” (Klein & Myers, 1999, p. 71). Understanding, in this sense, is a result of a circular, iterative, movement from the whole, to the parts, and back again, until gaps and contradictions in the field study material are satisfactorily resolved.

The ‘parts’ and the ‘whole’ should be given a broad and liberal interpretation; the parts can e.g., be part of a story or the interpretive researcher’s and participants’ preliminary understanding of a phenomenon. The whole, on the other hand, can e.g., be the plausible

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12 Note that Klein and Myers (1999, p.70) do not call these principles ‘hermeneutical’. They do, however, state that one of the main sources of the principles is philosophy of hermeneutics, and that they apply “mostly to the conduct and evaluation of interpretive research of a hermeneutic nature”.

13 The circular movement is sometimes discussed in terms of a spiral (Ödman, 2007), as an indication that the researcher never comes back to the ‘same place’, but continuously advances in her/his understanding of the studied phenomenon.
understanding of a story’s context or the shared meanings that emerge from interaction between a researcher and participants. The process of moving back and forth between the whole and its parts is nicely described by Klein and Myers (1999, p. 79) as being “not unlike putting the pieces of a puzzle together, except that the pieces are not all given but have to be partially fashioned and adjusted to each other”. In this thesis, an example of the process of finding and understanding the pieces and their relationship can be seen in the hermeneutic movements in finding the research question, previously illustrated in Figure 2.4. The same kind of movements has also taken place when analyzing the texts produced based on the observations and interviews conducted in the case study. Transcripts, field notes, and documents have been used as pieces for trying to construct a cohesive whole of what happened in the case study.

This principle is related to criteria for how the quality of the interpretations can be assessed. There are few criteria for judging interpretations of this kind, but those salient in the literature all point in the same direction;

- The interpretations should be internally coherent (Ödman, 2007; Alvesson & Sköldberg, 2000; Johansson, 1999).
- The interpretations should be supported by ‘facts’ from the interpreted material, and should not be contradicted by them (Ödman, 2007; Alvesson & Sköldberg, 2000).
- The interpretations must be communicated in a way that makes it possible for the reader to follow how the researcher arrived at the insights presented (Ödman, 2007; Klein & Myers, 1999).

For the first two criteria it is essential that the part and whole are related and do not contradict each other. The first criteria therefore concerns if the inner structure of the interpretations fit together, and the second criteria refers to whether the interpretations follow from the interpreted material in an obvious way (Ödman, 2007). The third criteria emphasizes that the researcher must present the material and interpretations in a way that gives the reader a chance to come to similar conclusions as the researcher has done. In this type of analysis, instead of discussing the quality of the work in terms of validation, the logic of argumentation for the interpretation can therefore be discussed (Alvesson & Sköldberg, 2000).

The following six principles can be applied iteratively in a number of iterations of the hermeneutic circle; creating a complex whole of interpretations. In order not to jump to conclusions, the principles are presented in a rather general manner in this section. I return to these principles in section 12.2.1, in which I use these principles to scrutinize and discuss the design, realization, results, and implications of this thesis in more detail.
2.6.2. The principle of contextualization

The contextualization principle refers to that the subject matter under study must be set in its social and historical context so that the intended audience can see how the current situation under investigation emerged (Klein & Myers, 1999). This is far from easy, considering that the relationships between people, organizations, and technology are constantly changing (Orlikowski & Baroudi, 1991). In addition, the research itself becomes part of the context of the studied phenomenon. In order to capture enough of the context as needed to understand the phenomenon under study, the researcher must carefully reflect on the historical context and acknowledge that people are producers, rather than products, of history. It is important to note, however, that context is not absolute and that originality in research can be achieved by placing things in an entirely new context (Alvesson & Sköldberg, 2000). In addition, context shapes our understanding. The movements from the whole to its parts, and back to the whole, as suggested by the hermeneutic circle, is guided by anticipated explanations, meaning that we have “an expectation of meaning from the context of what has gone before” (Myers, 2009, p.186). Contextualization is hence related both to the interpretations of the participants and the interpretations of the researcher.

2.6.3. The principle of interaction between the researcher and the subjects

As discussed previously, in interpretative case studies, the ‘data’ are not something that the researcher can go out in the world and collect. Rather, interpretive research proposes that the data, or texts, produced by the researcher are created through the social interaction between the researcher and the participants (Orlikowski & Baroudi, 1991). In this interaction, the participants, as well as the researcher, must be understood as interpreters and analysts. What this means is that the participants are far from unaffected by the work of the researcher. Just as the researcher interprets the actions of the participants, the participants must interpret the actions of the researcher (Myers, 2009). In addition, the questions and concepts used by the researcher affect the participants and may alter their interpretations of their world (Walsham, 1995). This principle is tightly coupled with the contextualization principle above, meaning that the recognition and acknowledgement of the researcher’s influence on the participants’ interpretations (and vice versa) leads the researcher to focus on meaning in context (Myers, 2009).

On the same note, the texts produced by the researcher (their construction, documentation, and organization) are affected by the researcher's preconceptions about the participants (Klein & Myers, 1999). This is in line with the general recognition in interpretive studies that the researcher cannot assume a neutral stance (Orlikowski & Baroudi, 1991; Walsham, 1995); the researcher’s prejudice, values, and interests always shape the way s/he understands the world and the people in it.
2.6.4. The principle of abstraction and generalization

Interpretive case studies typically document unique circumstances, and interpretive researchers seem naturally suspicious of claims that suggest that social phenomena are governed by culturally independent laws. This does not mean, as some would suggest, that interpretive researchers do not believe in abstraction and generalization (Klein and Myers, 1999). In fact, in interpretive research, the researcher attempts to relate the field study details to theoretical abstractions and generalizations.

Theory use in interpretive case study research can be categorized into three different types; (1) as an initial guide to design and data collection, (2) as part of an iterative process of data collection and analysis, and (3) as a final product of the research (Eisenhart, 1989; Walsham, 1995). The first type of theory use has been debated as some scholars see a danger in using theory too rigidly, claiming that it can stifle potential avenues for exploration. For example, according to Walsham (1995, p. 76), it is “desirable in interpretive studies to preserve a considerable degree of openness to the field data, and a willingness to modify initial assumptions and theories”. As a result, he is an advocate for the second type of theory use in case study research. Concerning the third type of theory use, Eisenhart (1989) states that theory developed from case study research is particularly suitable for research areas for which existing theory seems inadequate, as theory developed this way is likely to be novel, testable, and have close links to empirical evidence. In addition to these three types, theory use in case study research is also discussed in terms of being a “sensitizing device” for viewing the world in a certain way (Klein & Myers, 1999, p. 75). The key point of this principle is that theory plays a major role in interpretive case studies. In this thesis, theory is acknowledged as a sensitizing device that has affected my world view in certain ways, both consciously and unconsciously. Concerning the deliberate use of theory in this work, theory has chiefly been used as part of the iterative process of data generation and analysis.

2.6.5. The principle of dialogical reasoning

As mentioned previously, an important principle in hermeneutics concerns the pre-understanding of the researcher, sometimes referred to as ‘prejudice’. In positivistic research, prejudice is considered as researcher bias and must be avoided. In interpretive research, however, prejudice is acknowledged as an important part of our understanding as it provides the researcher with the necessary point of departure for understanding. The researcher’s prior knowledge provides lenses through which field data are perceived and understood.

This principle also refers to that the researcher takes on a dialogical approach to the text; asking questions to it and allowing the text to evoke questions for further analysis. The questions originally arise from the pre-understandings of the researcher and are developed and transformed during the process of analysis (Johansson, 1999; Ödman, 2007). This activity is closely linked to the hermeneutic circle and Alvesson and Sköldberg (2000, p.
62) describes the process of dialogical reasoning as gliding “… back and forth between the ‘old’ aspect imposed on the text in the shape of pre-understandings, and the new understanding. Eventually the borderline becomes less sharp (…). Questions directed at the whole also alternate with questions directed at the parts, and the two kinds can cross-fertilize each other”. An important point here is that this dialogical reasoning implies that the research problem will transform during the process. Again, this type of reasoning can be illustrated using the illustration of how the research question has evolved in this work (Figure 2.4). Considering that the researcher’s pre-understanding shapes the analysis, a main point of the principle of dialogical reasoning is also that the researcher must make the pre-understanding and intellectual basis of the research as transparent as possible (Klein & Myers, 1999). This must be done both for the reader and the researcher her-/himself. In this thesis, this very chapter is an essential part of my attempt to externalize and lay bare my philosophical assumptions and prior knowledge.

2.6.6. The principle of multiple interpretations

A principle of much importance for the work presented in this thesis is the principle of multiple interpretations. This principle refers the acknowledgement that a phenomenon can be interpreted in several different ways. It also functions as an encouragement for the researcher to investigate influences that the social context has upon participants’ interpretations of a shared phenomenon by trying to seek out multiple interpretations and the reasons for them. Social factors that may influence different interpretations may include, e.g., differences in power and legitimacy. Presenting several interpretations is a form of honesty towards the readers of the analysis and invites them into a dialogue about a number of alternatives, of which the researcher probably prefers and argues for one (Alvesson & Sköldberg, 2000). It is, however, not always certain that the researcher finds such multiple interpretations. Nevertheless, this principle is of heuristic value as it leads the researcher to search beneath the surface of what is being said. Finding multiple interpretations requires imagination and empathy on behalf of the researcher (Johansson, 1999; Ödman, 2007). In this thesis, this principle is one of the most salient ones, given the aim of identifying different stakeholders in relation to public e-services. Stakeholders are, to some extent, defined and differentiated from each other by their differences of interpretations.

2.6.7. The principle of suspicion

The final principle, the principle of suspicion, is related to the former principle on multiple interpretations, but is, perhaps, more extreme in its encouragement of critical thinking. When applying this principle, the researcher deliberately tries to reveal distortions or different forms of bias in the narratives collected from participants. This principle testifies of the close links between hermeneutic and critical research (Ödman, 2007). Although critical research can be conducted with a hermeneutic approach, hermeneutic analysis is not critical per se. Klein and Myers (1999) argue that this principle encourages critical thinking to the degree that it fits better with the critical research
paradigm than with interpretive research. For this reason, it is the least developed and applied hermeneutic principle in the IS research literature (Klein & Myers, 1999). In this thesis, there is more focus on uncovering and presenting multiple interpretations than on critically scrutinizing these interpretations in order to identify distortions or bias in the material. This implies that this principle is not applied to the similar extent as the previously introduced principles in the work presented in this thesis.

Before turning to the next chapter of this thesis, I first address the last step in the overall research design, i.e., the organization of the thesis.

2.7. Written record – the organization of the thesis

The final determining factor shaping any research endeavor is the mode in which the research is written up (Myers, 2009; Huff, 1999). The dissertation format in itself provides constraints on how the research should be presented. I have tried to adhere to a traditional and recognizable way of structuring the actual text presenting my work. This structure was chosen in order to enhance the readability of the thesis for those familiar with scholarly work. In deciding on this structure, in which the work is presented in a theoretical part and an empirical part (see Figure 1.1 in section 1.3), I was aware that it may mislead the reader. It may give the impression of a sequential, deductive, research approach in which the theoretical work was conducted prior to the empirical work. The actual work underlying this thesis was, as previously illustrated, conducted in an iterative way; combining theory with empirical data collection and analysis throughout the research process.
PART II

THEORETICAL FOUNDATION
Chapter 3: Public e-Services

3. Public e-Services

The aim of this chapter is to describe and discuss the public e-service concept, referring to e-services provided by governmental organizations. Public e-services can be understood as an instantiation of e-government; therefore, this chapter first supplies an overview of the e-government field. Thereafter, a three-dimensional conceptualization of public e-services is presented and discussed. Finally, five themes relevant for public e-service development and implementation are discussed, including the role of user involvement in public e-service development.

3.1. Electronic Government

The aim of this thesis is to formulate a conceptual framework for identifying and characterizing stakeholders in relation to a public e-service, and investigate how these stakeholders can be involved in the development and implementation process. In order to discuss stakeholders in relation to a public e-service, the public e-service concept must be understood. Public e-services are an essential part of an ongoing transformation of governments using information systems. Before turning to the public e-service concept, this section gives an overview of the context in which public e-services operate; electronic government.

Organizations are never as static as the representations we make of them; they are in constant change and movement. These changes are more or less obvious and a change of a more apparent nature is the ongoing change of government. Since the 1960s, a transformation of governmental organizations through the implementation of information systems is taking place (Lenk, 2002). Part of this transformation involves a transition from manual and paper-based work procedures to digitized ones, using information systems (Artman, 2010). Examples of this transformation are interoperable systems through which information is shared across governmental agencies, and on-line services through which citizens and businesses can help themselves to governmental information, to some extent replacing face-to-face meetings. The organizational changes of government involving information systems and the use of Internet has been going on
for quite some time, but has been given increased attention and importance during the last decade under the label ‘e-government’ (Dawes, 2009; Lenk, 2002).

The driving forces behind these transformations come from both inside and outside of governmental organizations. The introduction of systems for automatic handling of information and Internet-based services is seen as a way of making public administration more effective and efficient. Simultaneously, there is a pressure from citizens and businesses on governmental organizations to go on-line. In most Western countries, such as Sweden, citizens have become accustomed to shop on-line and to take care of their banking businesses using Internet-services, whenever and wherever they want. The services provided by banks and businesses have created expectations on governmental services to be equally accessible. In this thesis, electronic government1 (henceforth called e-government) refers both to (1) political strategies for transforming government, and to (2) a field of research devoted to the study of this transformation. From both the research and the practice perspectives, e-government can be described using the EGOV Community’s (2010) summary of the EU definitions of e-government; “the use of information and communication technologies in public administrations - combined with organizational change and new skills - to improve public services and democratic processes and to strengthen support to public policies”. Another, more detailed description of what e-government refers to is provided by McClure2 (2000, p.3):

“electronic government refers to the government’s use of technology, particularly web-based Internet applications to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities. It has the potential to help build better relationships between government and the public by making interaction with citizens smoother, easier, and more efficient”

The second definition by McClure (2000) is more narrowly formulated than the first one, emphasizing the use of web-based Internet applications for delivery of government information and services. This definition serves as a good entry to the field and highlights the commonsensical understanding of the term. Nonetheless, this kind of e-government definition is sometimes criticized for being set too narrowly. For instance, Lenk (2002) criticizes how the concept of e-government is sometimes treated as being synonymous with the transformation of public services into e-services. According to Lenk, e-government deals not only with making use of the Internet, but also with making better use of IT to support all types of government functions; “e-government is about

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1 In this thesis, the term e-government is used. This term is sometimes criticized by researchers with a political science focus for focusing too much on e-services and better administration, leaving out “democratic processes and the relationships among citizens, civil society, the private sector, and the state” (Dawes, 2009, p.260). These critics hence prefer the more encompassing term e-governance. Considering the scope and objectives of this thesis, however, e-government is perceived as the better term.

2 In some publications, the quote presented here is cited as formulated by Layne and Lee (2001). This description of e-government is however provided by McClure (2000) and is cited by Layne and Lee (2001) in their article on e-government development.
supporting all types of business and deliberation processes within the different branches of government, as well as among them and with their environment.” (Lenk 2002, p.87). Furthermore, Lenk (2002) emphasizes that transforming government through the use of IT not only concerns the interaction between government and citizens (as is often emphasized in the literature), but also concerns many other interfaces between human workers and technical artifacts.

E-government practice is the result of extensive policy work on regional, national, and international levels of society. For example, on the EU level, there are several important policy documents guiding the development of e-government practice in Europe, such as the Ministerial Declaration on eGovernment (2009) and the EU eGovernment Action Plan for 2011-2015 (European Commission, 2010). The common denominator of the descriptions of e-government practice is that it must meet several, sometimes conflicting, objectives. In short, e-government is supposed to improve matters for both citizens and governmental organizations; preferably simultaneously. The improvements for citizens involve measures that increase access to public information, strengthen transparency and supply means for involvement of stakeholders in the policy process (European Commission, 2011; Ministerial Declaration on eGovernment, 2009). E-government should also enable governments to reduce the administrative burden and improve organizational processes. This means that e-government not only includes the use of information technology in government, but also new ways of thinking about organizations and processes. The aim is to change public sector employees’ behaviors so that public services are delivered more efficiently to the people who need them (European Commission, 2011). In addition, e-government is seen as inhabiting the potential of leading to a more democratic society through increasing transparency of government and enabling stakeholders to engage in policy processes (Ministerial Declaration on eGovernment, 2009). In sum, the overarching objectives of e-government can be summarized as being: (1) to improve citizens’ interactions with the government, (2) to make governmental organizations more efficient and effective, and (3) to increase the transparency of government and lead to a more democratic society.

3.1.1. E-government research from an IS perspective

As stated previously, e-government as a term covers both the political strategies for transforming government and a research field. In this thesis, the focus mostly lies on e-government research, rather than on e-government as political strategies and policies. As a research field, e-government research is still rather young. Like a teenager, the field is characterized by confidence in its own splendor, mixed with uncertainties of its true identity and belonging. This is seen in the many publications that are devoted to mapping and defining e-government, both as research field and practice; the reader is directed elsewhere for elaborate reviews of the field (see e.g. Andersen, Henriksen, Medaglia, Danziger, Sannarnes & Enemærke, 2010; Dawes, 2008, 2009; Grönlund, 2004; Heeks & Bailur, 2007; Irani, Love, & Montazemi, 2007; Scholl, 2010; Yildiz, 2007). For the
purposes of this thesis, a briefer description of e-government research is sufficient. In short, e-government research can be understood as focusing on six major themes (Scholl, 2007); (1) information use; (2) technology use; (3) public policy; (4) government operations; (5) government services; and (6) citizen engagement. The six themes play a central role in formulating e-government research questions and have been researched in various combinations by researchers from a variety of disciplines. In order to encompass all of these themes, e-government research is by necessity an interdisciplinary research field. Research disciplines involved in e-government research include e.g., Information Systems (IS), Public Administration, Political Science, Marketing, and Computer Science.

The interest in e-government research displayed by IS researchers is not surprising. As stated in the introduction of chapter 2, IS research focuses on the phenomena that emerge when technological and social systems interact (Baskerville & Myers, 2002). More simply put, IS research typically deals with the contextual use of information technology and information systems (Davis, 1991; Dahlbom, 1996). The use of technology includes technical, social, and organizational phenomena, and can be studied in various phases, such as during development, implementation, use, maintenance and evolution, using different methodological approaches. Another important aspect of the IS discipline is the close link between research and practice (Goldkuhl, 1996). Within the IS discipline there is an ideal of applicability and practical relevance; IS research should result in knowledge that is applicable and relevant for and in practice. IS research is therefore often referred to as being an applied science (Robey, 2003). In addition to practical relevance, there is also an ideal of research being carried out in cooperation with people working in practice using a reciprocal process for learning (Goldkuhl, 1996). Respecting practitioners and their experiences and knowledge is therefore an important trait for an IS researcher (Goldkuhl, 1996). In Scandinavia, the old tradition of worker participation in and unionization of the workplace is often visible in IS research (Iivari & Lytyinen, 1998), manifested in case studies designed and conducted in close cooperation with practitioners (sometimes under the methodological label engaged scholarship (see Van de Ven, 2007)). From an IS perspective, e-government can therefore be understood as a specific context in which IS research can be conducted and in which the organization and transformation of government through the use of information technology is of special interest. Hence, the IT artifact, the organization and context of its use, and relationships between people and technology, are central research themes. The IS ideal of research actively contributing to practice is equally relevant in e-government research. E-government research in general is criticized for not having accumulated enough knowledge or guidance for practice, in part by not being explicit about used research methods (Heeks & Bailur, 2007). A way for e-government research to increase its practical usefulness and relevance is thus to be more explicit regarding research methods and concepts used in analysis, and to work in a cumulative manner, making sure to build on previous work. For these purposes, the ideals and methods of IS research could help strengthening e-government research.
### 3.1.2. Public e-service – an instantiation of e-government

Considering the wide range of research topics encompassed under the e-government label, it is necessary, in a work such as this thesis, to delimit the focus of attention. The instance of e-government research and practice under investigation in this thesis concerns electronic services supplied by public sector organizations, here called public e-services. In this thesis, public e-services are treated as an instantiation of e-government; it is therefore important to point out that I acknowledge that e-government as a term encompasses more than governmental agencies’ use of public e-services. As an instantiation of e-government, public e-services inherit characteristics from its greater entity but can still be discussed in its own terms. In this thesis, the three overarching objectives of e-government presented above are treated as objectives inherited also by public e-services.

Issues concerning public e-services are currently significant themes in e-government research. Popular themes include (1) user adoption and satisfaction (e.g. Verdegam & Verleye, 2009), (2) involvement of citizens in development of e-services (e.g., Karlsson et al., 2012; Axelsson et al., 2010), and (3) focus on citizens’ relative adoption and use of e-services in comparison to other channels for contacting/interacting with the government (see e.g., Ebbers, Pietersen & Noordman, 2007; Pietersen, 2009). The literature on e-services in the public sector is growing and includes a large number of various concepts used more or less synonymously, such as public e-service (e.g., Karlsson et al., 2012), e-service (e.g., Boyer, Hallowell & Roth, 2002; Kaisara & Pather, 2011), digital service (Re, 2010), e-Public-Service (Lenk, 2002), e-government service (e.g., Jansen, de Vries & van Schaik, 2010), and Web site channel (Ebbers et al., 2007). Apart from having look-alikes concerning its essence and name, the e-service concept is often treated implicitly or as if it were self-explanatory (Lindgren & Jansson, 2013). With the aim of increasing the analytical understanding and generalizability, conceptual maturity, and practical benefit of the public e-service concept, I have authored an article together with Gabriella Jansson (Lindgren & Jansson, 2013). The article is dedicated to the meaning and characteristics of public e-services. The subsequent parts of this chapter use that publication as a point of departure for discussing how public e-services can be understood and conceptualized.

### 3.2. Understanding public e-services as a three-dimensional phenomenon

As illustrated above, governments’ use of Internet-based technology as an interface towards citizens is currently discussed under a multitude of labels and concepts; public e-service being one of these. In this chapter, the meaning of the public e-service concept is discussed using a three-dimensional³ conceptualization of the phenomenon presented by Lindgren and Jansson (2013). The argument put forth by Lindgren and Jansson (2013, p.168) is that a public e-service must be understood as “a three-sided object whose three

³ As used here, the term ‘dimension’ means ‘aspect’ or ‘feature’.
sides are equally important to take into account and relate to each other when inspecting it”. The three sides, or dimensions, refer to a public e-service as being; “(1) a service, (2) electronic, and (3) public (as contrasted to being private)” (Lindgren & Jansson, 2013, p.170).

When investigating a public e-service, all of the dimensions presented above should be acknowledged to some extent. This does not mean, however, that they must all be put in the foreground (Lindgren & Jansson, 2013). In this thesis, the theoretical underpinning of the concept focuses on the e- and service dimensions of the public e-service, albeit still acknowledging the public dimension of the phenomenon. For a more elaborate discussion on the public dimension, I refer to (Lindgren & Jansson; 2013; Jansson & Lindgren, 2012). In order to inform the work of this thesis, the public e-service concept is discussed in a step-by-step process, focusing on the following topics: (1) service characteristics, (2) characteristics of electronically mediated services, and (3) implications of the governmental context (public).

3.2.1. **Service characteristics**

A public e-service is in part a service (Lindgren & Jansson, 2013). This statement may seem trivial considering the wording of the public e-service concept; but, what is a service? Traditionally, a service is perceived as an activity (Grönroos, 2008). In line with the activity-view, marketing researchers Kotler and Keller (2009, p. 386) define service as “… any act or performance one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product”. In addition, according to this view on services, they can be understood as having three well-documented characteristics (Parasuraman, Zeithaml & Berry 1985; Zeithaml, Parasuraman & Berry 1990). First, services are intangible, meaning that they are performances and not objects. This makes services difficult to count, measure, test and verify in advance of sale/use. Second, services are inseparable, meaning that the production and consumption of services are simultaneous and cannot be separated. This, in turn, means that the quality of a service can be assessed only as the service is delivered, typically in interaction between the consumer and the supplier of the service. Third, services are heterogeneous, meaning that services often vary from supplier to supplier, from consumer to consumer, and over time. A forth characteristic has been added to the list by Kotler and Keller (2009); services are perishable. This means that services cannot be stored. For services, demand is critical; they must be available for the right price, at the right time and place, and to the right consumer. A consequence of these characteristics is that service quality is difficult to assess and must be judged in relation to consumers’ experiences of the service and its delivery. According to Zeithaml et al. (1990), only the consumers can judge the quality of a service, and different consumers might have different perceptions of what a ‘good’ service is. This also means that there is an asymmetrical relationship between the supplier of a service and the consumer of that service; it matters little how good a service is according to the supplier – it is the consumer who decides the quality of the service. Zeithaml et al. (1990) investigated
potential grounds for service-quality shortfalls and identified service-quality gaps consumers may experience. The gaps refer to situations where there is a difference between consumers’ expectations and the service delivered. In order to ensure quality services and avoid service-quality gaps, Zeithaml et al. (1990) state that the supplier of a service must (1) carefully investigate the consumers’ expectations of the service, (2) specify the service according to these expectations, (3) ensure that those delivering the service follow the service specifications, and (4) communicate information about the service to the consumers in a way that helps to set realistic expectations of the service. In sum, this activity-view on services emphasizes that the supplier has to make sure to design and deliver the service in a way that creates value for the consumer as the service is consumed.

More recently, scholars contributing to the service literature have criticized the view on services presented above as being too static, transactional, and supplier-centric (Tronvoll, Brown, Gremler & Edvardsson 2011). These scholars also criticize the traditional view on services for treating service quality as a characteristic of a service that the consumer either experiences, or not. These scholars promote a different view on service, in which service is understood as a dynamic process. Furthermore, value fulfillment for the consumer is promoted as the main objective of service (Grönroos 2008). According to this view, value is considered to be co-created by supplier and consumer as resources, brought to the table by both parties, are used and combined in various ways. The resources do not “have” value per se (Tronvoll, et al 2011); the consumer’s use and consumption of the service is what can create value. This view on services puts more emphasis on the interaction between supplier and consumer; hence, a process orientation rather than an output orientation is adopted (Edvardsson, Tronvoll & Gruber 2011). In the activity view presented previously, the consumer is seen as the judge of service quality. In the process-view on services, the role of the consumer increases, as the consumer is seen to contribute to the value fulfillment (i.e., service quality). In order to make use of what the service supplier is offering, the consumer must add skills and additional resources. If the consumer does not have the necessary resources (e.g., the necessary knowledge) to consume the service, value will be non-existent or lower than otherwise (Grönroos 2008). The role of the supplier of the service, in turn, is to facilitate that the consumer uses/consumes the service in a way that leads to value fulfillment. This means that the supplier can be engaged to various degrees in the consumers’ practices and influence the consumption process of the service. In addition, value is separated in two types; value-in-exchange and value-in-use. Value-in-exchange refers to the traditional view that value is embedded in the service itself, created by the supplier and then exchanged to the consumer. In the process view, value-in-use is perceived as the more important type, referring to value created by the consumer when he/she uses the service. Value-in-exchange is seen as dependent of value-in-use; if consumers cannot make use of a service,
value-in-exchange is nil for them. Only during consumption, realized value in the form of value-in-use is created (Grönroos, 2008).

This section merely touches the surface of the service literature and presents a (somewhat) simplified image of services. The service dimension is, however, further elaborated on in the sections below. Up to this point, the main characteristics of a service, that have important implications for understanding public e-services, are that a service can be summarized as a process in which value is co-created as the service is consumed/used by someone (value-in-use). Hence, in this thesis, the process view on service is adopted. Furthermore, service quality is chiefly assessed based on the consumer’s experience, although the consumer must be understood as actively contributing to the value fulfillment of the service. Still, there is an asymmetrical relationship between consumer and supplier of the service, in which the consumer has the upper hand.

3.2.2. Characteristics of e-services

The section above focused on the service dimension alone, here the electronic dimension is added to the service concept. This section hence deals with characteristics of e-services. Adding an e- to the service concept indicates that we are dealing with a service that is mediated electronically, through the use of information technology (Scupola, Henten, & Nicolajsen, 2009). This definition is perhaps too self-evident to be truly helpful and must therefore be elaborated on. Definitions of the concept can be found in e-commerce/e-business and marketing literature (e.g., Hultgren, 2007; Rowley 2006; de Ruyter, Wetzels & Kleijnen 2001) and e-government literature (e.g., Buckley, 2003; E-delegationen, 2012). When comparing and combining these definitions, an e-service can be understood as being internet-based, interactive, and integrated with related technologies and processes within the supplying organization (Lindgren & Jansson, 2013).

Internet-based, interactive and integrated

As stated above, an e-service is mediated through the use of information technology\(^4\). In the e-government literature on e-services, the technology used to mediate e-services is seldom defined or described. In fact, the tendency to ‘black-box’ the technology, as seen in IS research in general (Orlikowski & Iacono, 2001), can be seen in the literature on e-services as well (Lindgren & Jansson, 2013). This trend is problematic since the technology used to mediate a service inherently offers both constraints and affordances (Norman, 1993) to the use of the e-service. Furthermore, by omitting the technology from the discussion on e-services, we run the risk of getting caught in an overly optimistic view of technology (Heeks & Bailur, 2007), in which this (undefined) technology is seen as the given solution to all our problems (cf. Markus & Robey, 1988). A possible explanation to the implicit treatment of technology could be that the development of new

\(^4\) There is a variety of different views on information technology and I do not elaborate on these here, but refer the reader elsewhere for such discussions (see e.g., Orlikowski & Iacono, 2001).
technology is very rapid and it is difficult (if not impossible) to supply explicit definitions of what artifacts should be considered to mediate e-services; such definitions would only supply a snapshot of the technology used at present and would soon be outdated (Lindgren & Jansson, 2013). However, and as stated in Lindgren and Jansson (2013), the speed in which new technology is developed serves as a poor excuse for omitting the technology-dimension altogether from the e-service discussion.

In the scholarly work in which the technology-dimension is somehow touched upon (e.g., Rowley, 2006; de Ruyter et al., 2001), e-services are typically discussed as being (1) Internet-based, (2) interactive, and (3) integrated. The first characteristic refers to the fact that the e-services that we see today (anno 2013) are typically supplied through web pages and mobile applications (e.g., for Smart Phones). Considering the nature of the current technical solutions, these can all be claimed to be Internet-based to some extent. The interactive feature of e-services, in turn, is discussed by e.g., e-service researcher Hultgren (2007, p. 333), who discusses e-service in terms of “social interaction between a service provider and a customer” through the use of an IT-system. The interactivity feature of e-service thus corresponds with the nature of services; the e-service is used for a supplier and consumer to interact and co-create value. Last, to state that an e-service is integrated refers to the fact that it is always integrated with related technologies and processes within the supplying organization. A consequence of this feature is that we can discuss e-services in terms of having a front-office and a back-office. The service process and the technology used to mediate it extend beyond what the consumer can see; the consumer only sees some parts, e.g., the Internet web-page. The visible parts can be called the front-office of the e-service. The expression back-office consequently refers to the parts of the process and technology in which the contact to the consumer is not, or no longer, required (Lenk, 2002).

There are some important implications of these three characteristics of e-services. First of all, the e- implies that we are not only dealing with a service, but also with an IT artifact (Lindgren & Jansson, 2013; Scupola et al., 2009; Goldkuhl & Röstlinger, 2000). The e- and service characteristics combined make it possible to distinguish between service delivery, referring to the fulfillment of the overall objective of the service, and service mediation, referring to the interaction with the technology, e.g., the web-page (Lindgren & Jansson, 2013). In contrast to services in general, the service delivery and service mediation related to an e-service can, in fact, be separated in time. The division between the service delivery and mediation also has consequences for how the consumption/use and quality of the e-service can be understood (Lindgren & Jansson, 2013). In relation to service mediation, i.e., to the technology, we can discuss use and users in different terms than when discussing the overall service delivery. In addition, although it can still be argued that it is the consumer’s perception of the overall service delivery that determines the quality of the e-service, the technology used to mediate the service can also be evaluated in its own terms, e.g., in relation to its functionality, accessibility and usability.
(Bertot & Jeager, 2006; Lindgren & Jansson, 2013). In this thesis, the division between service delivery and mediation is adopted.

Before turning to the public dimension of public e-services, some nuance must be added to the discussion on e-service technology. When I write that few researchers describe the technology-dimension of e-services, I refer to researchers in the e-government field who, like me, are concerned with social aspects of e-services (i.e., user adoption, user satisfaction, participatory design, and the like). There are researchers, also in the e-government field, who focus especially on the technology mediating e-services, often in combination with organizational issues; e.g. Ebrahim and Irani (2005) who discuss organizational and technological requirements necessary for the adoption of e-government, and Re (2010) who explores technologies and tools for enhancing e-service quality. However, these researchers do not address the implications imposed by the service- and/or public dimensions. A contribution of the three-dimensional take on public e-services (Lindgren & Jansson, 2013) adopted in this thesis is to try to see the public e-service from several perspectives simultaneously.

Characterizations of e-service

Although there is little written on the actual meaning of the e-service concept and the IT artifacts making up the e-services discussed (Lindgren & Jansson, 2013), there is considerable literature on how to distinguish one type of e-service from another. A frequently used way of characterizing e-services is to assess their maturity. Many publications on e-services are supply oriented and focus on how e-services should be supplied and the evolution of these services (Persson, 2009). The evolution is often described in maturity models (e.g. Layne & Lee 2001; Andersen & Henriksen 2006). These maturity models typically present four stages into which governmental agencies’ e-services can be classified according to technological level and service level. In the four maturity stages an e-service is constituted of;

1. a website providing information about the agency and its services,
2. a website providing interactive information about the agency and its services, or providing the possibility to contact people and get further information through communication,
3. a website providing functions allowing the visitors to hand in and retrieve personal information, and
4. a website with network functions for proactive and joined-up services involving several agencies and institutions, for handling complete service transactions.

According to the critics (e.g. Persson 2009; Goldkuhl & Persson, 2006), these models represent a naïve and techno-centric view on technology in which the maturity characteristics of an e-service are assessed without investigating the actual demand for and

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5 The maturity stages presented here constitutes a merger of two maturity models; (1) Statskontoret (2000), and (2) Wimmer (2002).
use of the service. The evolutionary aspect also implies that the higher stages are inherently better than the lower, no matter the need/use of the e-service (Persson, 2009). The result of this kind of model is that policy makers may be deceived into using the stage models in a normative manner and thereby strive for higher stages on false grounds (Goldkuhl & Persson, 2006). It is important that the functionality afforded in an e-service corresponds to actual needs; why strive for an interactive and integrated e-service if only an informative e-service is needed? The point made by Goldkuhl and Persson (2006) is significant but I also want to acknowledge that this type of model is widely used, especially by practitioners, and can offer important insights when used considerately. However, as a reaction to the maturity models, Goldkuhl and Persson (2006) present three polarities that can be used to characterize e-services:

- **Informative ↔ Performative**

  *Informative* e-services are e-services that present information from the agency. The citizen is a reader of that information. Goldkuhl and Persson (2006) differentiate between *pre-arranged information* and *selected information*. Pre-arranged information refers to static information, e.g. information presented on an agency’s website. Selected information, on the other hand, refers to information generated by the system based on search criteria supplied by the external user. In this thesis, the informative polarity refers to selected information only, as some interaction is seen as a necessary characteristic of an e-service (see discussion below). *Performative* e-services are e-services through which the citizen can interact and communicate with the governmental agency.

- **General ↔ Individualized**

  *General* e-services are directed to any citizen, whereas the *individualized* e-service is directed to the particular individual. The latter dimension requires some kind of identification of the individual and can be divided into two sub-categories; 1) *non-secure services*, and 2) *secure services* in which the citizen needs to identify him-/herself in a secure way (e.g. with e-Identification). Secure e-services should be considered as being of a more complex character due to more demanding privacy legislation.

- **Separate ↔ Coordinated**

  Instead of integration of e-services, Goldkuhl and Persson (2006) distinguish between separate and coordinated e-services. *Separate* e-services stand alone, whereas *coordinated* e-services refer to websites where several different governmental agencies have coordinated their services in order to make life easier for the citizens. Here, the authors distinguish between two types of coordinated services; 1) *fused services*, referring to when several services are combined into one with no visible difference between the different services, and 2) *aligned services*,
referring to services that are put together using a uniting website (e.g. a portal) but that still are identifiable as separated services.

At this point, the interactive nature of e-services must be clarified. In the e-service literature, there are different opinions on what degree of interaction is needed between the user and the system/supplier in order for us to call it an e-service. Some clearly state that e-services must involve some level of interaction (e.g., de Ruyter et al., 2001); others state that web-pages presenting static information also can be understood as an e-service (e.g. visible in the maturity model presented above, and in the ‘informative/arranged information’-polarity above presented by Goldkuhl and Persson (2006)). In this thesis, an e-service is considered to involve some interaction with the user; without the interaction there is no service process to talk about. The interaction can be of various extent and complexity, as the service process can be automated and involve only the system (as captured by the informative/selected information polarity presented above), or it can involve back-office processes as well (as captured by the performative polarity above). This view on e-services and interaction means that, in this thesis, governmental webpages presenting static information (included in the first maturity step presented above) are not considered to be e-services.6

The polarities presented by Goldkuhl and Persson (2006) are adopted in this thesis as a way of characterizing e-services (albeit with the slight adjustment of the informative/performative-polarity addressed above). A benefit of using these polarities for describing e-services is that we can characterize e-services in a more nuanced manner, e.g., state that e-services can be interactive to different extents. However, this characterization of e-services works mostly for describing the e-service from the user perspective, leaving out the back-office part of the e-service. The related technology and processes within the supplying organization, i.e. the back-office, is therefore further discussed in section 3.3.4 below.

In sum, the stance taken in this thesis is that the main characteristics of an e-service are that it can be perceived not only as a service, but also as an IT artifact. The IT-artifact is typically Internet-based, interactive, and integrated with processes and information systems in the supplying organization. Furthermore, the technology-dimension of the e-service makes it possible to distinguish between service delivery and service mediation, where the latter refers to the user’s interaction with the IT-artifact. This in turn means that, as an instance of information technology, an e-service should also be understood in relation to issues such as accessibility and usability. Different types of e-services can be characterized by discussing them in relation to the e-service polarities presented by Goldkuhl & Persson (2006).

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6 Web-sites that only present static information can be compared to printed brochures; a printed brochure is not generally considered to be a service. Presenting the printed information on-line, does not turn the information into a ‘service’, it is still just information.
3.2.3. Implications of the governmental context

Finally, the term *public* in relation to e-service is meant to emphasize the organizational context of the supplier of the e-service. This implies that a public e-service is different from an e-service supplied by a private organization (Lindgren & Jansson, 2013; Buckley 2003; Ilshammar, Bjurström & Grönlund 2005). In this section the e- is temporarily less emphasized, meaning that this section deals with the particularities of public organizations by addressing *public* in terms of public organizations and services.

In this thesis, public organizations are defined as “the formal public entities that decide on and organize public administration of different sorts, e.g., state authorities, ministries, municipalities or regional authorities” (Lindgren & Jansson, 2013, p.167). By adding public to the e-service equation, public e-services can also be understood as *public services* that are mediated electronically. Public services, in turn, can be defined as services provided by public organizations to citizens. These services can be supplied both collectively and individually to citizens, either directly by the public organization or by financing private suppliers (Christensen, Lægrid, Roness, & Røvik, 2005). Many public services are directed to the community as a whole or to vaguely defined groups of addressees (Lenk, 2002). Often these services concern situations where members of a society are conferred rights at the expense of others and must not be thought of as services in the commonsensical meaning; “calling this a service is neglecting the public interest dimension in such administrative decisions and regulations” (Lenk, 2002, p.88). This further illustrates that the term *service* infers different meanings depending on if we refer to it in general terms, as in section 3.2.1, or in relation to public services.

Although public and private organizations display similarities and are becoming increasingly intertwined in regard to ownership, financing and production of public services (Christensen, et al., 2005), I adhere to the basic assumption that there are also fundamental differences which cannot be downplayed (Boyne, 2002; Bretschneider 1990; Jansson & Lindgren, 2012; Lindgren & Jansson, 2013; Rainey & Bozeman 2000). In relation to e-services, this consequently means that the two overarching concepts (1) e-commerce/e-business, and (2) e-government, must be separated. At this point it is also important to acknowledge that public organizations differ across different countries. In this thesis, the characterization of governmental organizations is built on a simplified and somewhat idealized picture of welfare states with universal coverage, such as the Nordic countries, in which citizenship entitles access to general public services (Lindgren & Jansson, 2013; Jansson & Lindgren, 2012). The practical examples presented in this chapter are taken from the Swedish context.

The differences between public and private organizations (and services), that are of importance for our understanding of public e-services can be discussed in relation to the following three themes (1) the public ethos, (2) lack of exit, and (3) the role of the users. These are all interrelated and partially overlapping. The discussion presented here is a shortened
version of that which can be found in (Jansson and Lindgren, 2012; Lindgren and Jansson, 2013) Observe that the discussion here focuses on the relationship between citizens and the government, and hence sees citizens as the main users of public services.

**The public ethos**
The public ethos (see e.g., Lundquist, 1998) refers to that the overarching aim of public organizations is to serve the public in ways that serve all citizens; the public hence refers to the collective interest. Lindgren and Jansson (2013, p.167) discuss the public ethos and state that it implies (1) a need to ensure a comprehensive legal framework with different degrees of discretion; (2) a need to balance democratic and economic values, and (3) a need to ensure legitimacy and accountability through democratic decision making, rule of law, and efficient output.

The first implication refers to that public organizations, at least indirectly, are meant to work for all citizens. In order to ensure the collective interests, public organizations are heavily regulated and steered by formal, explicit, comprehensive, and stable rules, designed to ensure compliance with political decisions (see e.g., Christensen et al., 2005; Fountain, 2001). The rules vary across public organizations in terms of detail and formalization. For example, Lenk (2002, p. 89) states that “there is a need to acknowledge that typical public services are provided through a range of business processes which, at one end, comprise fully automated standard processes and, at the other, highly complex and unique processes where human discretion and appreciation stands central in making the decision of delivering the service.” The second implication refers to that public organizations should embody a sense of responsibility for serving social justice and the common good, whereby both economic and democratic values are taken into account. Economic values are mainly founded on balancing the use of resources according to a set of economic targets and returns, whereas democratic values are founded on the public rights and rule of law enshrined in the constitution (Lindgren & Jansson, 2013). Both types of values presuppose each other; in order to be legitimate, public organizations have to be both democratic and efficient. This, in turn, is referred to in the third implication listed above. Altogether, public organizations have to take into account and balance a number of sometimes contradictory and ambiguous ambitions and goals (Christensen et al., 2005; Lundquist, 1998).

**Lack of exit**
A second fundamental difference between public and private organizations concerns the opportunities for citizens to choose suppliers of public services and the (sometimes) involuntary nature of public services. Public organizations have a number of compulsory claims on individuals that do not involve choice (Rothstein, 2010), e.g. arrest, taxation and conscription. Several public services (e.g. social services) are monopolized by public

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7 This is obviously a simplification as public services also are directed toward businesses and other governmental organizations.
organizations. This means that even when there are private options, these are often too costly for many citizens; hence, the option supplied by the public organization becomes the only viable one. Furthermore, public services that are carried out in cooperation with private companies, and thus offer freedom of choice between public or private service suppliers, are usually chosen by public organizations through public procurement or by some other centrally directed selection of suppliers (Lindgren & Jansson, 2013). Thus, public services do not take place in a free market (Hirschman, 1970). What this means is that users of public services cannot ‘pick and choose’ from a variety of public services. Instead, they are dependent on one specific authority for services or the selection of service providers. Consequently, there is no exit-option, or a highly restricted one, for users of public services; here referred to as lack of exit (Lindgren & Jansson, 2013). This, in turn, means that the relationship between public organizations and citizens is sometimes asymmetrical. Observe that the asymmetrical relationship between the citizens and government in relation to public services is opposite to the relationship discussed in relation to services in general; here, the government has the upper hand.

At this point, we can also differentiate between different types of public services. For example, Lenk (2002) differentiates between hurdle services and social services. Hurdle services refer to services with purposes beyond the immediate interest of the citizen involved, such as registration of people, land and objects. According to Lenk (2002), we do not solicit them in order to receive a real service, and may even perceive them as barriers in our daily life. In contrast, social services are services to individual clients or to communities. Social services correspond well with welfare services, such as child- and elderly care and various benefits. These are usually more complex and demand adjustment to individual situations, as contrasted to collectively supplied public services (Lenk, 2002). Individual casework of an often complex nature is required for governmental employees to assess rights for these services and face-to-face encounters are often required to support these decision processes. In addition, the asymmetrical relationship between user and provider in social services is often very strong, especially when citizens are dependent on public services for their livelihood (Lenk, 2002); e.g. in social security benefits.

**Understanding the public service user as a citizen, rather than consumer**

The third difference between public and private organizations that is important for understanding public e-services concerns the role of the user of a public e-service. A consequence of the characteristics of public organizations and public services discussed so far is that the user of a public e-service must not be understood as a consumer of services, but as a citizen (Lindgren & Jansson, 2013). A citizen has certain constitutional rights which have to be ensured through rule of law and a fair distribution of social resources (Fountain, 2001). The sometimes compulsory and monopolized nature of public services means that they have to be justified on different grounds than private services and illustrates the different demands placed on public organizations regarding responsiveness, social inclusion, and equal treatment (Jansson & Lindgren, 2012).
further implies that public organizations have a legal duty to ensure service delivery to citizens; services cannot be held back from citizens because there are too many consumers to deal with or because of a lack of personnel or money (Aberbach & Christensen 2005; Van Duivenboden & Lips 2005). As a response to this, governmental agencies in Sweden (and other countries, such as the Netherlands) must provide their services through the use of several channels, such as e-service, telephone, and front desk (face-to-face) meetings (Ebbers et al. 2008).

In sum, private and public organizations are similar in many respects, but different in relation to some important aspects. The main characteristics of public organizations and services, in contrast to private, involve a different legal framework as well as logic (the public ethos). It also involves restricted choice concerning public services. Many public services are compulsory and the user involuntary (referred to as lack of exit); in particular for certain welfare service, whereby the supplier has the upper hand. Finally, the user must be understood as a citizen who has certain rights in terms of access to services and protection of these rights.

3.3. Public e-service development – a multi-dimensional discussion

The characteristics of the three dimensions presented by Lindgren and Jansson (2013) can be summarized as in Table 3.1 below. As stated initially, the relationship between the three dimensions can be metaphorically understood as three sides of an object which we call a public e-service. As can be seen in the review above, there are potential conflicts between these three dimensions, e.g., concerning the meaning of the term service, which differs depending on if it is discussed from a service literature perspective, or in relation to public services. The dimensions can be combined and emphasized in different combinations in order to inform queries concerning public e-services. In this section, five themes relevant for public e-service development and implementation are discussed. These themes concern;

- Transforming public services into public e-services
- Public e-services as socio-technical systems
- Who is the beneficiary of a public e-service?
- Front-office versus back-office of public e-services
- User involvement in public e-service development
Table 3.1: Public e-service dimensions, an adapted version (Lindgren & Jansson, 2013, p. 170).

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Main characteristics</th>
</tr>
</thead>
</table>
| Public (Services and Organizations) | **The public ethos**  
- Need to ensure comprehensive legal framework with different degrees of discretion.  
- Need to balance democratic and economic values, (accommodate principles of equality, responsiveness, availability and social inclusion, as well as cost-efficiency).  
- Need to ensure legitimacy and accountability through democratic decision making, rule of law and efficient output.  
- **Lack of exit**  
- Need to balance asymmetrical relationship with citizen, especially in monopolized or compulsory situations (legitimacy not based on choice).  
- **Users as citizens, rather than consumers**  
- Need to ensure individual and political rights and obligations of citizenship.  
- Need to ensure access to services for all citizens (accommodate heterogeneity). |
| e-Technology                        | **A technical artifact, constituted of**  
- Internet-based technology  
- Some degree of interaction  
- Connections to other information systems, e.g., back-office systems  
- **Should be evaluated in relation to its intended use and users**, which implies that  
- A focus on users of technology is necessary  
- Accessibility and usability are important aspects |
| Services                            | **Service as a process**  
- Must be perceived as a process in which value is co-created by consumer and supplier  
- **Service quality**  
- Must be assessed based on consumer’s experience of the service |

3.3.1. **Transforming public services into public e-services**

The first theme concerns what public services are suitable for being transformed into public e-services. On a general level, and from a citizen perspective, the public services that fall under Lenk’s (2002) ‘hurdle services’ label seem to be well suited for being transformed into e-services. These are activities with few complexities that citizens want to get past as quickly as possible. By using a public e-service, citizens do not have to show up in an office and move through the procedures for something that is perceived as unnecessary. With social services, on the other hand, Lenk (2002) argues that it is much less a question of applying Internet-based solutions to enhance their quality or to improve the relationship with clients. He even states that the Internet only can be helpful in preparing the contact between citizen and governmental agency. Considering the development of the technical solutions available through the Internet during the decade that has passed since Lenk (2002) wrote this statement, it is doubtful if he still stays true to it. Today there are fully functioning public e-services related to social services that do more than just prepare contact between citizens and government. An important point made by Lenk, however, is that even though the technology is there to support fully- or semi-automated e-services, it is not necessarily what the citizens want; many still prefer personal contact with government employees over the use of e-services. This claim is supported by recent research on channel choice (Ebbers et al., 2008; Pieterson, 2009) and once again cautions against becoming overly enthusiastic about the possibilities for
technology to solve all problems. Similarly, Heeks (2006, p. 162) points out that e-government projects typically are initiated because there is a problem that needs to be solved, or because there is an opportunity that can be seized. No matter on what grounds an e-government project, such as developing a public e-service, is initiated, it is important to assess the potential benefits and challenges of the particular project (Heeks, 2006). In sum, creating public e-services is not simply a question of adding technology to a public service and ‘turn’ the service into an e-service. It is a question of transforming work organization, technology, and people. This leads us to the next topic for discussion; i.e., that a public e-service must be understood as a socio-technical system.

3.3.2. Public e-service as a socio-technical system

From an IS perspective, it is widely acknowledged that information systems development must be understood as being in part organizational development; meaning that making changes in the technological infrastructure and content in any given organization inevitably involves consequences for the current work practice and social structure in that organization (Avison & Fitzgerald, 2006). This claim follows the socio-technical design tradition, visible in research on system development (e.g., Mumford, 2000). The most important contribution of socio-technical design to information systems development is its underlying values, stating that “although technology and organizational structures may change, the rights and needs of the employee must be given as high a priority as those of the nonhuman parts of the system” (Mumford, 2003, p.27). According to this tradition, humans and technology must be seen as part of an integrated work system, consisting also of work procedures and organizational structures. A change in one part of the work system will inevitably lead to changes in other parts of the system as well. Technology must therefore not be seen as something that can be isolated and treated separately from other parts of the work system. The socio-technical nature of public e-services is captured when acknowledging all three public e-service dimensions (Lindgren & Jansson, 2013).

3.3.3. Who is the beneficiary of a public e-service?

The third theme concerns who the beneficiary of a public e-service is. E-services are used by public organizations as a means of creating benefits for both citizens and government. In e-government policies, the benefits for the citizens are specifically emphasized and potential conflicts between internal and external objectives are ignored, or rather the fulfillment of one is seen to automatically lead to fulfillment of the other (Löfstedt, 2010). In practice, these objectives can be incompatible and conflicting. For instance, whereas internal objectives of public e-services involve predominantly economic values, benefits for citizens also involve democratic values; and as discussed, these values presuppose each other but are sometimes conflicting (Lindgren & Jansson, 2013). In the e-government research literature, e-government projects are often criticized for focusing too much on creating internal benefits for the government, and ignoring the citizens’ needs and wishes (Goldkuhl, 2007; Heeks, 2006; Jupp, 2003). The general objectives of e-government and public e-service objectives contain both economic and democratic values, and therefore
imply that it is however not always obvious whose needs should guide the development of public e-services. Although all objectives should guide the development of public e-services, one or another is likely to be put in the foreground. What objective is in the foreground has implications for who is to be regarded as the main beneficiary of the e-service. It also has implications for how a public e-service can and should be evaluated (Lindgren & Jansson, 2013).

In the literature on e-services in the private sector, the importance of the users’ perception of the e-service is emphasized as a determinant for user adoption and assessment of e-service quality (e.g., de Ruyter et al., 2000). As illustrated in the section on public services, the ‘user’ of public services differs from the user of private services in the sense that the user of a public service has certain constitutional rights and is not always a voluntary one (Lindgren & Jansson, 2013). In the Swedish context, the use of the public service and the use of the e-service must be separated. In Sweden, it is the public service that entails compulsory use, not the e-service. The Swedish government has decided that citizens should be able to contact the government through several channels. For some public e-services, however, other channels than the e-service are not easily accessed. Although the Swedish government still has to offer its services through multiple channels, thereby including as many citizens as possible, several public services are designed in a way that leaves the e-service channel as the only practical option. An example is the Swedish public service for parents’ allowance; the agency directs the citizens to use an e-service or telephone when applying for and administrating parents’ allowance. On the telephone, the user is however recommended to contact the agency through the e-service instead; the e-service is thus presented as the better option for contacting the agency. For the adult on parental leave there is no doubt that the agency considers the e-service as the preferable channel for interacting with the Swedish Social Insurance Agency. This naturally has implications for how to understand this particular public e-service. Although the governmental agency is interested in making the citizens’ interaction with the agency as smooth as possible, the citizens’ perception of the e-service is not necessarily what guides the assessment of the quality of the service; but rather its consequences for the internal machinery at the agency. A reason for this could be that it is directed to a subset of citizens and that these citizens lack exit-options; there is simply nowhere else for them to turn for receiving parents’ allowance. Consequently, this means that the use of this particular public e-service is secured regardless of the external users’ perceptions of it. By focusing on the internal efficiency, making the parents’ allowance administration more efficient and effective, economic values for the government are fulfilled. The main beneficiary of this particular public e-service is hence the governmental agency supplying the e-service. This does not, however, exclude the possibility that the external user also benefits from using the e-service. In fact, it can be argued that society at large, and

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8 Swedish: Försäkringskassan.
therefore also the citizens, may benefit from such rationalization as it may enable an improved redistribution of resources.

In contrast, for public e-services that imply voluntary use the perceptions of the citizens are of outmost importance. The efficiency for governmental agencies is believed to increase with citizens’ adoption and use of public e-services, considering that the citizen would otherwise seek contact with the government through other, more time-consuming and costly, channels. When use of public e-services is voluntary, quality and user adoption must be understood in relation to the electronic- and service dimensions simultaneously. When people refrain from using e-services offered by public sector agencies, is it due to deficiencies in the service mediation, e.g., usability issues, or is it because the service is not trusted, or desired? Or is it a combination? In order to be used, a public e-service needs to be both desired (Axelsson & Melin, 2009) and designed in a straightforward way.

In sum, who the intended beneficiary of the public e-service is guides evaluation and assessment of e-service quality as it dictates whose interests the e-service should be evaluated against. Whereas private e-services can be evaluated against the experiences of the consumer/user in combination with assessing the profit for the company, public e-services must be evaluated also on other grounds, such as public value (Jansson & Lindgren, 2012; Lindgren & Jansson, 2013). While private value can be estimated through financial measurements of profits, public value is related more to the achievement of objectives set by government programs and delivery of public services to citizens. If the individual experience is in focus, quality becomes even more difficult to measure, especially in relation to public services that are involuntary. Considering the technological aspect of public e-services, the use of technology also entails that both the service delivery (referring to the fulfillment of the overall service objective) and mediation (referring to the interaction with the technology) can be evaluated.

### 3.3.4. Front-office versus back-office of public e-services

In the review of the three dimensions above, some topics relevant for public e-service development were merely touched upon. One of these concerns the division into front-office and back-office. The IT-artifact through which the citizen interacts with the public organization can indeed be perceived as the front-office. But what is the back-office of an e-service? This is not as easily determined. According to Lenk (2002), the expressions front-office and back-office are sometimes somewhat misleadingly used. Front-office is often assigned to the intake function of a service, while speaking of back-office activities for the remaining functions. To treat the whole agency as the back-office is not particularly helpful; the scope is too wide. The expression back-office would also suggest activities where the contact with the client is not or no longer required (Lenk, 2002), as stated in section 3.2.2. This is however not always the case for public e-services. The information submitted to a public organization through the use of an e-service can be treated either automatically by an information system (an informative e-service), or be used as input in
some person’s work (typically a performative e-service). The person using this input in her/his work might have to interact with the external user also later in the process. In addition, when used as input for agency employees, the information does not necessarily have to be collated to one person, or even one ‘place’ in the organization. This means that information on a specific matter, submitted by a citizen through an e-service, can be used as input for several different persons in the organization, or even in several different organizations. In this thesis, the service process is seen as an aid in drawing the boundaries for what can be perceived as the back-office of a particular public e-service; all technological parts and personnel involved in the service process can be seen as the back-office, no matter the scope or relative importance of their involvement. Hence, in this thesis, the front-office of a public e-service refers to the part of service delivery that is perceived by the citizen. Back-office, in turn, refers to the remaining parts of the service process, including both people and technological artifacts.

3.3.5. User involvement in public e-service development

The previous sections have illustrated the complexities of the public e-service phenomenon. Based on the complex nature of public e-services, it is perhaps not surprising that public e-service development has proven to be difficult (Asgarkhani, 2005; Söderström et al., 2010). In fact, in spite of innumerable theories and methods for how to conduct successful changes in organizations, the majority of change projects fail (Sveningsson & Sörgärde, 2007). This trend is true for IT-projects in general (Damodaran, 1996; Subramanyam et al. 2010; Söderström, 2010), and so also for e-government projects (Heeks, 2006), such as development and implementation of public e-services. The failure to involve citizens in the development is seen as a major contributor to the large number of failed e-government projects, where researchers point to managers’ insufficient understanding of citizens’ needs as a contributing factor as to why e-government projects fail (Goldkuhl, 2007; Melin & Axelsson, 2009).

The role of the user in e-government research is almost exclusively played by the citizen. During the last decade, much research has been devoted to the study of governmental e-services (Dawes, 2009) and the changed relationship between governmental agencies and citizens (e.g. Ancarani, 2005; Goldkuhl, 2007; Ilshammar et al., 2005). In the e-government literature, the role of the citizen as a user and the need for user participation is frequently discussed under the labels e-participation and the digital divide. In brief, the e-participation literature (see e.g., Kamal, 2009; Sæbo, Rose & Flak, 2008) deals with citizens’ active citizenship and participation in democratic processes through the use of information technology, predominantly the Internet. The literature on the digital divide is similar to, and to some extent overlaps with, the literature on e-participation, but highlights the fact that several subgroups of citizens tend to be excluded from contact with government when services are mediated through technology. Here, the acknowledgement and involvement of different types of citizens is seen as particularly important (see e.g., Helbig, Gil-Garcia & Ferro, 2009). This is not only acknowledged by
researchers; in a recent OECD (2009) report, OECD member countries are encouraged to apply open and inclusive policy making in order to improve public policy and services (including public e-services). This involves providing citizens with information and making the policy process accessible and responsive, and including as wide a variety of citizens’ voices in the policy making process as possible; at all stages of the design and delivery of public policies and services. The idea is that being open and inclusive will improve policy performance by helping governments to better understand the needs of the people and businesses, lower costs, improve policy outcomes, and reduce administrative burdens (OECD, 2009); in short, to fulfill the overall aims of e-government. The report acknowledges that, indeed, many citizens are reluctant to participate actively in policy processes; there is therefore a pressure on governments to find novel ways of attracting citizens to participate. Also, governments express concerns with citizen participation, stating that there is a risk that the policy making process becomes delayed by the citizens. Nevertheless, citizen participation is strongly encouraged by the OECD, stating that the risk of poor performance and failure is higher when citizens are not involved.

The type of user involvement discussed in this thesis, i.e., involvement in the development of public e-services, is not a frequently discussed topic in e-government research (Karlsson et al., 2012), but seems to be gaining increased attention. A conclusion from research on this topic is however that, even though the citizens are portrayed as the main user group that needs to be involved in the development of public e-services, citizen involvement is seldom achieved in public e-service development (Axelsson & Melin, 2007; Lindblad-Gidlund, 2012). A similar trend is seen in e-government practice. In addition to the report presented by OECD, a guide has been published by the eGovernment Delegation in Sweden, promoting user-centered development of public services and e-services. One of the key messages in the Swedish guide is that public e-services must be developed based on specific user needs in order to bring positive effects to citizens and government (E-delegationen, 2012). Knowing the needs of the users is therefore critical to public e-service success and requires that the users are involved from the very start (in contrast to being invited to evaluate the user interface once the public e-service is already developed, or not being involved at all). According to the eGovernment Delegation, in 2010 only 45% of Swedish governmental agencies conducted user requirement analyses before developing public e-services. The reasons put forth by the agencies to why user requirements were not assessed were that there was a lack of time and resources, user requirements analyses were simply not prioritized, or that the agency thought that it already knew what the users required. The latter may, however, involve a high degree of guessing and may not correspond well with what the users actually need (E-delegationen, 2012). In line with the fears expressed in the OECD report, the Swedish governmental agencies also saw inherent risks with involving users, such as (1) risking skewed user representation, (2) creating unrealistic expectations for the users, (3) having
to deal with competing requirements that are difficult to assess, and (4) creating delays in the development process, and in turn (5) causing higher costs (E-delegationen, 2012).

The picture drawn by the eGovernment Delegation is supported by Swedish researchers who have shown that Swedish governmental agencies generally see a need for citizen involvement in the development of public e-services (Artman, 2010) but fail to involve citizens to the extent expected and desired (Artman, 2010; Axelsson & Melin, 2008). Furthermore, when involving citizens in development projects, citizens’ interest in participating in this type of activities has been proven low (Löfstedt, 2010).

The citizens make up an important user group in relation to public e-services and needs to be fully acknowledged in e-government initiatives, but what about the people operating in the back-office of a public e-service? The implementation of an e-service results not only in a changed relationship between government and citizens, but also in substantial changes in work procedures at the governmental agencies in question (Artman, 2010; Asgarkhani, 2005; Mörberg & Elovaara, 2010). Following the claims put forth in the sections above, the implementation of e-services at governmental agencies, or other e-government related technology, is likely to be difficult. For example, a study conducted by Giritli Nygren (2009a) at a Swedish governmental agency showed that for some of the employees, the implementation of a public e-service resulted in a shift in work content from working with people, to working with documents. This shift was not perceived as enhancing the service directed towards the external users (citizens). In another publication, Giritli Nygren (2009b) further illustrates how the work content for these employees in fact became more complex and difficult when the e-service was implemented as an interface between the agency and its external users. Simpler work tasks were automated or performed by the citizens themselves through an e-service. Tasks that were too complex to be handled automatically through the e-service remained for the employees to solve.

How the civil servants are affected by e-government initiatives and how they can contribute to the development of public e-services is not prioritized in e-government research and literature, with a few exceptions in the usability field (e.g. Artman, 2010), the feminist technoscience field (e.g. Mörberg & Elovaara, 2010; Sefyrin, 2010) and sociology (e.g. Giritli Nygren, 2009a; 2009b). According to Mörberg and Elovaara (2010), the e-government discourse does not encompass how employees’ experiences, knowledge and skills can provide valuable input for the process of developing a good service environment for citizens and IT-based work practices, such as e-services. In line with these scholars, Sefyrin (2010) argue that there is a silence concerning how the work situation for the civil servants, working closest to the citizens, is affected by e-government. Furthermore, the employees’ knowledge is seldom seen as a resource in IT-projects, and they are not invited to participate in design of IT-systems (Sefyrin, 2010). In the e-government literature, the governmental agency is treated as a homogeneous entity...
Public e-Service Stakeholders

(Flak et al., 2007), in which employees’ conditions, opinions, abilities, etc. are treated as being equal to those of the top management (Mörterberg & Elovaara, 2010). A related statement is made by Löfstedt (2010) who emphasizes that various constellations of users and stakeholders are affected by public e-services, and hence the question of which the ‘real’ users are must be asked. By adopting a stakeholder approach to public e-services, I aspire to identify and characterize the people affected by public e-services in a systematic way that acknowledges and differentiates stakeholders on both sides of the public e-service, and on various levels of the supplying organization.

### 3.4. Chapter summary

In this thesis, public e-services are seen as essential in realizing the overarching goals of e-government, namely to improve citizens’ interactions with the government, to make governmental organizations more efficient and effective, and to increase the transparency of government and lead to a more democratic society. In this thesis, a public e-service is understood as a phenomenon with three inherent dimensions; it is a service; electronic; and public (Lindgren & Jansson, 2013). These dimensions and some of their main characteristics are illustrated in Figure 3.1 below.

**Public sector context**

Characterized by the public ethos; (restricted or) lack of exit; users seen as citizens, rather than consumers.

**Service process**

Value co-creation through interaction

**IT artifact**

Internet based, interactive, and integrated

**Supplier/Public organization**

Figure 3.1: An overview of the public e-service dimensions and main characteristics.

The three dimensions imply that a public e-service is in part a service process in which value is co-created by the consumer and supplier of the service. The electronic dimension of the public e-service emphasizes that it is also an IT artifact that is typically Internet-based, interactive, and integrated with processes and information systems in the supplying organization. Furthermore, the technology-dimension of the e-service makes it possible to distinguish between service delivery and service mediation. Service delivery refers to the fulfillment of the overall service objective, whereas the latter refers to the user’s
interaction with the IT-artifact. This in turn means that, as an instance of information technology, an e-service must be understood in relation to issues such as accessibility and usability. The integration with processes and information systems in the supplying organization makes it possible to discuss public e-services in terms of having a front-office and a back-office. Different types of e-services can be distinguished by discussing them in relation to e.g., the e-service polarities presented by Goldkuhl and Persson (2006). Last, some characteristics of public organizations and services, the public sector context, have implications for public e-services. For example, the legal duty to ensure service delivery to citizens means that for a specific public e-service, it must be accessible to all citizens who are in need of the public service mediated by that particular public e-service. In addition, many public e-services involve a restricted choice on behalf of the user; for some users, the use of the public e-service can even be considered as involuntary.
4. Stakeholder Identification and Characterization

In this chapter, stakeholder theory is briefly introduced in order to discuss public e-service stakeholders. The chapter discusses how potential public e-service stakeholders can be identified using two typologies, and how the stakeholders can be analyzed in order to assess their relative salience to managers responsible for public e-service development. A set of stakeholder characteristics are presented as means for enabling salience analysis. The chapter is concluded with some reminders of the subjective and relative nature of stakeholder classifications.

4.1. An introduction to stakeholder theory

As stated in the introduction, stakeholder theory is frequently used as a means of gaining understanding of how various actors are related to a specific organization or issue. The word *stakeholder* implies a subject that has a stake in something or someone; it also implies that there is something at risk (Oxford American Dictionary and Thesaurus, 2003). But what does it mean to be a stakeholder in the context of the managerial research and this thesis?

In his influential work from 1984, Freeman defined stakeholders as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984, p. 46). As an entity, a stakeholder can refer to individuals, groups, organizations, institutions, societies and even the natural environment (Mitchell et al., 1997). Freeman’s main contribution was a set of managerial principles that combine a means for describing firms in terms of their stakeholder relationships and tools for helping managers (Flak & Rose, 2005). The most basic purpose of stakeholder theory is to force managers to openly and thoughtfully address questions about the purpose of the organization (or sub-group) and the responsibilities of managers to specific stakeholders (Freeman et al., 2010). Since 1984, stakeholder theory has evolved in various directions. Based on a review of 50 articles on stakeholder theory, Flak and Rose (2005, p. 658)
characterize present-day stakeholder theory as a set of management propositions dependent on:

- **Normative** (ethical) assumptions about the independent value of stakeholders’ interests.
- **Instrumental** tools which can facilitate the process of situation analysis and strategy design.
- **Descriptive** theoretical models which can be used to analyze stakeholder situations.

The categorization of stakeholder theory into having normative, instrumental, and descriptive elements was originally presented by Donaldson and Preston (1995). The relationship between these aspects of stakeholder theory can be understood as being nested within each other, with the descriptive aspects as the external shell of the theory, and the normative assumptions at the very core (Donaldson & Preston, 1995, p.74). This relationship is illustrated in Figure 4.1 below.

![Figure 4.1: Three Aspects of Stakeholder Theory (Donaldson & Preston, 1995, p.74).](image)

Different scholars have emphasized these three aspects of stakeholder theory in different ways. In brief, **normative** stakeholder theory assumes that every organization has a variety of stakeholders and that organizations have moral and ethical duties to know and respect the interests of their stakeholders (Flak, Nordheim & Munkvold, 2008). Important issues concern how firms should be governed with respect to stakeholders and to whom managers should be responsible (Hendry, 2001). Within this strand of stakeholder theory, there are varieties in opinions regarding the extent to which stakeholders should be involved. A distinction between modest, intermediate, and demanding theories can be made (Hendry, 2001); moderate theories propose that stakeholders should be treated with respect; intermediate theories argue that some stakeholder interests should be incorporated in the governance of the corporations; and demanding theories argue that all stakeholders should participate in corporate decision processes.
Instrumental stakeholder theory primarily investigates how managers should meet specific objectives (Hendry, 2002) and evaluation of the impact of stakeholder management on traditional corporate objectives (Flak et al., 2008). Descriptive stakeholder theory, on the other hand, is concerned with how to represent and describe organizations and organizational behavior. Key aspects of descriptive stakeholder theory concern how to define and identify stakeholders, such as identifying concepts that indicate stakeholder salience towards managers. In this thesis, all of these elements are visible, in particular the descriptive and normative elements.

Stakeholder theory is sometimes criticized for not being substantial enough to be called a theory, as it does not propose a set of testable propositions. In addition, the central term itself, stakeholder, is often considered too ambiguous to be admitted the status of theory (Freeman, et al. 2010). As a response to this critique, Freeman and his colleagues state that stakeholder theory should be perceived as a framework, referring to “a set of ideas from which a number of theories can be derived” (Freeman et al., 2010, p. 63). A similar stance is presented by Mitchell et al. (1997, p. 855) who differentiate between stakeholder approach and stakeholder theory. The approach is a heuristic device intended for managers. The theory, in contrast, attempts to systematically articulate which groups are stakeholders deserving or requiring management attention. When looking at Freeman et al.’s (2010) and Mitchell et al.’s (1997) views on stakeholder theory, and comparing these with the theory types suggested by Gregor (2006), stakeholder theory can be understood as a theory for analyzing. This means that stakeholder theory, as understood and used in this thesis, is a theory that aims at addressing questions initiated by “what is”; such as “what is a stakeholder in relation to a public e-service”? As a theory of the analyzing kind, stakeholder theory includes concepts, typologies, and frameworks for analyzing and differentiating stakeholders. A theory of this kind does not, however, include causal explanations, testable propositions, or prescriptive statements (Gregor, 2006).

As Freeman et al.’s (2010) point out, stakeholder theory can be, and frequently is, combined with other theories and/or frameworks. The original context of stakeholder theory and management was the private firm. Twenty-five years after Freeman published his seminal work, stakeholder theory has been combined with several streams of research in various contexts; e.g. law, health care, the environment, and public policy (Freeman et al., 2010). Within these areas of research, the main focus has been on developing and using techniques for the mapping, inclusion, and involvement of stakeholders. Stakeholder theory has also been successfully transferred to the public sector (e.g. Bryson, Cunningham & Lokkesmoe, 2002; Bryson, 2004; Flak & Rose 2005; Kamal, Weerakkody & Irani, 2011; Scholl, 2001, 2004), albeit with a couple of alterations. Considering the aforementioned features of stakeholder theory, it aligns well with the aims of this thesis (see section 1.2.); to formulate a conceptual framework, by extracting and combining concepts, models etc. from theories on (1) public e-services, (2) stakeholders, (3) user involvement, and (4) IS theories in general.
4.1.1. Stakeholder theory in e-government research

Several e-government scholars have investigated the transferability to, and usefulness of, stakeholder theory in the e-government context. In his often-cited paper from 2001, Scholl states that instrumental and normative considerations concerning stakeholders are as applicable to the managerial decision processes in the public sector as they are in the private sector. He further states that although managers in the public and private sectors sometimes perform their tasks for different reasons, public-sector managers’ decisions have the same capacity to affect individuals or groups pursuing their organization’s objective. Similarly, public managers and governmental organizations can be affected by others to the same extent as private counterparts. Scholl’s (2001) conclusion is that Freeman’s (1984) stakeholder definition is applicable for managerial decision-making also in the governmental context. Stakeholder analyses are used in the public sector as part of policy, plan or strategy change exercises, or organizational development efforts (Bryson, 2004). Within the e-government research context, stakeholder theory has been combined with various other theories/frameworks; e.g. business process change (Scholl, 2004); dialectic process theory (Flak et al., 2008); genre theory (Sæbø, Flak & Sein, 2011); technology integration solutions adoption (Kamal, et al., 2011).

In their adaptation of stakeholder theory to the e-government field, Flak and Rose (2005) compare the normative, descriptive and instrumental elements of stakeholder theory to e-government research. The e-government field raises normative considerations similar to the ones raised by stakeholder theory, such as (1) how interests between different stakeholders should be balanced, (2) whether extensive concentration on e-government creates digital divides between different groups in society, (3) the level and nature of stakeholder participation in e-government, and (4) the desirability and consequences of commercialization of government (e-government as e-business). The first and third of these considerations are particularly addressed in this thesis.

The descriptive elements of stakeholder theory are free of explicit private sector concepts, such as profit, and translate well to the e-government field; both on the macro (societal) and micro (project) level (Flak & Rose, 2005). Two important dimensions of e-government are however missing in descriptive stakeholder theory; the political and technological dimensions. Stakeholder theory is essentially political, but in relation to the private, managerial, setting. An underlying assumption in the e-government field is that public organizations are different from private ones on a number of issues, the political system being one of these (see discussion in section 3.2.3. in the previous chapter). Regarding the technological dimension of e-government, the nature and role of technology must be considered when applying stakeholder theory to e-government. In e-government, technology can be understood in terms of (1) something that entails a number of stakeholders, (2) being a stakeholder, (3) a mediator between stakeholders, (4) a modifier of relationships between stakeholders, and (5) a determinant of, or influencing, stakeholder actions. In this thesis, technology is an integral part of the focus of study;
public e-services. In this context, technology can be understood as something that entails a number of stakeholders, e.g., developers and suppliers of the technology. As a mediator of a public service, the technology in focus can also be understood as a mediator between stakeholders, a modifier of stakeholders’ relationships, and as something that influences stakeholder actions. In this thesis, technology will not, however, be considered as being a stakeholder in itself.

Finally, the instrumental elements of stakeholder theory contain tools for evaluating and developing stakeholder analysis and strategy that can be used in the public sector. In the e-government field these tools can be used to, e.g., evaluate the benefit of e-government initiatives and the technological systems implemented. Once again, however, these stakeholder theory tools do not consider political or technological issues. They also fail to take into account the nature of e-government stakeholders – in e-government projects it is not always evident what stakeholder interests the project should be evaluated against. In order for stakeholder theory to truly inform the e-government field these differences must be considered. Flak and Rose (2005) conclude with a set of propositions that can form the basis of a research agenda for understanding stakeholders in the public sector (Flak & Rose, 2005, p. 657);

1. Every government agency’s external and internal stakeholders have legitimate interests. This descriptive reality can be verified.
2. Government agencies have an ethical duty to respect stakeholders’ interests, but can do so only to varying degrees.
3. Stakeholder interests can be described and analyzed using appropriate tools. Agencies can form and implement appropriate stakeholder strategies and policies for e-government projects.
4. Respecting stakeholders’ interests can lead to improved e-government projects. Moreover, an ethical response to stakeholder e-government interests makes an agency reliable and trustworthy, thereby increasing its political credibility.

Concerning the design and implementation of e-services in the public sector, these four propositions are highly relevant statements. As discussed in the previous chapter, public e-services often affect external, as well as internal, stakeholders with legitimate claims regarding the e-service. Bearing in mind that the affected stakeholders are likely to have somewhat diverse views on the e-service, in combination with the fact that the e-service is meant to meet both external and internal objectives (i.e., citizen-oriented objectives and agency-oriented objectives), it is not likely that all of these stakeholder views and objectives can be respected to the full. Hence, stakeholder interests must be analyzed in order to assess which stakeholder strategies to implement. By doing so, the quality of the e-service should be improved. The question that arises, though, is what constitutes appropriate tools for describing and analyzing stakeholders and stakeholder interests. This thesis aims at contributing to the third proposition by elaborating on how stakeholders can be identified, characterized, and involved when developing and implementing a public
e-service. The identification and characterization part of the aim rests on descriptive elements of stakeholder theory and is the dominant part of this work. The involvement part, in turn, rests on the normative assumption that stakeholders should be involved in public sector e-service projects; hence there is also an aim of contributing to the fourth proposition above.

4.2. Identifying public e-service stakeholders

Freeman’s (1984) definition of stakeholders presented previously is general and highlights one important fact; if the scope of the analysis for identifying stakeholders is not limited, just about anybody can be a stakeholder (Tennert & Schroeder, 1999). Mitchell, Agle and Wood (1997) have built on Freeman’s now-classic definition of stakeholders and present propositions for stakeholder identification and salience. Salience refers to “the degree to which managers give priority to competing stakeholder claims” (Mitchell et al. 1997, p.869). The notion of stakeholder salience is a significant contribution to stakeholder theory as it emphasizes that not all stakeholders are equal; some stakeholders matter more than others in relation to a given issue. In this thesis, identifying and characterizing stakeholders is tightly linked to determining stakeholders’ relative degrees of salience.

Stakeholder analyses aimed at identifying and characterizing stakeholders are used in the public sector and in e-government research. Most often, however, stakeholders are taken for granted, meaning that it is assumed that stakeholders are already known, or that stakeholders have already volunteered to be involved in the process (Tennert & Schroeder, 1999). According to Tennert and Schroeder (1999), it is also assumed that those who have volunteered are representative for all stakeholders’ interests. Other times, stakeholder analyses are conducted, but the range for the stakeholder identification is set too narrowly (Flak et al., 2007). Identifying public e-service stakeholders in a structured and deliberate manner is crucial for getting the knowledge and information needed for public e-service development and implementation (Axelsson et al., 2013). Overlooking stakeholder analyses can result in omission of significant stakeholders, on whom the realization of the e-service depends (Scholl, 2004). Not all important stakeholders are obvious, and even if they are, they need not be volunteering for involvement in the development process.

Later in this chapter, a number of stakeholder attributes used for identifying stakeholders are presented and discussed. These attributes for identifying stakeholders provide conceptual tools for distinguishing different stakeholders, they do not, however, provide hands-on instructions and techniques for how to go about identifying these different stakeholders. Such instructions on how to systematically identify and analyze stakeholders are rarely found in the public and nonprofit literature (Bryson, 2004). An exception is presented by Bryson (2004) who presents several hands-on, concrete, techniques for identifying stakeholders, typically including flip-charts, post-it’s and differently colored markers, and are all fairly simple (Bryson, 2004, p.27); “[a]ll it takes to do them is some time and effort – an expenditure of resources that typically is minuscule when compared
with the opportunity costs of less than adequate performance, or even disaster, that typically follows in the wake of failing to attend to key stakeholders, their interests and their information”. This kind of stakeholder identification and analysis techniques are helpful but are not focused in this thesis; instead, in this thesis focus lies on the conceptual ideas underlying these techniques. A reason to why there is little in the public and nonprofit literatures on how to identify and analyze stakeholders in a systematic manner (Bryson, 2004) could be that the underlying assumptions needed for a systematic analysis are not yet in place, and hence, these concrete techniques are less important at the moment. What needs to be focused on are issues such as what the objectives of stakeholder analyses are, where to start, what to look for, when to do it, and how to use the results.

4.2.1. **Identifying potential public e-service stakeholders**

In the next section, stakeholder salience is introduced. In order to apply the salience attributes there must however already be some notion of who the potential stakeholders are; the attributes simply identify stakeholders from a list of potential stakeholders (Lindgren, 2012). Hence, an inductive identification of potential stakeholders must take place before applying the attributes. Tennert and Schroeder (1999) suggest that snowball sampling should be used in order to inductively identify potential stakeholders, meaning that the identification process begins by identifying an initial group of stakeholders. These stakeholders are probably involved in the initial stages of the process. Representatives of this first stakeholder group are then asked to identify other individuals whom they feel should be involved in the process as well. This will help identifying another set of stakeholders. Representatives of the second group of potential stakeholders are then asked the same question. This process is repeated until there is an exhaustive list of potential stakeholders, which can then be used for a more detailed identification and characterization analysis. Snowball sampling is a well-known method for finding respondents when using an explorative approach and ought to be useful for identifying potential stakeholders. An important point made by Bryson (2004), is that stakeholder analyses always must be undertaken for a specific purpose and that purpose must be articulated as clearly as possible before the analyses begin. The purpose for identifying stakeholders in the context of this thesis is to better understand the development and implementation of public e-services. Therefore, the suggestion put forth in this thesis is to apply an inductive search for potential stakeholders that is theoretically guided, using the public e-service characteristics presented in chapter 3 as a starting point for the analysis.

In order to know where to start looking for stakeholders, the three public e-service dimensions, discussed in chapter 3, can be used as a way of structuring the search (Lindgren, 2012). In short, potential public e-service stakeholders can be found in relation to all three dimensions; stakeholders involved in the service delivery (the process), the service mediation (i.e., the technology), and the public sector context (see Figure 4.2 above). As discussed by Lindgren (2012), if looking at the service dimension in isolation,
the representation of stakeholders that is typically seen in the e-government literature emerges; *service consumers* in the shape of citizens who interact with the *service provider*, a role played by the government. By adding the technology dimension, an additional set of stakeholder types emerges involving the people *developing, supplying and maintaining* the technology. Seen from this perspective, the *users* of the technology become particularly visible and significant. Again, the citizen is an obvious user of the technology and is often discussed as such. Another set of users is however found inside the public organization supplying the e-service; *employees* that use the information mediated by the e-service as input in their work.

In order to facilitate an inductive search for potential stakeholders that is more structured and deliberate than the snowball technique recommended by Tennert and Schroeder (1999), I propose (as is discussed in Lindgren (2012)) that typologies can be used as a theoretical guide. For example, Heeks (2006) has formulated a typology of e-government system stakeholder roles that can be used to label the stakeholders in relation to public e-services. Heeks’ (2006) typology is presented in Table 4.1 below.

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1 Rowley (2011) presents a similar typology.
Table 4.1: Stakeholder roles in e-government projects (Heeks, 2006).

<table>
<thead>
<tr>
<th>Stakeholder role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project manager/team</td>
<td>Those who will analyze, design, and build the e-government system.</td>
</tr>
<tr>
<td>Supplier(s)</td>
<td>Those who will supply the technology and other resources required by the e-government system.</td>
</tr>
<tr>
<td>Operators</td>
<td>Those who will be carrying out the activities/processes that make the e-government system work.</td>
</tr>
<tr>
<td>Clients</td>
<td>Primary clients are on the immediate receiving end of what the e-government system does or outputs. Sometimes these will be outside the government (e.g. citizens or businesses). Sometimes, though, these will be inside government (i.e. public servants): in this case, there may also be secondary clients who will be affected indirectly by the system since they are served by the primary clients (e.g. citizens served by those public servants).</td>
</tr>
<tr>
<td>Champion(s)</td>
<td>The person (or group) who drives the project on and seeks to justify its implementation.</td>
</tr>
<tr>
<td>Sponsor(s)</td>
<td>The person (or group) who pays for the expense and effort required to develop the new e-government system.</td>
</tr>
<tr>
<td>Owner</td>
<td>The manager of the organization or department that will own and use the system, who is ultimately responsible for the system.</td>
</tr>
<tr>
<td>Other stakeholders</td>
<td>Who have a significant influence on the project or on whom the project will have a significant influence, such as politicians and influencers.</td>
</tr>
</tbody>
</table>

Heeks’ (2006) typology covers stakeholder roles in relation to e-government systems at large and matches the stakeholders visible from the service- and e- dimensions of a public e-service (Lindgren, 2012). According to Heeks (2006, p.162), stakeholders with different roles in relation to an e-government system can be identified by asking the question “Who has the power/ability to make the project and system fail in some way?” These roles can, in turn, be divided into two, partly overlapping, stakeholder groups; those involved with the development of the e-government system; and those involved with operation of the e-government system. Note that one stakeholder can take on several roles, and that one role can be taken on by several stakeholders (Heeks, 2006). Since these roles can be overlapping, meaning that the same individual or group can have several of these roles, it is important to identify and analyze these stakeholders in relation to the project at hand. Heeks (2006) argues that this analysis should be an integral part of the initial phase of an e-government project and suggests that, when analyzing stakeholders, one should examine to what extent the roles are present, if there is overlap between the roles, and to what extent there is conflict or cooperation between the different stakeholders.

Although Heeks (2006) acknowledges sub-categories such as ‘politician’ and ‘influencers’ to the ‘other’ category, his typology does not explicitly encourage a nuanced understanding of the stakeholders implied by the public sector context. Heeks’ (2006) typology does not distinguish between public and private aspects; this typology could be used to analyze stakeholders in relation to private e-services as well (Lindgren, 2012). In order to capture the different stakeholders visible from the public dimension of a public e-service, I have proposed (Lindgren, 2012) an additional typology distinguishing between different e-government entities presented by Sæbø et al. (2011). One of the main
strengths of this typology concerns the division of ‘government’ into three separate sub-categories. When trying to apply this typology on the empirical work presented in this thesis (Axelsson et al., 2013), we found that the typology presented by Sæbø et al. (2011) appears to have been formulated in close relation to their empirical work. In order to achieve more general types, we therefore made adjustments to the naming of their sub-categories, resulting in the typology presented in Table 4.2.

Table 4.2: E-government entities (Axelsson, Melin & Lindgren, 2013, p.18; an adaptation of the typology presented by Sæbø et al., 2011).

<table>
<thead>
<tr>
<th>Basic entity</th>
<th>Sub-categories</th>
<th>Description</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>Decision maker</td>
<td>Decision and policy maker.</td>
<td>Develop and implement own policies.</td>
</tr>
<tr>
<td>Management</td>
<td>Middle and higher level salaried career employees executing decision makers’ policies.</td>
<td>Ensure policy implementation effectively and efficiently.</td>
<td></td>
</tr>
<tr>
<td>Service provider</td>
<td>Lower level salaried career employees carrying out day to day government jobs directly or indirectly interacting with citizens/users.</td>
<td>Ensure meaningful and secure work situation. Provide good quality service.</td>
<td></td>
</tr>
<tr>
<td>Individual / Citizen</td>
<td>User</td>
<td>Uses services offered by the government.</td>
<td>Easy access to information and services.</td>
</tr>
<tr>
<td>Engaged user</td>
<td>Users involved in efforts to affect specific government policies and decisions through civil action, often individually or in groups.</td>
<td>Impact policy development and public decision making processes.</td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>Consultant and vendor</td>
<td>Companies, mostly private, who provide systems (software, hardware, infrastructure) and/or consulting services in e-Government projects.</td>
<td>Apart from commercial interest, they attempt to influence government policies in such areas as procurement, standards and even strategy.</td>
</tr>
</tbody>
</table>

In this thesis, the adapted version of the typology, presented by Axelsson et al. (2013), is used. The wordings of the sub-categories are meant to be general enough to apply to e-government initiatives on a national, as well as local, level (Axelsson, et al., 2013). For example, the sub-category decision maker\(^2\) is meant to apply to both politicians on a national level, as well as the highest ranked decision maker in an organization. The division between management\(^3\) and service provider is meant to illustrate the difference between various kinds of employees concerned with public e-services. The management category refers to higher level employees who are concerned with governing its agency according to directions provided by the decision makers, whereas the service provider category refers to lower level employees working at the agency’s interface towards the citizens. The main objective for employees in a management position is to ensure that the operations of the agency are maintained within budget and according to rules and regulations (Axelsson et al., 2013; Sæbø et al., 2011) For the employees in a ‘service provider’ position, on the other hand, the main objective is to ensure that public services

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\(^2\) In Sæbø et al.’s (2011) typology, this category is called ‘Politician’.

\(^3\) In Sæbø et al.’s (2011) typology, this category is called ‘Administrator’.
Public e-Service Stakeholders

(such as e-services) are supplied as specified by managers and decision makers (Axelsson et al., 2013). In contrast to the other categories, service providers are likely to be more concerned with, and give priority to, the quality of the service rather than budgets and overall strategy (Sæbø et al., 2011).

By discussing e-government projects in terms of providing better control and coordination and increasing cost efficiency, much of the e-government literature has focused on the people in the management position (Flak et al. 2007; Sæbø et al., 2011). Lower level employees (service providers), on the other hand, are often ignored (Mörtberg & Elovaara, 2010; Sefyrin, 2010). By dividing government employees into these three types, the multitude of stakeholders within government can be illustrated, as well as the potential conflicts between the people working higher up in the organization and those working close to the citizens. Conflicts may for example arise concerning efficient use of resources, as advocated by management; versus producing high quality service, as advocated by service providers (Flak & Nordheim, 2006; Flak et al., 2008). Conflicts may also concern whether a strategic or operational approach to public e-services should be adopted (top-down or bottom-up approach). In addition to these conflicts, frequent conflicts between stakeholders revolve around long term versus short-term objectives, cost efficiency versus jobs, quality versus quantity, and control versus independence (Newcombe, 2003).

In this thesis, I adopt the typology presented by Heeks (2006) and combine it with the adjusted version of Sæbø et al.’s (2011) typology presented by Axelsson et al. (2013). This combination was partly presented in Lindgren (2012) and is aimed at giving a richer description of potential public e-service stakeholders. By matching and discussing the two typologies, Lindgren (2012) has illustrated how the stakeholder roles and e-government entities correspond with and complement each other. In this thesis it is proposed that the stakeholder roles and e-government entities may serve as a foundation for identifying potential stakeholders in relation to public e-services. When putting the typology presented by Heeks (2006) in the foreground, it provides a wide range of roles that are likely to be involved in any public e-service project. In short, it covers stakeholders involved with development, delivery, and use of a public e-service (Lindgren, 2012). By combining it with the adapted version of the e-government entities typology (Axelsson et al., 2013; Sæbø et al., 2011), a stakeholder can be understood both in relation to its role in the project and its e-government entity. The acknowledgement of the e-government entities is meant to function as a reminder to look up and down the hierarchical structures of government and the public organization supplying the public e-service for stakeholders (Lindgren, 2012). Considering that the e-government entity implies information on the stakeholder’s rights/obligations and relationship with other stakeholders, it can also serve as a tool for further characterization of the stakeholder (Lindgren, 2012). When combined, the two typologies probably capture the majority of potential stakeholders in an e-government project. It is however important not to use them as a deductive tool for identifying potential stakeholders; careful considerations of the specifics of the situation.
and public e-service at hand must be made. This means e.g. that for each particular public e-service, the ‘other’ category in Heeks’ (2006) typology is likely to contain some stakeholder(s).

**4.2.2. Stakeholder salience**

In the introduction of this section, stakeholder salience was defined as “the degree to which managers give priority to competing stakeholder claims” (Mitchell et al. 1997, p.869). Hence, stakeholder salience refers to the fact that not all stakeholders are equal; some stakeholders matter more than others. The degree of a stakeholder’s “importance” is, naturally, dependent on from what perspective this analysis is conducted. In Mitchell et al.’s case, the analysis is done from an inside-out perspective, focusing on the views of the top management of the central organization. Mitchell et al.’s (1997) stakeholder salience analysis is typically treated as a way of identifying stakeholders, but as mentioned previously, I have come to understand it as an analysis requiring that the analyst already has some idea of who the potential stakeholders are (Lindgren, 2012). In this thesis, analysis of stakeholders’ salience is therefore treated as something that can be performed once we have come up with a list of potential stakeholders on whom the analysis can be made.

Stakeholder salience is a function of the following three attributes (Mitchell et al., 1997);

- **Power** - A relationship among social actors in which one social actor, A, can get another social actor, B, to do something that B would not have otherwise done. Bases of power are coercive (force/threat), utilitarian (material/incentives), and/or normative (symbolic influences).

- **Legitimacy** - A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, definitions. Bases of legitimacy can be individual, organizational, and societal.

- **Urgency** - The degree to which stakeholder claims call for immediate attention. Bases for urgency are time sensitivity (the degree to which managerial delay in attending to the claim or relationship is unacceptable to the stakeholder), and criticality (the importance of the claim or the relationship to the stakeholder).

There are many different conceptualizations and understandings of these three attributes/terms in the research literature; here, the attributes are adopted as defined by Mitchell et al. (1997) as they represent the dominant thinking within stakeholder theory. For an elaborate discussion on the definitions and origins of, as well as alternatives to, these attributes, I refer to Mitchell et al. (1997).

Based on the three salience attributes, Mitchell et al. (1997) define a typology including eight types of stakeholders, all of which can be more or less salient to the firm’s managers (see Table 4.3). The first three types, dormant, discretionary, and demanding stakeholders, are classified as latent stakeholders. These stakeholders display only one attribute and, hence,
managers are not likely to give any attention to this class of stakeholders. Similarly, latent stakeholders are not likely to give any attention to the firm. The next three types, dominant, dangerous and dependent stakeholders, display two attributes and are classified as being expectant stakeholders. These stakeholders expect something of the organization and, therefore, the level of engagement between managers and stakeholders of these three types are expected to be higher. Finally, stakeholders who display all three attributes are called definite stakeholders and are typically members of the organization’s dominant coalition. The relationship between these types is usually illustrated with a Venn diagram, such as the one in Figure 4.3 below. For natural reasons, the non-stakeholder category is presented as being situated ‘outside’ of the diagram.

![Figure 4.3: Stakeholder types (adopted from Mitchell et al. (1997, p.874)).](image-url)
### Table 4.3: Stakeholder typology, adapted from Mitchell, Agle and Wood (1997).

<table>
<thead>
<tr>
<th>Type/Name Attribute(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dormant Power</td>
<td>Possess power to impose their will on a firm, but by not having a legitimate relationship or an urgent claim, their power remains unused. Dormant stakeholders have little or no interaction with the firm.</td>
</tr>
<tr>
<td>Discretionary Legitimacy</td>
<td>Possess the attribute of legitimacy, but they have no power to influence the firm and no urgent claims. There is no pressure on managers to engage in an active relationship with such a stakeholder, although managers can choose to do so.</td>
</tr>
<tr>
<td>Demanding Urgency</td>
<td>Demanding stakeholders, those with urgent claims but having neither power nor legitimacy, are the “mosquitoes buzzing in the ears” of managers: irksome but not dangerous, bothersome but not warranting more than passing management attention, if any at all.</td>
</tr>
<tr>
<td>Dominant Power and Legitimacy</td>
<td>Having both power and legitimacy, dominant stakeholders often have some formal mechanism in place that acknowledges the importance of their relationship with the firm. This type of stakeholder is what many scholars are trying to establish as the only stakeholders of the firm. In Mitchell et al.’s typology, however, dominant stakeholders expect and receive much of managers’ attention, but they are by no means the full set of stakeholders to whom managers should or do relate.</td>
</tr>
<tr>
<td>Dangerous Power and Urgency</td>
<td>Mitchell et al. suggest that where urgency and power characterize a stakeholder who lacks legitimacy, that stakeholder will be coercive and possibly violent, making the stakeholder “dangerous”, literally, to the firm. “Coercion” is suggested as a descriptor because the use of coercive power often accompanies illegitimate status. Examples of unlawful, yet common, attempts at using coercive means to advance stakeholder claims (which may or may not be legitimate) include wildcat strikes, employee sabotage, and terrorism.</td>
</tr>
<tr>
<td>Dependent Legitimacy and Urgency</td>
<td>These stakeholders depend on others (other stakeholders or the firm’s managers) for the power necessary to carry out their will.</td>
</tr>
<tr>
<td>Definite All attributes</td>
<td>By definition, a stakeholder exhibiting both power and legitimacy already will be a member of a firm’s dominant coalition. When such a stakeholder’s claim is urgent, managers have a clear and immediate mandate to attend to and give priority to that stakeholder’s claim. Any expectant stakeholder can become a definite stakeholder by acquiring the missing attribute – the most likely occurrence is likely to be the movement of a dominant stakeholder into the definite category.</td>
</tr>
<tr>
<td>Non-stakeholders; No attributes</td>
<td></td>
</tr>
</tbody>
</table>

In Mitchell et al.’s (1997) discussion on salience, there is no relative differentiation concerning the three attributes’ contribution to a stakeholder’s salience. Conversely, Sæbø et al. (2011) show that in relation to e-government projects, such as the development and adoption of public e-services, urgency appears to be the most important contributor to stakeholder salience. Based on a case study investigating the adoption of a public web-portal for discussing politics with politicians prior to an election in Norway, they illustrate...
that urgency is closely linked with use of the system. They studied whether citizens’ used the system and found that the system was used before the election by citizens who saw a need (i.e., urgency) for communicating with politicians. After the election, neither the politicians, nor the citizens, used the system – there was no urgency once the election was over. The results show that when there is urgency, there is use. The link between urgency and use is important when studying citizens’ adoption of public sector e-service. In relation to the internal systems linked to the e-services, however, it is relevant to investigate whether this argument is valid when reversed. For service providers at governmental agencies, the use of internal information systems is typically not voluntary, meaning that it is not urgency that leads to use. But, logically, this argument should go both ways - the imposed use of systems ought to create a feeling of urgency concerning these particular systems.

Concerning the other two attributes, Sæbø et al. (2011, p. 423) state that “[p]ower and legitimacy appears to be more of a “structural” or “institutional” character in that these can be regulated through rules and procedures. Legally or socially, one can have power and/or legitimacy. However, both of them are enacted only if the actor appropriates them. This means that one may have legal power (or legitimacy) but may not perceive that one has that and hence not exhibit it”. This statement highlights important stakeholder characteristics presented by Mitchell et al. (1997, p. 868), namely that stakeholder identity and salience is subjective and relative:

- Stakeholder attributes are variable, not steady states.
- Stakeholder attributes are socially constructed, not objective, reality.
- Consciousness and willful exercise may or may not be present

Further implications for e-government project, as expanded by Sæbø et al. (2011), are that (1) the dynamic nature of salience has important implications for practice, (2) salience is tied to use of the system, and 3) stakeholder analyses must be updated in conjunction to specific events that are likely to alter the attitudes or salience of the stakeholders. The third point will be elaborated further in section 4.4 below.

**An alternative approach to stakeholder identification**

The typology presented by Mitchell et al. (1997) is frequently used but there are also other ways of identifying stakeholders. An often used categorization is to describe stakeholders in terms of their power and level of interest (e.g. Bryson et al., 2002; Bryson, 2004; Eden & Ackermann, 1998, Newcombe, 2003). Power refers to the stakeholder’s power to affect the organization’s or issue’s future. Interest refers to the stakeholder’s interest in a political sense as opposed to simple curiosity (Bryson, 2004). Both attributes are subjective and deliberately somewhat loosely defined (Eden & Ackermann, 1998). The relationship between power and interest is typically illustrated using a two by two matrix, in which four stakeholder types emerge. Considering that this analysis method relies on fewer attributes for distinguishing stakeholders, the division into different types of
stakeholders becomes less nuanced than the types presented by Mitchell et al. (1997). The legitimacy attribute is missing altogether in the power/interest models and as a result, fewer actors are classified as being stakeholders. In this thesis, Mitchell et al.’s (1997) typology is used as a point of departure for distinguishing stakeholders in e-government projects. Next, further analyses for how to characterize these stakeholders is discussed.

4.3. Stakeholder characterization

In order to determine a stakeholder’s salience, the salience attributes must be assessed. This can be done in various ways. In Freeman’s original work from 1984, he proposed a set of tools with a practical focus including e.g., (1) tools for creating stakeholder maps, (2) matrix-type tools for analysis of stakeholders, and developing and implementing stakeholder strategies, and (3) generic stakeholder management strategies. This practically oriented part of Freeman’s work is largely absent in debates on stakeholder theory, but has been adopted by researchers in, amongst others, the IS field (Flak & Rose, 2005). The scholars reviewed in this thesis, however, do not utilize Freeman’s (1984) stakeholder analysis methods. Instead Mitchell et al.’s (1997) stakeholder salience typology is used as a starting point for analysis and then subsequent analysis methods based on their respective research interests are applied. For example, based on extensive empirical work, Scholl (2004) proposes that stakeholders should be identified and characterized based on activities performed in two cycles; 1) identifying salient stakeholders using Mitchell et al.’s (1997) typology, and 2) identifying stakeholder needs. The second cycle aims at understanding the salient stakeholders’ likely stance towards the project, eliciting their needs and wants in a ranked fashion, and paving the path for stakeholders’ buy-in to the project by means of an inclusive process. I find it difficult, however, to see how stakeholder salience can be assessed without simultaneously assessing other stakeholder characteristics, such as needs, expectations, roles and relationships. In this thesis, stakeholder salience analysis is considered to be an integral, and ultimate, part of stakeholder characteristics analysis.

As with stakeholder theory and analysis in general, it is vital to thoroughly consider the motives for conducting further analyses of stakeholders; these motives should guide what characteristics need to be identified. Based on the objectives of the work presented in this thesis, stakeholder characterization is suggested to involve the following:

- Expectations of, attitudes toward, and perceived needs and benefits of the public e-service.
- Expected potential for cooperation with, or potential for threatening, the development/implementation of the public e-service.
- Stakeholder roles and relationships.

These themes are all related and partly build on each other. The second theme builds on the first one as expectations etc. determine whether a stakeholder will cooperate or not. The third theme is somewhat different as it refers to the stakeholders’ roles and the
relationships between stakeholders. Together, they all help in determining stakeholders’ salience.

4.3.1. Expectations, attitudes, and perceived needs and benefits

The first theme can be derived from multiple sources. Mitchell et al. (1997) writes about expectant stakeholders (stakeholders with two salience attributes). Scholl (2004) writes about stakeholders’ needs and wants towards the project. Sæbø et al. (2011) also writes about expectations linked to the urgency attribute; they argue that stakeholders who experience urgency typically expect something. From this it naturally follows that stakeholder expectations need to be assessed. Here, expectation refers to a strong belief that something will happen or be the case, or that someone will or should achieve something. Tightly coupled with expectations are attitudes, meaning settled ways of thinking or feeling about something. It is important to assess what attitudes different stakeholders have concerning the public e-service at hand and what attitude they have in terms of if they are positive, neutral, or negative (Freeman, 1984). The knowledge on these matters lays the foundation for further characterization of stakeholders and guides how to manage stakeholders (see the next chapter). The stakeholders’ expectations and attitudes are likely to be tightly linked to their perceived needs of the project or perceived benefits from it, i.e., what advantage or profit the stakeholders expect to gain from the project.

4.3.2. Potential for cooperation and threat

An often used tool for characterizing stakeholders is to map them in a matrix according to their expected potential for cooperation and potential for threatening the project (Freeman, 1984; Blair & Whitehead, 1988; Savage, Nix, Whitehead & Blair, 1991; Tennert & Schroeder, 1999). There is some variability in the phrasing by these scholars on the resulting categories, but the fundamental meaning is the same (see Figure 4.4). The stakeholders that score high on cooperation, and low on threat, can be understood as being supportive. In contrast, stakeholders that score low on cooperation, and high on threat, can be understood as nonsupportive. Stakeholders that score low on both dimensions can be considered as marginal stakeholders, whereas those that score high on both dimensions can be understood as mixed blessing stakeholders.
Chapter 4: Stakeholder Identification and Characterization

The two dimensions are fluid and the potential for stakeholders to shift positions over time or from issue to issue is high. The most dynamic group is the mixed-blessing stakeholder group. Because they score high on both potential for threat and potential for cooperation, they become both potentially supportive and potentially non-supportive at the same time. As a result, very often these stakeholders require a great deal of attention in the management process (Tennert & Schroeder 1999). As a consequence, propositions for how to manage these four types of stakeholders can be derived from the matrix, propositions that will be further elaborated on in the following chapter, see figure 5.1 in section 5.1. The threat and cooperation potential are in line with Heeks’ (2006) statement that, among the stakeholders identified, it must be investigated who the opinion leaders are, and whether these are resistors or adopters of the new e-government system. Resistors are those with a vested interest in the existing system, or those who have general dislike for change. Adopters are those with a vested interest in the new system, or those who are quick to adopt new technology and new ways of working.

4.3.3. Stakeholder roles and relationships

Stakeholders’ roles and relationships are partially assessed already when identifying potential stakeholders, see section 4.2.1 above. The topics discussed in this section should be considered as a continuation of that assessment aimed at deepening our knowledge on the stakeholders at hand.

As illustrated previously, power is an important attribute when identifying and characterizing stakeholders. Here, components from other managerial literature can help
illustrate how to recognize power. Johnson, Scholes and Whittington (2005) present a list of sources and indicators of power (see Table 4.4).

Table 4.4: Sources and indicators of power (adaptation from Johnson et al., 2005, p.186).

<table>
<thead>
<tr>
<th>Sources of power</th>
<th>For external stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Within organizations</strong></td>
<td><strong>For external stakeholders</strong></td>
</tr>
<tr>
<td>• Hierarchy (formal power)</td>
<td>• Control of strategic resources</td>
</tr>
<tr>
<td>• Influence (informal power)</td>
<td>• Involvement in strategy implementation</td>
</tr>
<tr>
<td>• Control of strategic resources</td>
<td>• Possession of knowledge of skills</td>
</tr>
<tr>
<td>• Possession of knowledge and skills</td>
<td>• Through internal links, e.g. informal influence</td>
</tr>
<tr>
<td>• Control of the human environment, e.g. negotiating skills</td>
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<tr>
<td>• Involvement in strategy implementation, e.g. by exercising discretion</td>
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<table>
<thead>
<tr>
<th>Indicators of power</th>
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<tr>
<td><strong>Within organizations</strong></td>
<td><strong>For external stakeholders</strong></td>
</tr>
<tr>
<td>• Status (e.g. reputation)</td>
<td>• Status (often inferred by the speed with which managers responds)</td>
</tr>
<tr>
<td>• Claim on resources (e.g. budget size)</td>
<td>• Resource dependence</td>
</tr>
<tr>
<td>• Representation (e.g. in powerful positions)</td>
<td>• Negotiating arrangements</td>
</tr>
<tr>
<td>• Symbols (e.g. use of titles, office size)</td>
<td>• Symbols</td>
</tr>
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</table>

All of the sources and indicators of power presented by Johnson et al. (2005) can be classified as being coercive, utilitarian, or normative. Thus, there is no conflict between the items in this list and the power types presented by Mitchell et al (1997). Sæbø et al.’s (2011) claim that power appears to be more of a structural or institutional character is supported by most of the sources and indicators of power presented here, but from the list provided by Johnson et al.’s (2005) it is clear, however, that power can have informal sources and indicators as well. These informal power sources are likely to be more difficult to identify due their implicit nature (Newcombe, 2003). When identifying stakeholders it is important to keep in mind that both individuals and organizational entities can be salient stakeholders (Newcombe, 2003; Scholl, 2004). All of the sources and indicators can be seen on the organizational, group, and individual levels.

An important note on power is that it is intimately tied to symbolic actions that determine hierarchies and differences between people (Alvesson, 2007). Organizations are infused with actions and arrangements that separate categories of employees, thereby defining notions and ideas on peoples’ different value. According to Alvesson (2007) power is not unilaterally imposed on people or coming solemnly from ‘the top’; power is an issue of notions that influence people, and that are ‘voluntarily’ embraced by people. Even though the variation in influence is enormous, the capacity of the subordinates must not be neglected. All members of an organization influence ideas and values in the organization. Power and culture are highly interrelated. (Alvesson, 2007).
Bruzelius and Skärvad (2004) build on Weber and separate power and authority – a person who has power can force other people to obey; a person with authority is followed voluntarily by other people. These two concepts are also linked. A person with power is a person with abilities to enforce changes and decisions in the organization. A person whose power is respected by others in the organization has authority. In turn, the authors also state that a person with prestige and reputation enjoys high status. The authors conclude that power, authority and high status tend to vary in relation to a person’s position in the organizations’ hierarchy; people higher up in the organizations have more of the three, people at the bottom have less. These patterns are not only visible in the organization as a whole, but also in smaller groups within the organization. General patterns in groups, that have bearing on the meaning of power, are that people with high social status (that are high up in the hierarchy) (1) are often initiators to interaction in the group, (2) are looked-for by others in the group for social contact, and (3) often tend to be a link to other groups (Bruzelius & Skärvad, 2004).

The issue of power is important and could easily be the topic of a thesis in itself. In this thesis, however, power is but one of several stakeholder characteristics to be assessed. What is perceived as important here is that a person’s or group’s power is in part determined by formal structures within the organization, but also by informal structures based on interactions with others in the organization. As a researcher on temporary visit in the organization, the informal structures can be difficult to capture and get hold of. As a consequence, formal structures will be put in the foreground in this thesis. These formal structures can be partially discussed in relation to the stakeholders’ roles in relation to the core issue, but also in terms of their relationships with other stakeholders.

Finally, it is highly useful and informative to assess what relationships stakeholders have with each other. Stakeholders are often described and mapped in terms of their relationship to the central organization. These maps typically resemble a star with the central organization as a hub in the middle. Lately, this kind of representation has been criticized for being insufficient to explain stakeholder influences on projects or organizations (Flak & Nordheim 2007; Flak et al., 2008). These authors have returned to Freeman’s original text in which he proposes that potential conflicts between stakeholders and not merely between a focal organization and its stakeholders should be mapped, in order to increase our understanding of influential forces (Freeman, 1984). Hence, Flak et al. (2007; 2008) argue that research on stakeholder dynamics could benefit from extending the focus to include potential conflicting interests between stakeholders and not just focus on relationships between a focal point and its’ stakeholders.

### 4.4. Stakeholder identity and stance – not stable states

An important point made by Mitchell et al (1997, p. 868) is that stakeholder identity and salience is subjective, relative and socially constructed. Furthermore, consciousness of these attributes and willful exercise may or may not be present, see section 4.2.2. Although Mitchell et al. (1997) clearly state that stakeholder attributes are variable states,
they do not provide us with guidelines for how to capture and understand the dynamic movements of stakeholder identity and salience. They are not specific concerning when and how often stakeholder attributes should be assessed.

The subjective character of stakeholder attributes and characteristics also means that stakeholder analysis will always only supply a ‘snapshot’ of a shifting and ever-moving situation. As Tennert and Schroeder (1999; p.14) puts it: “Any stakeholder at any time can move in or out of a different classification or may simultaneously occupy more than one category depending upon the nature of the problem.” Following this claim, how many snapshots must be taken in order to give a reasonably full description of the situation? Kamal et al. (2011) analyze the role of stakeholders in an e-government project in the UK. Like most e-government related projects, the studied project affected different stakeholders whose roles and interactions varied over the course of the project. In order to capture the stakeholder dynamics, Kamal et al. (2011) therefore investigated stakeholders in relation to a conceptual lifecycle model, consisting of six phases. The applied lifecycle model and its phases are highly context specific and is thus not applicable here, but the idea and procedure is inspiring. Based on their analysis, Kamal et al. (2011) capture some of the dynamic movements of stakeholder identity and salience, showing that stakeholders can be identified in relation to project activities and that the intensity of different stakeholders’ involvement in a particular phase may vary. The idea of investigating stakeholders in relation to project phases has been suggested previously by others, but few have gone the whole length and actually done it. For example, Newcombe (2003) suggest that stakeholder identity and stance are dependent on the stage the project has reached, and may change in response to particular decisions, but does not investigate these issues further in relation to his own case study. Returning to Kamal et al. (2011), they propose three propositions for conducting research on stakeholders in the local government context. Kamal et al.’s (2011) propositions are quite context specific, but when read in a more general manner they state that stakeholders who can contribute their knowledge and expertise during the project can (1) be identified based on the activities during the project, (2) have different perceptions regarding the project, and (3) be involved in different phases of the project’s lifecycle.

In this thesis, it is acknowledged that stakeholder analysis should be a continuous activity in a public e-service development and implementation project. How to guide a continuous analysis is further discussed in the next chapter, section 5.4.2.

4.5. Chapter summary

In this chapter, stakeholder theory has been presented as a theory for analyzing who managers need to pay attention to. Stakeholder theory must be combined with other theories and put in a specific context in order to be helpful. Here, stakeholder theory is applied to the e-government projects context and is combined with theory on public e-services and user involvement (see next chapter). From the descriptions given above, it
follows that a public e-service stakeholder can be defined as *an individual, group, or organization that is affecting, or is affected by, the achievement of a public e-service’s objectives.*

To sum up, public e-service stakeholders can vary in salience for managers (Mitchell et al., 1997). Salience is a function of the following attributes; power, legitimacy, and urgency (Mitchell et al., 1997). Urgency appears to be an especially important attribute in relation to the use of systems, such as e-services (Sæbø et al., 2011). Based on these three attributes, stakeholders can be divided into eight stakeholder types. The analysis of stakeholders’ salience requires, however, that the potential stakeholders are already known (Lindgren, 2012). In this thesis, it is suggested that potential public e-service stakeholders can be identified in relation to the public e-service dimensions (Lindgren & Jansson, 2013), by using two typologies covering stakeholder roles (Heeks, 2006) and e-government entities (Axelsson, et al. 2013; Sæbø et al., 2011).

In order to assess the salience of the potential public e-service stakeholders, the stakeholders must be characterized in relation to their stance toward the public e-service (including attitudes, expectations, perceived needs/benefits, potential for threat/cooperation, roles, and relationships).

Last, salience, roles, and stance vary over time (Mitchell et al. 1997; Scholl 2004; Sæbø et al., 2011), e.g., across project phases (Kamal, et al. 2011; Newcombe 2003; Sæbø et al. 2011; Tennert & Schroeder 1999). The fluent nature of stakeholder identity and stance implies that stakeholder analysis must be conducted continuously and inductively based on the situation at hand. A note of caution concerns that the classification of each stakeholder, which is the result of the aforementioned analysis, must not be treated too rigidly. In fact, as Taylor and Lips (2008) point out, dividing citizens into segments (such as stakeholder identities) based on pre-defined, deductive, criteria and then treating them in accordance to this division may lead to stigmatization of certain citizens. This is probably true for all kinds of stakeholders.
5. Stakeholder Involvement

This chapter introduces ideas on how different stakeholders can be involved in systems development, such as the development of a public e-service. ‘Stakeholder involvement’ is discussed as the result of a merger of ideas on stakeholder management (stakeholder theory) and user involvement (IS development literature). Benefits, challenges, and attributes of stakeholder involvement are presented and discussed. The chapter is concluded with an in-depth discussion of two stakeholder involvement attributes particularly important for the purposes of this thesis, concerning degree and extent of stakeholder involvement.

5.1. Taking stakeholders into account in project management

In the chapter on public e-services, involvement of citizens and governmental employees in the development and implementation of public e-services was suggested as a means of avoiding unsuccessful public e-service projects. In the previous chapter, stakeholder theory was suggested as a theoretical framework for identifying and characterizing who is important in the development and implementation of public e-services. This chapter deals with how salient stakeholders can be involved in the development and implementation process of a public e-service. The exploration of stakeholder involvement begins by briefly exploring some ideas on stakeholder management, as discussed in stakeholder theory.

In stakeholder theory, suggestions on how to manage different types of stakeholders are presented, as stakeholder management is seen as a way to ensure effective and efficient management. The logic is to identify stakeholders, and thereafter decide for each stakeholder whether it should be involved in the project, or managed in some other way. Many different meanings can be put into the term stakeholder management. According to Blair and Whitehead (1988, p.155), stakeholder management “integrates in a systematic way what managers often deal with separately: strategic management, marketing, human resource management, public relations, organizational politics, and social responsibility”. Stakeholder management can include a wide range of arrangements; from active participation of stakeholders in the development process, to communication and expectation management, or financial rewards and punishments (Heeks, 2006).
Ultimately, stakeholder management boils down to the following; “[k]ey stakeholders (…) must support (passively or, ideally, actively) a proposed e-government project if it is to succeed. For any human to support a project, that project has to align with at least some of their personal objectives and values. Put more simply, the e-government project must provide each stakeholder with at least some positive answer to the key change management question we all ask of any project: ‘Why should I: what’s in it for me?’” (Heeks, 2006, p. 225; my emphasis).

A frequent example of a stakeholder management strategy seen in the stakeholder theory literature is related to stakeholders’ potential for cooperation with, or threat to, the organization or issue at hand (e.g., Blair & Whitehead, 1988; Savage et al., 1991; Tennert & Schroeder, 1999). Based on these two characteristics, a two-by-two matrix was presented in the previous chapter (Figure 4.4, section 4.3.2.) to illustrate different stakeholder characteristics. In relation to stakeholder management, Blair and Whitehead (1988) illustrate different management strategies by matching each type of stakeholder in the matrix with a type of stakeholder management strategy, see Figure 5.1 below.

The matrix, and its suggested strategies, is promoted also by Tennert and Schroeder (1999) who state that stakeholder strategies must be designed in respect to stakeholders’ potential to shift positions over time. According to this approach, all stakeholder types, except marginal stakeholders, must be actively dealt with; each according to a different logic. Supportive stakeholders should be involved in the project, whereas non-supportive stakeholders must be dealt with using a ‘defense strategy’; ideally one would try to move the non-supportive stakeholder into a less hostile position. The stakeholder type most likely to shift position is the mixed-blessing type. Because this type scores high on both potential for threat and potential for cooperation, it becomes both potentially supportive.
and potentially non-supportive at the same time (Tennert & Schroeder, 1999). Based on a case study on the development of an advanced traveler information system, Tennert and Schroeder (1999) illustrate how stakeholders in the project changed in respect to their stakeholder attributes during the duration of the project. They especially report on a ‘mixed-blessing’ stakeholder, who was very important for the project but lacked enough sense of urgency to become a definite stakeholder, thereby threatening the success of the project. They adopted a collaboration-strategy and tried to get him more involved in the project. With time and effort, they managed to get this particular stakeholder actively involved in the project, increasing his sense of urgency – and this moved him from a mixed-blessing to a supportive stakeholder. This is an example of the dynamic nature of stakeholder stance and salience, as discussed in the previous chapter (section 4.4). In line with this kind of reasoning, Heeks (2006) suggests that e-government project stakeholders’ values and objectives can be altered through rewards and punishments; rewards including incentives for e-government uptake (for external stakeholders) and better pay or career advancement (for internal stakeholders); and punishments including higher costs for use of non-e-government channels (for external stakeholders) and worsened pay and working conditions (for internal stakeholders). An example of a ‘rewarding’ strategy can be found in the Swedish context concerning the public e-service for tax declaration; citizens using the Swedish Tax Agency’s public e-service for tax declaration are rewarded by getting their tax refund earlier than those citizens who use the paper-based channel. Concerning the use of ‘punishments’, it is highly questionable if a strategy based on punishment for stakeholders would be accepted, or even legal, in the Swedish context (especially concerning worsened pay and working conditions).

The idea of ‘moving’ stakeholders from one category to another through arrangements with the stakeholder in question, as in the example by Tennert and Schroeder (1999), is applicable also on the salience attributes presented by Mitchell et al. (1997). It is not farfetched to think that stakeholders who e.g., lack power can, in a metaphorical sense, be ‘given’ power by being involved in the development project (sometimes referred to as empowerment), given that they are allowed to influence decisions made. In Tennert and Schroeder’s (1999) example above, the stakeholder’s self-perception did not correspond with the view held by the management; the stakeholder was hence not conscious of its salience to the managers (cf. Mitchell et al., 1997). In this example a stakeholder with legitimate claims and potential power was unaware of the new system under development, and was hence unaware of how s/he would be affected, or could affect, the new system. By being informed of the new system, and how the stakeholder would be affected, a sense of urgency arose, and the salience attributes changed. In some situations, the management may wish to ‘move’ stakeholders from one category to another in order not to meet resistance or unpleasant surprises later. Similarly, stakeholders might try to create opportunities for themselves to shift positions. For example, stakeholders with legitimate claims and a sense of urgency (a dependent stakeholder) might try to team up with other stakeholders in order to gain power, and hence become a definite stakeholder.
Somewhat simplified, stakeholder management involves creating opportunities for stakeholders to adopt a supportive position in relation to the focal organization or issue. As illustrated in the examples given above, stakeholder management may include direct interaction between managers and stakeholders, and can thus be understood as some kind of involvement of stakeholders. Considering the aim of this thesis, the involvement type of stakeholder management is in focus in this thesis. Other stakeholder management activities, such as marketing and human resource management, are therefore not further discussed in this thesis.

Although stakeholder management as a term can be given a broad meaning and understood as a wide range of arrangement (Blair & Whitehead, 1988), there is no way of escaping the fact that the main focus lies on the well-being of the core organization, project, or even management. Phrasings such as the one put forth by Heeks (2006), i.e. that stakeholders should be identified by examining who has the power to make the project fail in some way, are frequent and illustrates a strong management focus. The way in which the viewpoint of the management is favored in stakeholder theory may lead the critic to accuse stakeholder theory for simply seeing stakeholders as potential hindrances to successful management, and focusing too much on how to manage, or even manipulate, stakeholders. No matter how one-sided, and potentially ‘manipulative’, this perspective may seem, it is nevertheless important to address as it captures some of the reality and issues of project managers; also in the e-government context. Considering that those responsible for e-government initiatives must accommodate objectives directed both at the internal efficiency of the government, and objectives directed towards citizens and the society at large, the managerial focus in stakeholder theory may however be problematic for public e-service development. Focusing too much on the views on the management may lead to important stakeholders being left out of the development process (Axelsson et al., 2009). This may, in turn, lead to the development of public e-services that very few external stakeholders will use (Axelsson & Melin, 2007), or that influences work procedures in an unanticipated and undesirable way for internal stakeholders (Giritli-Nygren, 2009a; 2009b). The managerial focus is strong also in this thesis; here, public e-service stakeholders are discussed from the viewpoint of those responsible for developing and implementing public e-services. Consequently, stakeholder involvement is discussed from the view of those organizing the involvement. I believe, however, that it is possible to open up for a wider understanding of stakeholder involvement, than the one presented by stakeholder theory, by including ideas on involvement presented by IS researchers in relation to user involvement in systems development. Furthermore, by combining user involvement literature with stakeholder theory literature, the technological and political dimensions missing in descriptive stakeholder theory (Flak & Rose, 2005) are complemented; see section 4.1.1.
5.2. Involving stakeholders in systems development

In the stakeholder theory literature, involvement and commitment are considered to be related; stakeholders who participate in the process of creating something are more likely to feel committed to the implementation of what they have co-created (Freeman, 1984). If considering involvement as discussed in the IS literature on systems development, involvement can however include more than creating a feeling of commitment.

In relation to systems development, ‘user involvement’ is a widely discussed topic (Karlsson et al., 2012). In user involvement theories, focus lies on the particular development project, often focusing on the development of a particular system, and the intended users of the system being developed. Seen from a stakeholder theory perspective, the development project can be understood as the focal organization; and the intended users are some of its stakeholders. Resembling stakeholder theory literature, much scholarly work on user involvement focuses on how to manage different people (‘users’) in order to facilitate the development project and its outcome. Hence, there are similarities in ideas and concepts between user involvement and stakeholder management; but, there are also substantial differences, some concerning their background and value-base. In order to integrate concepts from the user involvement literature with the notion of stakeholder management, as already discussed, this section gives a brief overview of user involvement literature.

In IS research, involvement of different people in the development process is seen as a way of attaining the knowledge and information needed for successful system design (Artman, 2010; Bødker, Kensing & Simonsen, 2011; Damodaran, 1996; Schmidt, Lyytinen, Keil & Cule, 2001; Söderström, 2010). The emphasis on involving users and protecting their rights is particularly salient in the Scandinavian IS tradition (Ehn, 1993; Iivari & Lyytinen, 1996; Iivari, Isomäki & Pekkola, 2010). In this thesis, the discussion on user involvement takes its departure in participatory design (Schuler & Namioka, 1993), as it has influenced how we think about user involvement today, and because its political content chimes well with the goals and objectives of e-government and public e-services.

5.2.1. Participatory design and user involvement

Participatory design (PD), as used in this thesis, refers to the system development approach sometimes referred to as the Scandinavian approach to systems design (Ehn, 1993). It is a design approach in which not only productivity and product quality, but also democratic participation in the workplace and skill enhancement are considered ends for the design process. As mentioned above, PD is chosen as the point of departure for the discussion on stakeholder involvement because it promotes political content that corresponds with the objectives of e-government. Later in this section, the discussion on involvement is broadened to include additional approaches promoting active involvement of users in the IS development process.
The PD approach was born out of socio-technical experiments in Scandinavia in the 1970s that aimed at increasing democracy in the workplace. Through a number of groundbreaking studies initiated by the trade unions (e.g., DEMOS and UTOPIA; see Ehn, 1989; 1993) and successive political reforms (such as the introduction of the Joint Regulation of Working Life Act (MBL) in Sweden (Mumford, 2003)), workers were given increased rights to influence the introduction and use of new technology in the workplace. These measures were meant to increase both job satisfaction and productivity in industry. The PD approach rests on the socio-technical tradition, and hence focuses on the work-oriented design of computer systems (Ehn, 1989) but has grown into its own “school” and evolved into a system design approach highly associated with IS research and computer-based system design.

Simply put, PD promotes the involvement of users in the design process and is characterized by two features, where one is political and the other is technical (Ehn, 1993). The political feature refers to that participatory design aims at making the workforce participate actively in decisions which affect their daily working life (Damodaran, 1996), thereby actualizing issues of democracy, power, and control in the workplace. The technical feature refers to the “promise that the participation of skilled users in the design process can contribute importantly to successful design and high-quality products” (Ehn, 1993, p.41). Both of these features correspond well with the e-government focus of this thesis; e-government initiatives, such as public e-services, are meant to result in both increased participation in decision making, increased democracy, and improved technical systems and processes.

In relation to the technical feature of PD, a chain of arguments that is often put forth is that system developers’ failing to understand the needs and requirements of the users may result in poorly designed technology. Poorly designed technology can lead to various difficulties for users to perform their jobs, including stress-related issues. This, in turn, can lead to lower productivity and lower job satisfaction. This chain of argument has been presented again and again (e.g., Bansler, 1989; Boivie, Åborg, Persson & Löfberg, 2003; Bravo, 1993; Söderström, 2010), but never seems to lose its actuality and relevance. The remedy for poorly designed technology, according to the PD approach, is to see the design process as a learning process in which designers and users interact and learn from each other. In PD, it is not only emphasized that users must be allowed to participate in the design of systems, it is also stressed that the system developers should participate in the users’ activities; i.e., share the users’ practice (Ehn, 1993).

Another underlying assumption of participatory design, as presented by Ehn (1993), and that is of importance for this thesis, is that it adopts a conflict view on organizations. This means that it rejects “the harmony view of organizations, according to which conflicts in an organization are seen as stemming from misunderstandings and can be resolved by good analysis” (Ehn, 1993, p.47). It also rejects the idea of design as rational decision making based on shared and pre-defined rules and goals. In addition, the PD approach
acknowledges that there will always be differences in interests and power between various people in an organization. These differences can be seen between employees of different professions, between employees and the management, between skilled and unskilled employees, and so on. All interests in the organization cannot be satisfied in the system development and therefore compromises must be done. System developers too must be understood as being guided by personal interests in their work. These points correspond well with stakeholder theory in general, e.g., with Flak and Rose’s (2005) statement that stakeholders’ views can be respected only to a varying degree in the development of e-government.

PD is far from the only design approach in the IS literature that promotes active involvement of users in the design process. Based on a review of user involvement literature, Kujala (2003) distinguishes four main approaches; participatory design, user-centered design, ethnography and contextual design. These approaches were developed in parallel and contrast to each other, but over the years they have come to resemble one another. The focus of participatory design was described above; its emphasis is on democratic participation and typical methods include workshops and prototyping. User-centered design, in turn, focuses on usability issues, and typical methods include task analysis, prototyping, and usability evaluations (Kujala, 2003). Ethnography emphasizes social aspects of work; this is typically studied through the use of observations and video analysis (Kujala, 2003). Ethnography emphasizes social aspects of work; this is typically studied through the use of observations and video analysis (Kujala, 2003). Last, contextual design focuses on the context of work, typically through prototyping and a combination of interviews and observations (called contextual inquiry) (Kujala, 2003). Kujala (2003) argues that these four user involvement approaches are similar in most respects; in contrast, other scholars (e.g., Karlsson et al., 2012), argue that they have important differentiating features. In this thesis, user involvement is discussed on a rather general level, and therefore the commonalities of these four approaches are emphasized and adopted.

Four important principles for involvement that are essential for all user involvement approaches to IS development (Bødker et al., 2011), and that are transferable to stakeholder involvement and the subject of this thesis, concern (1) experiencing work practices first-hand; (2) ensuring genuine participation; (3) the development of a coherent vision; and (4) anchoring the visions with different stakeholders. All of these principles are touched upon in this chapter. The first principle refers to system development as an interactive learning process between system developers and the intended users of the system. The second principle refers to the political features of user involvement, and corresponds well with the political and democratic aspects of public e-service development. The third and fourth principles are dealt with in the subsequent discussions of this chapter. Considering that the different approaches promoting user involvement display many similarities (Kujala, 2003), the discussion on involvement in this thesis is henceforth informed by publications from other schools than PD as well.
5.2.2. Who is the ‘user’ in user involvement?

According to participatory design researchers Bodker et al. (2011, p. 120) “all types of users of a new system must be involved in different ways in the design of the relevant parts of a system”. On a similar note, IS researchers Iivari et al. (2010, p.111) state that; “[u]sers usually are the best experts on the local work practices to be aligned with and to be supported by a system. Users also are the final ‘implementers’ of the system, and evaluation of the system without any attention to subjective user-oriented criteria, such as perceived usefulness, perceived ease of use, perceived usability and user satisfaction, is seriously limited”. So, who are these users? This is a question without a ready answer. Despite numerous studies on understanding the user, the user remains largely unknown when the studies are examined in detail (Iivari, et al., 2010). Typically, the user concept is given a broad meaning including more than only the people interacting directly with the system. For example, Cavaye (1995, p.312) states that users can be found in different levels of the organization and with different relationships to the system: “[t]here is senior management that may use a system’s output and that is ultimately responsible for an organization’s investments and profitability. There is middle management that manages and monitors the work affected by the system. Thirdly, there are the employees who carry out the work and who would interact with the system on a day-to-day basis”. A similar division is made by Damodaran (1996) who argues that users from top management, middle management and end-user representatives must be involved in various phases of the design process. The final end-users, also called ‘first-level’ or ‘primary’ users, are the ones who will interact directly with the system as part of their work.

If considering the term ‘user’ from a stakeholder perspective, the user can be seen as a potential stakeholder role. In fact, if considering the end-users who interact directly with the technology, the ‘user’ is present in the e-government entity typology (Axelsson et al., 2013; Sæbø et al., 2011) and corresponds with the ‘client’ category in Heeks’ (2006) typology. Similarly to the division of users made by Damodaran (1996), Heeks (2006) divide clients into primary and secondary clients. But the inclusion of management roles in the definitions of ‘user’ cited above makes the ‘user’ term correspond also to stakeholder roles such as ‘operators’, ‘sponsors’, and ‘owner’ in the Heeks (2006) typology. This wider view on users also correspond with the ‘service provider’ and ‘management’ categories in the Axelsson et al. (2013) typology. As a result, the broad meaning of the term user visible in the user involvement literature makes it possible to discuss user involvement in terms of stakeholder involvement. In the subsequent parts of this chapter, the sources cited are taken from the user involvement literature. The term ‘user’ is however exchanged with the term ‘stakeholder’¹. This transfer of the stakeholder term is however done with the acknowledgement and reservation that the term ‘stakeholder’ is more inclusive than the term ‘user’. For example, the people responsible for organizing stakeholder involvement, e.g., the system developer and project

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¹ Except in quotes, in which I stay true to the original text of the author cited.
management roles discussed in the subsequent parts of the chapter, also fall under the label ‘stakeholders’.

To conclude this section, in this thesis the general term stakeholder involvement is used for describing system developers’ and project management’s direct contact with other stakeholders, covering several different approaches and methods. Although the terms ‘involvement’ and ‘participation’ are sometimes differentiated in the literature (e.g., Barki & Hartwick, 1989; 1994), these terms are used as synonymous terms in this thesis. I am fully aware that this is a simplification of the user involvement and user participation literature, but for the purposes of this thesis, this level of detail is deemed enough.

Another important aspect that must be kept in mind is that someone organizes the involvement of stakeholders. In this thesis, the involvement activities are seen as being organized by one set of stakeholders who is responsible for the development and implementation of public e-services; in short, the project management. The expected benefits, challenges, and attributes of stakeholder involvement described in the subsequent parts of this chapter are therefore described from the project management’s point of view.

5.3. Benefits and challenges of stakeholder involvement

Apart from being a way of ensuring more democratic decision making (Damodaran, 1996), stakeholder involvement is perceived as bringing benefits regarding the development of technology as well as organizational benefits, and benefits for end-users (Karlsson et al., 2012). The potential benefits of involvement are discussed by several scholars (e.g., Ehn, 1993; Damodaran, 1996; Henfridsson & Lindgren, 2010; Norman, 1993; Mumford, 2000; 2003). In short, involvement of stakeholders in the system development and implementation process is seen as potentially bringing benefits both for the project management and for the stakeholders being involved. As already touched upon in the previous descriptions, the main expected benefits of stakeholder involvement can be summarized as:

- Improved quality of the system, due to more accurate system requirements. This implies that unnecessary and costly system features and detrimental organizational consequences can be avoided.
- Improved levels of stakeholder acceptance and understanding of the system. Stakeholder involvement can hence help to avoid resistance and inefficient use of the system.
- Increased participation for stakeholders in decision making, leading to increased democracy and higher levels of satisfaction for involved stakeholders.

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2 For more elaborate discussions on different user involvement strategies and their respective impact on public e-service development, I refer to e.g., Karlsson, et al.’s (2012) excellent study.
Chapter 5: Stakeholder Involvement

Basically, the premise is that without effective involvement in all stages of planning and design, the organization is storing up problems for the future (Damodaran, 1996). In practice, however, the evidence for the benefits and effectiveness of stakeholder involvement is both unclear and contradictory (e.g., Hirschheim, 1983; Ives & Olson, 1984; Markus & Mao, 2004; Subramanyam et al., 2010). There is considerable empirical evidence for its benefits, and there is near consensus on the importance of stakeholder involvement among researchers, but much research on involvement has focused on different techniques rather than on questioning the value of participation in itself (Heeks, 1999). This has resulted in that involvement is often conducted in an uncritical way, not asking why and for what purposes the involvement is conducted. Heeks (1999) further argues that it must not be assumed that participation always and necessarily will bring benefits. In relation to the focus of this thesis, four problem areas are particularly important to be aware of;

- System developers and/or project management may fail to recognize the importance of stakeholder involvement.
- The stakeholders may be represented in a skewed manner or may fail to recognize the importance of involvement.
- The organizational structure may put constraints of the possibilities to conduct stakeholder involvement and hinder genuine participation.
- IS development methods are typically not explicit regarding how stakeholders can be involved.

These four challenges are described in the subsections below. Note that they are interrelated and partially overlapping.

### 5.3.1. System developers and project management may fail to recognize the importance of involvement

In brief, meaningful involvement of stakeholders requires that both those who organize and those who participate in the activities have involvement on their agenda. A Delphi survey of software development project managers’ perception of threats to project success show that (1) lack of top management commitment, (2) failure to gain stakeholder commitment, (3) misunderstanding the requirements and (4) lack of adequate stakeholder involvement, are seen as the top four reasons for unsuccessful IT projects (Schmidt, et al., 2001). As illustrated, stakeholder commitment and involvement are acknowledged as crucial for project success. Still, the user involvement literature testifies that involvement often is perceived by system developers and project managers as being too costly or cumbersome (Bødker et al., 2011). This is partly because involving stakeholders in development projects means that conflicting needs and interests must be dealt with (Bødker et al., 2011). Even if involvement of stakeholders is organized, with good intentions, it might not succeed. Several studies illustrate how system developers indeed intend to involve stakeholders, but fail to do so in practice. Poor understanding of
stakeholder needs and effects is suggested as probable explanations for system developers failing to involve stakeholders, as well as organizational obstacles (Artman, 2010; Boivie et al., 2003); such as when the project management fails to recognize the need for stakeholders to be involved. When involving stakeholders in systems development, system developers are likely to have to deal with conflicting needs and interests, especially between managers and end-users. Howcroft and Wilson (2003, p.20) even write about system developers as “prisoners of paradoxes”; when dealing with end-users, the system developer’s attention is focused on humanitarian concerns, and when dealing with managers, the attention is focused on improved efficiency, productivity, profit, and compliance. When these views are conflicting, it can be difficult for a system developer to give precedence to the views expressed by the end-users being involved. This is obviously a simplification, but proves to illustrate one of the challenges with stakeholder involvement.

5.3.2. Skewed stakeholder representation and stakeholders’ failure to recognize the importance of involvement

As mentioned above, the outcome of stakeholder involvement is highly dependent also on the stakeholders being involved. Here, the (1) identification of whom to involve, and (2) how these individuals are treated are crucial. The previous chapter dealt with the identification and characterization of stakeholders; this analysis will give one answer to the question regarding whom to involve. When we are dealing with stakeholder groups, the issue however becomes what representatives of the group should be asked to be involved in the systems development project. An important question therefore concerns how the selection of stakeholder representatives is made and on what grounds. A frequent problem is that the most skilled people cannot be spared from day-to-day operations to become stakeholder representatives in development projects (Damodaran, 1996). Another problem is that the selection of representatives might be skewed, both when representatives are nominated and when they volunteer for involvement. The selection might e.g., be skewed towards the powerful or towards individuals who have personal agendas that they would like to push (Heeks, 1999).

Finding the ‘right’ stakeholder representatives to involve in systems development is not an easy task. In fact, Rasmussen, Christensen, Fjeldsted, and Hertzum (2011) argue that there are few practical recommendations in the user participation literature on how to select stakeholders for involvement. According to Rasmussen et al. (2011) two general approaches can be seen in the literature regarding representation; one in which getting a representative cross-section of stakeholders is seen as the selection criterion for appointing stakeholder representatives; and another, in which stakeholder representatives are chosen based on personal characteristics rather than on their representativeness. For the first approach to be used, stakeholders must be distinguished into different groups from which representatives can be chosen. The grouping of users can be done according to various criteria, such as based on stakeholder analyses (Rasmussen et al., 2011). In the second
approach, having knowledge about IT, or being an early adopter of new technology, are examples of characteristics that are looked for in a potential user representative. Rasmussen et al. (2011) illustrate that, in practice, the first approach is mainly considered for activities involving many users for a short period of time, such as for surveys of user needs. The second approach, in turn, seems to be the most attractive approach for system developers when they need user representatives for longer-time participation. For long term participation, fewer users are chosen based on their ability to contribute actively and directly to the progress of the project. These choices are practical but may be associated with certain risks; the most obvious one being that choosing user representatives on the basis of ‘interest in technology’ and ‘ability to cooperate with the system developers’ may lead to that the system under development is developed by and for a very small segment of the total user group (Rasmussen et al., 2011).

On a similar note, it is also important to find the right ‘mix’ of stakeholder representatives. The importance of mixing participants from different parts and levels of the organization is discussed by Heeks (2006). He illustrates how system developers and senior managers can fall into the trap of idolizing new technology, and develop a belief that technology represents the best path for organizational change. Similarly, senior managers and external consultants can develop a belief that formal and objective models of the organization represent what should be aimed for. All these groups may therefore attempt to impose technology-/rationality-driven designs on the change process (cf. Markus and Robey, 1988). In contrast, “[o]f all stakeholders, the users are those who tend to be most rooted in current system realities, and who best understand when technology-/rationality-driven models will be inappropriate. Giving users a bigger say in systems development can therefore help guard against … failure.” (Heeks, 2006, p. 234). The illustration made by Heeks (2006) is somewhat oversimplified, but serves as a reminder that different types of stakeholders see things from different perspectives. In order to achieve a broader understanding of a phenomenon, stakeholders from several perspectives should be involved.

Last, it is important to involve stakeholder representatives who want to be involved in the system development project. Stakeholder representatives sometimes do not want to be involved in systems development projects (Heeks, 1999), e.g., when design work is perceived as too time-consuming or boring (Ehn, 1993), or when they suspect that the project will result in redundancies (Howcroft & Wilson, 2003; Sefyrin, 2010). Also, the degree of involvement can make a difference; from the users’ viewpoint there can, indeed, be too much of a good thing. In a recent study on the impact of user participation in software development projects on the satisfaction of both developers and stakeholders, Subramanyam et al. (2010) illustrate that there is a gap between stakeholders’ and developers’ levels of satisfaction in relation to involvement. Subramanyam et al. (2010) illustrate that a high level of stakeholder involvement are correlated with developers’ satisfaction with the project. In contrast, a high level of stakeholder involvement was also correlated with stakeholder dissatisfaction. A possible explanation to this result, put forth
by the authors, is that highly\textsuperscript{3} involved stakeholders help developers to disentangle uncertainties and ambiguities in the project (leading to satisfied developers). But, simultaneously, the involvement may set the stakeholders’ expectations too high, making it more likely that they become dissatisfied if the outcome of the project does not live up to their expectations. Their overall result show that stakeholder involvement works best – for both parties – when conducted at moderate levels\textsuperscript{4}.

5.3.3. **Organizational structures may limit possibilities for stakeholder involvement**

Even if the ‘right’ stakeholders are identified, there might not be an appropriate organizational infrastructure for successful involvement of stakeholders to take place. For example, organizational structures such as whether the development project is performed \textit{in-house} or by \textit{contract} can influence the possibilities for stakeholder involvement (Rasmussen et al., 2011). For in-house projects, such as the one discussed in the empirical part of this thesis, the project management and system developers are more likely to know the users and stakeholders of the system (at least the internal stakeholders). The possibilities for interacting with and actively involving stakeholders in the development project are also different than if the system development is done by another, external, party. This does not, however, mean that user participation is more easily managed in the in-house context (Rasmussen et al., 2011).

There are also situations when there is stakeholder involvement ‘on-paper’, but not in reality. Damodaran (1996) gives examples of situations where stakeholders are involved without actual stakeholder involvement taking place; such as when stakeholder representatives adopts the system developer’s perspective due to training and persuasion, and thereby fails to protect the needs and interests of the stakeholders it was intended to represent (Damodaran, 1996). Similarly, Heeks (1999) write about ‘veneered’ participation, referring to when the organization regards stakeholder involvement as contextually non-viable, but there is an external pressure for it to undertake stakeholder involvement. In order to adhere to the external forces, an appearance of involvement is therefore created. The veneer of involvement is then used to cover a reality of more top-down authoritarian decision-making or other decision-making processes that the organization sees as being more effective or efficient. Correspondingly, Howcroft and Wilson (2003) state that managers often create a ‘façade of participation’. This is particularly done for end-users in order to create a feeling of involvement (see e.g., Barki & Hartwick, 1989) and to enroll these to the coming system; hiding a reality of powerless end-user participants. In all of these examples, stakeholder involvement appears to take place but none or few of the potential benefits of stakeholder involvement are delivered.

\textsuperscript{3} “High levels of user participation”, refer to when users are involved in more than 60\% of the overall project development time (Subramanyam, et al., 2010, p. 141).

\textsuperscript{4} “Moderate levels of user participation” is defined by the authors as when users are being involved in approximately 20\% of the overall project development time (Subramanyam, et al., 2010, p. 141).
Participatory design (PD) has strong political and moral features, but in everyday systems development, stakeholder participation is often undertaken without considering the political and cultural context of the organization in which it is to take place, ignoring that it may not always be possible for participants to freely state their opinions (Heeks, 1999). In addition, it is a mistaken assumption that participation breaks down inequalities per se; participation might even reinforce existing power structures, depending on the selection of participants (Heeks, 1999). Furthermore, difficulties for stakeholder groups to empathize and communicate with each other can arise; behaviors that can lead to misunderstandings, delays, and inappropriate design or implementation. An important conclusion that can be drawn from the literature is that stakeholder involvement only works when there is support from all levels throughout the organizational hierarchy. There must be an appropriate infrastructure in which the stakeholder representative is given time, training and resources to do the job of representing her/his stakeholder group in the development process. There must also be a clear allocation of responsibilities to key stakeholders and clarity regarding the respective roles of the different players. In addition, the motivation and incentives for participation activities must be obvious for management, developers, and other stakeholders.

5.3.4. IS development methods and involvement

Another possible explanation to why initiatives to involve stakeholders fail may be found when inspecting the methods in which involvement of stakeholders is suggested. Most of the traditional approaches or methods emphasizing stakeholder involvement fail to point out how and when stakeholder involvement should take place (Boivie et al., 2003; Iivari et al., 2010; Kujala, 2003). Similarly, IS development methods provide few instructions for when, how or indeed whether to engage stakeholders. According to Iivari et al. (2010), this can partly be traced back to that technical and social systems are treated as being separate systems. In addition, the understanding of ‘social’ in systems development methods and approaches is still limited (Iivari et al., 2010). On a similar note, the complexity and necessary scope of stakeholder involvement seem to be consistently underestimated. Clement and Van Den Besselaar (1993) have reviewed design projects with a participatory design approach and state that two fundamental notions recur in the reviewed projects. First, that participatory design is a process involving complex technology and multiple levels of organization. Second, that stakeholder involvement is highly dependent on specific organizational contexts. What this means is that there are no ‘programmatic solutions’ that will fit all design projects; “improvisation informed by a holistic understanding of local conditions will always be necessary” (Clement & Van Den Besselaar, 1993, p.35) and system developers should be prepared to face competing demands. The translation of stakeholder involvement approaches to traditional system development methods therefore becomes difficult. It must be acknowledged, however, that there are a number of “radical” approaches (Fitzgerald, Russo & Stolterman, 2002) to IS development rising, in which stakeholders are explicitly integrated in the development process, e.g., eXtreme Programming (XP) and SCRUM (Lindstrom & Jeffries, 2004).
Despite all of the aforementioned challenges and shortcomings, Heeks (1999) conclude that “participation will remain an important tool in the IS development toolkit”. In this thesis, stakeholder involvement is treated as something essential for succeeding with IS, and hence also public e-service, development.

5.4. Attributes of involvement

Involvement can be performed to various extent and take on different shapes. In this section, attributes that can be used to characterize and discuss stakeholder involvement are presented. An elaborate framework for understanding user participation is presented by Cavaye (1995) who distinguish between six attributes that can help characterize stakeholder participation; type, content, formality, influence, degree and extent.

For each attribute, Cavaye (1995) gives a definition of the attribute and supplies suggestions on possible values; these values are suggestions on how to operationalize the attribute and are left somewhat open and optional for the reader. The first involvement attribute, type, concerns the proportion of stakeholders that are involved (Cavaye, 1995). This attribute refers to that it is likely that it will neither be appropriate nor practicable to involve all stakeholders in all decisions relating to the system; typically, some form of stakeholder representation process must be set in place (Damodaran, 1996). For this reason, Cavaye (1995) suggests that possible values for characterizing this attribute are if all stakeholders, or representatives of stakeholders, are involved.

The content attribute refers to what part of the system under development the stakeholder is involved to inform/influence. Cavaye (1995) suggests that possible values include the technical design, social aspects in relation to the technology, and the social and human impact of the new system. The formality attribute refers to whether the involvement is organized in a formal manner, or whether it is the result of informal interactions between stakeholders and the project management. The influence attribute, refers to the extent to which the input given by the stakeholders is taken into account. Degree of involvement refers to that stakeholders may have different levels of responsibility during involvement. And finally, the attribute called extent of involvement is used to illustrate in which stages of the development process stakeholders are involved (Cavaye, 1995).

The attributes list has been further developed by Lynch and Gregor (2004) who discuss an additional attribute, which they call depth of participation. According to Lynch and Gregor (2004), depth is indicated by three factors; (1) the stages of the development process where users were involved; (2) the frequency of interactions with users; and (3) whether the users’ views were considered (degree of voice) or whether their participation only was a façade. I regard these three factors as largely corresponding with the attributes already presented by Cavaye (1995); therefore a merger of the attributes (Cavaye, 1995) and the factors indicating depth of involvement (Lynch & Gregor, 2004) is adopted in this thesis. The merger affects the extent attribute, in the sense that the first depth factor presented by Lynch and Gregor (2004) overlaps with the extent attribute presented by
Cavaye (1995) (the extent attribute is further discussed in subsection 5.4.2. below). The merger also affects the influence attribute, which refers to the extent to which the input given by the stakeholders is taken into account. Possible values, when combining Cavaye’s (1995) and Lynch and Gregor’s (2004) suggestions, include three categories; input ignored, contribution considered, and input taken seriously. This merger of Cavaye (1995) and Lynch and Gregor (2004) also results in an additional attribute; frequency of involvement. This attribute concerns the frequency by which the stakeholders are involved in the development project.

In this thesis, the degree and extent attributes are put in the foreground and are discussed in the subsections below. The aim of the thesis is to investigate stakeholder identity, characterization and involvement in the development and implementation of public e-services. In order to delimit the scope of the thesis, the attributes discussed above function as tools for describing and assessing stakeholder involvement in general terms. Furthermore, in the continuing discussion on stakeholder involvement, the degree and extent attributes are emphasized more than the other attributes. As is illustrated below, the attribute degree of involvement corresponds with the notion of stakeholder salience; some stakeholders are more important than others in relation to a specific public e-service. Stakeholders who are deemed important should be allowed to influence the public e-service to a larger degree than those who are deemed less important. Similarly, it is illustrated subsequently how the attribute extent of involvement corresponds with the idea that stakeholder salience and stance vary over time; different stakeholders are likely to be relevant for involvement in different development phases.

5.4.1. Degree of involvement
As stated above, degree of involvement refers to that stakeholders may have different levels of responsibility during involvement (Cavaye, 1995). In Cavaye’s (1995) categorization, possible values suggested for the degree of involvement attribute include whether the stakeholder is given advisory capacity, sign-off responsibility, is part of development team, or is given full responsibility to influence decision making. In this thesis, these possible values are exchanged with Damodaran’s (1996) more general categories of involvement forms. Using Damodaran’s (1996) categories, degree of involvement can be understood as a continuum (see Figure 5.2) which spans from stakeholders functioning merely as informants, to full participation in which stakeholders actively influence decision making. In between these two end points of the continuum, the stakeholder is perceived as having a consultative role.
Public e-Service Stakeholders

Informative
- stakeholders provide and/or receive information

Consultative
- stakeholders comment on a predefined service or range of facilities

Participative
- stakeholders influence decisions relating to the whole system

**Figure 5.2: Degree of stakeholder involvement, adjusted version of (Damodaran, 1996, p.365).**

The division into the three forms presented in Figure 5.2 is useful, but the forms are not easily separable in practice; it is difficult to determine where to draw the line between what activities are purely informative, consultative, or participative. Nevertheless, these three degrees are practical, commonsensical, tools for describing to what extent stakeholders are involved in the decision making process. In this thesis, based on Damodaran (1996), the types are distinguished as discussed below.

*Informative involvement* can be divided into two activities; (1) stakeholders *provide* information, and (2) stakeholders *receive* information. These can obviously coincide, but can also occur separately. The first activity typically refers to when stakeholders are interviewed or provide information in a way that is detached from the actual decision making process. The second activity, receiving information, can be understood as mainly involving communication and expectation management. This can involve telling those involved what will be happening, in order to prevent uncertainties. Apart from mere awareness-raising, communication and expectation management may involve (1) selling the benefits of the new system to stakeholders; in particular communicating the personal benefits that will emerge, (2) discussing the negative aspects of the new system directly (Heeks, 2006). This second element also includes handling expectations that are founded on rumors; i.e. denying rumors if untrue, or admitting them if true. Examples of activities for enabling informative involvement include, e.g., *interviews, written information, user tests,* and *information meetings.*

The second and third degree of stakeholder involvement, *consultative involvement* and *participative involvement,* both involve some extent of active participation in the development and implementation activities. The difference concerns how transparent the development/implementation project is to the stakeholders, and the extent to which the stakeholders are allowed to actively influence the decision making process. According to Damodaran (1996), consultative stakeholder involvement may include stakeholders taking part of e.g., *focus or reference groups, and testing of prototypes and mock-ups.* Participative stakeholder involvement, on the other hand, may include temporary or permanent *membership for stakeholders of steering or advisory committees, design teams, or problem-solving groups.* The difference between consultative and participative involvement is not entirely clear in Damodaran’s (1996) description. In order to make the difference between participative involvement and consultative involvement more salient in this thesis, participative
involvement is understood as involving some formally organized membership of a decision-making structure.

For all three degrees of involvement, it is vital to understand that the underlying purpose of the involvement should steer how the involvement is organized and in what form. Bryson (2004, p.27) state that “[t]here is always a question of whether there can be too much or too little participation. And the general answer is yes, but the specific answer depends on the situation, and there are no hard and fast rules, let alone good empirical evidence, on when, where, how and why to draw the line”. When inspecting stakeholder involvement in the e-government context, Heeks (2006) illustrate how stakeholder involvement in e-government project is typically not done to a further degree than consultation. More radical participative activities, such as including stakeholders in the actual project team in some way, are still rare. Heeks (2006) argue that this is partly due to that the larger the project team, the greater the cost and the longer it takes to communicate and make decisions. Hence, the pressures to keep the development team small counteract participative involvement (Heeks, 2006). It is also important to remember the previously discussed challenges of stakeholder involvement in general. Given the circumstances of e-government, and its inherent drive for improving the internal work processes, it is particularly important to keep in mind that some internal stakeholders might not want to participate, because helping the project management might lead to redundancies; i.e. some stakeholders risk contributing to the dismissal of their own jobs (Sefyrin, 2010).

5.4.2. Extent of involvement

The attribute called extent of involvement is used to illustrate in which stages of the development process stakeholders are involved (Cavaye, 1995). The importance of assessing the stage in the development process during which the stakeholders are involved is pointed out also by Lynch and Gregor (2004); in the factors discussed in section 5.4. above. Several scholars have pointed out that stakeholder involvement activities are likely to be of different character whether the development project concerns the initial development of a system, or implementation of a system (Markus & Mao, 2004; Rasmussen et al., 2011; Subramanyam et al., 2010). For example, Markus and Mao (2004), emphasize the importance of involving different types of employees at different times in IS development projects. They state that both managerial and operational participants can make equally valuable contributions in the beginning of a project; i.e., for the specification and development of a system. Conversely, when it is time for implementation, managerial participants are more likely to make greater contribution to implementation success. The reason is that late involvement of managers is more likely to signal importance of the project to other stakeholders (Markus & Mao, 2004), as well as help suppressing some types of user resistance (Heeks, 2006).

In relation to the development of public e-services, early involvement of external stakeholders, such as citizens, has been promoted by Axelsson and Melin (2008; 2009);
they illustrate how it is more likely that a public e-service will be useful, and actually used, when citizens are involved early in the development process. Involving citizens already in the change analysis, thereby investigating the needs and wants of the citizens, increases the likelihood of the e-service fulfilling an actual need and hence being used (Axelsson & Melin, 2008; 2009). There are also examples of studies in which citizens have been invited to participate in activities aimed to generate ideas and explore needs for new services prior to actual projects (see e.g. Anttiroiko, 2004; Cook, 2000). Still, involvement of citizens in e-government projects is currently unusual and not easily organized (Axelsson and Melin, 2009; Söderström & Holgersson, 2011). Another example of stakeholders being involved early in the development of e-government projects is provided by Scholl (2004). Scholl (2004) reports of an e-government project in which a great number of stakeholders were invited to participate in workshops in order for a team of practitioners and researchers to elicit and record specific stakeholder wants and needs. The information elicited was later used in the analysis and design of an extensive new e-government system. Scholl’s (2004) study illustrates several important results. First, the analysis of stakeholder wants and needs showed that stakeholders, even in the same category, were not uniform. Therefore, how to identify and characterize stakeholders and thereafter determine whom to involve becomes crucial issues. Second, the e-government project illustrated several of the challenges of involvement in general. For example, some of the practitioners managing the project wanted to cut the involvement of stakeholders short for fear of losing control of the project, and fear of not being able to complete the system in due time and according to budget. A minority of the practitioner team even argued that, as a governmental agency, they commanded the statuary powers to impose any technical changes as necessary and desired, and hence did not require the stakeholders’ involvement to make decisions. Scholl’s (2004) study illustrates that involving stakeholders in the development process of new e-government systems, such as public e-services, is likely to be characterized by tensions between different people and objectives. Still, many winnings can come out of the involvement of stakeholders, in the shape of improved information (such as improved user requirements), increased acceptance for the new system, and a feeling of empowerment for stakeholders (Scholl, 2004).

In order to determine during what stages of the development process stakeholders are involved, some categorization or model is needed. In this thesis, a generic model for IS development phases is adopted as a tool for characterizing the various stages of public e-service development.

**Stages of public e-service development**

In order to work systematically and methodically with IS development there are innumerable methods and models in the scientific and practitioner literature that can be used. Most of these models characterize IS development as being made up by activities that can be divided into various phases. I have chosen to create a merger of several of
these models into a generic model, illustrated in Figure 5.3, in order to illustrate the general phases one can expect a development project to move through, regardless if it deals with the development of a technical system and/or the development of work procedures.

The generic model of development phases is divided into six different phases; (1) change analysis, (2) analysis, (3) design, (4) implementation, (5) use (maintenance), and (6) liquidation. The first and the last phase, i.e., change analysis and liquidation, are colored differently than the middle phases in the model, representing that these are not typically treated in traditional development models. In addition, as input to the model, there is an irregular and fuzzy-contoured shape labeled needs/problems/ideas. This refers to the period of time before a development project is initiated. The shape is meant to imply that the nature of this time period is significantly different from the subsequent phases in the model.

![Figure 5.3: A generic model of phases in IS development.](image)

The model can be described as follows:

- **Ideas/needs/problems** – Before an actual decision is made to launch a development project of any kind, this decision can be preceded by a time period when more or less verbalized and formulated ideas or needs are floating around in the organization. This is a time when one or several stakeholders perceive some problem which is thought to be solved by making changes in the organization. These ideas may form the base for a formal decision to initiate a development project. The fuzzy shape in the model above is meant to illustrate that neither the time period, nor the actual ideas are easily identifiable and characterized.

- **Change analysis** – A decision to initiate a development project can also be preceded by a change analysis. In contrast to the former phase, this is a formalized phase during which an inventory of the organization’s needs for change is made. The analysis deals with what problems and opportunities the organization is facing. In system development it is particularly important to assess whether the identified problem really can be solved with the use of technology, or if it in fact is

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5 The model was inspired by the System Development Life Cycle (SDLC) models presented by Andersen (1991), Avison and Shah (1997) and Heeks (2006).

6 Here, Andersen’s (1991) label change analysis is adopted. Similar descriptions are found in Avison and Fitzgerald (2006) under the label feasibility study.
a symptom of some other problem that will not easily lend itself to an IT-based solution.

- **Analysis** – During the analysis phase the needs and requirements of the organization and/or technical system are elicited and assessed. Like in all other steps of this model, this activity can be performed in a variety of ways. This phase and the subsequent design phase can be seen as an iterative loop in which the two phases feed into each other until the design is believed ready for implementation; meaning that this phase also can refer to incremental testing of design suggestions.

- **Design** – During the design phase, work procedures and the technical system are designed and realized. The design and realization can initially take the shape of prototypes and mock-ups. As mentioned above, this phase can feed back into the analysis phase.

- **Implementation** – This is the phase during which the new procedures/system is put into use. This phase is usually associated with additional testing and educational activities.

- **Use (and maintenance)** – The use phase refers to the phase during which the new procedures/technical system is up and running and perceived as ‘business as usual’. During this phase, no major changes to the work procedures/system are being done, the system is merely maintained. Ideally, some kind of evaluation is done in this phase and the result of an evaluation can feed into a new iteration of development. Even without a formal evaluation, new problems may be observed and the experiences from this phase may lead to a new development project and hence feed into the change analysis or analysis phase of a new project.

- **Liquidation** – Refers to the phase during which the work procedures/system are abandoned in favor of another way of working or a new system (which may be a result of another development project).

When presented and described as above, this kind of model looks deceivingly straightforward. In practice, all phases might not be visible or active, and the borders between the phases (i.e. when a phase stops and another begins) might not be obvious. In addition, phases can appear both in linear, parallel and iterative relationships. The combination of these phases varies depending on aspects such as who initiated the project, the nature of the system being developed, whether the development project is taking place in-house or is outsourced (or is a combination thereof), the chosen development method, etc. Still, the content and activities referred to in these phases differ enough in nature to be identifiable as separate activities/phases. There is a plethora of existing methods and “best practice” for how to work with the activities needed for each phase; respectively and jointly. This thesis will not deal with the actual content and activities of these phases; the discussion on organizational and system development will remain on the general level, presenting what might be perceived as a ‘meta-model’. The introduction of this generic model is not meant as a disclaimer of other models and
methods, it is simply guided by the objectives of this thesis; these phases lend themselves well to the analysis of public e-service stakeholders, and for understanding how these are involved in various systems development efforts.

In this thesis, the generic model of IS development phases is used as possible values for assessing extent of stakeholder involvement in the development of a public e-service. As mentioned in the discussion previous in this chapter, the conditions for stakeholder involvement are likely to differ depending on the phase of systems development in which it is to take place. If taking a participatory approach to IS development, as is done in this thesis, stakeholder involvement can be arranged in all of the phases – in different ways and for different purposes. In this thesis, focus lies on the development and implementation of public e-services.

5.5. Chapter summary

In order to broaden the scope of whose views are taken into account when developing public e-services, this thesis combines theory on stakeholder management with theory on user involvement. When seen in combination, it can be stated that stakeholder theory and theory on user involvement both are strongly normative; they both state that stakeholders/users must be acknowledged and involved. When drawn to its most extreme form, stakeholder theory tries to protect the interests of the project managers by suggesting ways of influencing stakeholders to adopt a supportive stance towards the project’s objectives (see e.g., Newcombe, 2003). In contrast; the most extreme forms of user involvement approaches, such as the humanitarian Scandinavian approach, advocates full participation for all users in order to formulate project objectives that fit with the needs of the users (see e.g., Mumford, 1979). The picture drawn here is a picture of two ‘ideal’ types with different origin and value-base; stakeholder theory has its origin in managerial literature, whereas traditional user involvement approaches origin from the working force and trade unions. It is perhaps redundant to state that none of these perspectives are particularly useful in IS development practice when drawn to their most extreme forms. Here, the extremes are used as a rhetoric tool in order to illustrate a point. In contrast, more moderate forms of the theories appear to share many commonalities and seem possible to combine. The underlying aspiration of combining these two perspectives is to draw a richer picture of who public e-service stakeholders are, how they affect the public e-service at hand, and how they are affected by it.

To sum up, in this thesis stakeholder involvement refers to project managers’ (including system developers) direct contact with stakeholders in the development and implementation of a public e-service. Involvement thus refers to several different approaches and methods for taking stakeholders’ views, needs, requirements, etc., into account in the development process. Stakeholder involvement is understood as having several potential benefits for public e-service development, including (1) improved quality of the public e-service, (2) ensuring support and acceptance for the public e-service, and (3) increased participation of stakeholders in decision-making processes.
In contrast to the benefits, there are also challenges associated with stakeholder involvement that must be taken into account, including (1) the need for support for stakeholder involvement from actors in all levels of the organization; (2) difficulties concerning finding appropriate stakeholder representatives for involvement, who can and want to be involved; and (3) ensuring that the organizational structures and work methods facilitate stakeholder involvement.

Table 5.1: Attributes of stakeholder involvement (merger of Cavaye (1995), Damodaran (1996), Lynch & Gregor (2004)).

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<thead>
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<th>Attributes of involvement</th>
<th>Possible values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent</td>
<td>Stages of development process in which stakeholders were involved</td>
<td>Cavaye (1995), Lynch and Gregor (2004; as part of their ‘depth’ attribute)</td>
</tr>
<tr>
<td>Degree</td>
<td>Informative, consultative, or participative</td>
<td>Damodaran (1996)</td>
</tr>
<tr>
<td>Type</td>
<td>All users, representatives of stakeholders</td>
<td>Cavaye (1995)</td>
</tr>
<tr>
<td>Content</td>
<td>Technical design, design of work procedures, social and technical design</td>
<td>Cavaye (1995)</td>
</tr>
<tr>
<td>Frequency</td>
<td>The frequency of interactions with stakeholders</td>
<td>Lynch and Gregor (2004; as part of their ‘depth’ attribute)</td>
</tr>
<tr>
<td>Formality</td>
<td>Formal, informal</td>
<td>Cavaye (1995)</td>
</tr>
<tr>
<td>Influence</td>
<td>Input ignored, contribution considered, input taken seriously</td>
<td>Cavaye (1995), Lynch and Gregor (2004; as part of their ‘depth’ attribute)</td>
</tr>
</tbody>
</table>

Stakeholder involvement can be described using involvement attributes. These attributes were discussed in the previous section and are summarized in Table 5.1. In this thesis, focus lies on two of the attributes; extent and degree of stakeholder involvement. Extent of stakeholder involvement refers to during which development phase the involvement is organized. In order to distinguish between different phases, a generic model of IS development phases is adopted (Figure 5.3). Degree of involvement refers to whether the involvement activities are informative, consultative, or participative. The remaining attributes are used for making general assessments and descriptions of the involvement of stakeholders in the development and implementation process of a public e-service.

Last, Tennert and Schröder (1999, p. 23) argue that “most of the literature automatically assumes that all participation, at all stages of planning is desirable and necessary. Such oversimplifications are simply unhelpful (...) more often than not, the problem is not whether to include stakeholders, but who gets included and who doesn’t”. The next chapter will introduce a provisional conceptual framework put together with pieces from the three theoretical chapters. After the presentation of the provisional framework, the remaining parts of the thesis will in part investigate the issue pointed out in the quote by Tennert and Schröder (1999); who gets included and who doesn’t?
6. A PROVISIONAL CONCEPTUAL FRAMEWORK

In this chapter, the theoretical foundation of this thesis is condensed into a provisional conceptual framework for understanding public e-service stakeholders. A conceptual framework can be understood as a meta-model integrating, structuring, and displaying concepts, models and methodologies to assist understanding and decision making. In this chapter I present a provisional version of the public e-service stakeholder framework by extracting parts for the framework from the previous theoretical chapters and illustrating how these parts are interconnected.

6.1. Extracting and mapping the main concepts of the theoretical foundation

The aim of this chapter is to extract the main concepts addressed in the previous theoretical chapters and illustrate how these concepts are interrelated. The result is a coherent summary of the previous chapters and suggestions on how to use this knowledge in order to investigate how public e-service stakeholders can be identified, characterized, and involved in the development and implementation of a particular public e-service.

At the core of the theoretical foundation of this thesis, we find the two main concepts; public e-service and stakeholders. In this section, the public e-service concept is used as a starting point for the discussion. As used in this thesis, the public e-service concept is related to two different, but overlapping, research areas; information systems research and e-government. In short, public e-services can be understood as information systems. The stance taken in this thesis is that an information system consists not only of technology (typically an IT-artifact), but also of humans, work practices and organizational structures (Dahlbom, 1996; Mumford, 2000; 2003). In this thesis the scope of the IS field has been restricted to the development and implementation of technology. Due to the complex nature of information systems, developing IT artifacts that support humans in their work practices and organizations is admittedly difficult (Norman, 1993). In the IS development literature, especially in the Scandinavian literature (Ehn, 1995; Iivari & Lyytinen, 1996;
Involvement of people affected by new technology is often promoted as a necessary component in the development process. Involvement is promoted for several reasons, including: 1) in order to safeguard that the information needed to design a high quality system is gathered; 2) it is seen as a way to promote users’ acceptance of the new technology; and 3) it is seen as a way of facilitating democratic decision making (e.g., Damodaran, 1996). Hence, there is a considerable amount of literature on the topic of user involvement in the IS field (e.g., Bødker et al, 2011; Bansler, 1989; Boivie et al., 2003; Bravo, 1993; Schmidt et al., 2001; Söderström, 2010). User involvement has however proven difficult to accomplish; recurring problems concern determining who to involve, in what ways, and why. In this thesis, stakeholder theory is used to inform such inquiries.

In addition, public e-services, as a concept and phenomenon, can also be understood as an instantiation of e-government practice (Lenk, 2002). As described previously, e-government initiatives (including public e-services) are meant to fulfill three main goals (European Commission, 2011; Ministerial Declaration on eGovernment, 2009). These goals are (1) to improve citizens’ interactions with government; (2) to make governmental organizations more efficient and effective; and (3) to increase the transparency of government and lead to a more democratic society. Each goal implies different, although partly overlapping, sets of people. The first goal addresses the needs of the citizens; an inherently heterogeneous set of people with different characteristics and needs. The second goal addresses the efficiency and effectiveness of governmental organizations. Again, public organizations are typically made up by a heterogeneous set of people with different professions, backgrounds and prerequisites for performing their work. As indicated previously, stakeholder theory can be used for describing, distinguishing and understanding the people implied in these goals (Flak & Rose, 2005; Scholl, 2001; 2005). The third goal of public e-services is to increase transparency of government and lead to a more democratic society. An integral part of democracy is involvement in governmental processes; in this case, involvement in the development and implementation of public e-services. This goal therefore corresponds well with the values and ideas presented in the literature on user involvement in the workplace in general (e.g., Mumford, 2000; 2003), and with stakeholder involvement in IS development in particular. Still, the issue of who to involve, how, when, and why, remains; how to identify, characterize, and involve these stakeholders in the development and implementation of public e-services therefore becomes a salient question.

In the following subsections, main concepts from the chapters on public e-services, stakeholder identification and characterization, and stakeholder involvement are extracted. Each subsection is concluded with a set of questions or statements formulated to capture these concepts in practice.
6.1.1. Public e-services

In this thesis, a public e-service is understood as being a service process, mediated through an Internet-based, interactive, and integrated IT-artifact, and as being substantially influenced by the public sector context (Lindgren & Jansson, 2013). Humans, technology, work practices, and organizational structures are implied and embedded in these three dimensions. According to Lindgren and Jansson (2013), the emphasis on services in public e-services highlights a number of issues with regard to service objectives, and against whose interests a public e-service should be evaluated. Emphasis on the electronic dimension highlights the mediation of the service; the technology through which the service is communicated and accessed. In turn, by emphasizing public, issues of dependencies, equal rights, availability and accessibility are placed in the foreground. Public services have to be made available to different groups of citizens, with different needs.

Questions guiding the analysis of the public e-service

Using the dimensions as a point of the departure, complemented with the theories presented in chapter 3, I propose that a meaningful description of a public e-service can be achieved by discussing it in terms of the questions presented below. In the analysis of the interpretive case study included in this thesis, these questions are used to characterize the public e-service under study (in chapters 8, 9 and 10).

1. What is the overall service objective of the public e-service? And, what does the service process look like?
2. What IT artifacts are making up the e-service? To what other systems and processes is the public e-service connected?
3. To what extent does the public e-service fulfill the three goals of e-government?
   - to improve citizens’ interactions with the government,
   - to make governmental organizations more efficient and effective, and
   - to increase the transparency of government and lead to a more democratic society.
4. How do the characteristics of the public e-service correspond with the e-service polarities presented by Goldkuhl and Persson (2006)?

   - **Informative ↔ Performative**

   *Informative e-services;* e-services that present information from the agency. The information is generated by the system based on search criteria supplied by the external user. *Performative e-services;* e-services through which the citizen can interact and communicate with the governmental agency.
• **General ↔ Individualized**

*General e-services* are directed to any citizen. *Individualized e-services* are directed to the particular individual. Can be categorized further as being 1) *non-secure services*, or 2) *secure services*.

• **Separate ↔ Coordinated**

*Separate e-services* stand alone. *Coordinated e-services* refer to websites where several different governmental agencies have coordinated their services. Can be categorized further as being 1) *fused services*, or 2) *aligned services*.

Based on the differences between public and private organizations and services presented in chapter 3, I suggest two additional polarities to the ones presented Goldkuhl and Persson (2006). These polarities are formulated to reflect some of the characteristics of the *public* dimension of public e-services. Similar to the polarities presented by Goldkuhl and Persson (2006), these are not absolute or mutually exclusive categories. They all require deliberations on behalf of the analyst when applied on actual public e-services.

• **Benefits the common good ↔ Benefits the individual user**

This polarity refers to the public ethos and the users’ perceived benefits of using the service, building partly on Lenk’s (2002) classification ‘hurdle’ and ‘social’ services. An e-service that *benefits the common good* mediates a service with purposes beyond the immediate interest of the citizen involved. An e-service that *benefits the individual user* refers to an e-service that is perceived as a true service by the individual user.

• **Voluntary ↔ Compulsory**

This polarity refers to the degree of freedom of choice by the user of the e-service. *Voluntary e-services* refer to e-services that users are welcome to use if they want. For these services, the opinion of the users is very important for the assessment of both adoption and e-service quality. *Compulsory e-services* refer to e-services that must be used in order to access a certain service.

The knowledge generated through the assessment of these five questions, provides information to the next step of the analysis; identifying and characterizing stakeholders in relation to the public e-service at hand.

**6.1.2. Stakeholder identification and characterization**

In chapter 4, stakeholder theory was presented as an analytic theory (Gregor, 2006) for identifying who managers need to pay attention to (Freeman, 1984). Stakeholder theory can be combined with other theories and adapted for specific contexts (Freeman et al., 2010). In the context of this thesis, stakeholder theory is adapted to the context of public e-services. In order to delimit the scope of the stakeholder concept in this particular
context, public e-service stakeholders are understood as individuals, groups, and organizations that are affecting, or are affected by, the achievement of a public e-service’s objectives.

Public e-service stakeholders can vary in salience for managers, based on the following attributes; power, legitimacy, and urgency (Mitchell et al., 1997). In relation to use of systems, such as a public e-service, urgency is an especially important attribute (Sæbø et al., 2011). Based on the salience attributes, stakeholders can be distinguished into eight different types of stakeholders that can be illustrated using a Venn-diagram; see section 4.2.2. In order to facilitate the assessment of a stakeholder’s salience, a set of potential stakeholders can be identified by a guided inductive analysis using typologies of expected roles in relation to a public e-service. In this thesis, Heeks’ (2006) typology of stakeholder roles, and Axelsson et al.’s (2013) version of Sæbø et al.’s, (2011) typology of stakeholder entities are used for identifying potential stakeholders; see section 4.2.1.

The assessment of public e-service stakeholders’ salience can be facilitated by characterizing each stakeholder in terms of their expectations and attitude concerning the public e-services, as well as their perceived need and benefit of the public e-service (Scholl, 2004; Axelsson & Melin, 2009). In addition, each stakeholder’s potential for threat to or cooperation with the project management responsible for the development and implementation of the public e-service can be assessed (Blair and Whitehead, 1988; Tennert & Schroeder, 1999). An important point made by several scholars is that stakeholder roles and stance, and hence also salience, vary over time (Mitchell et al. 1997; Scholl 2004; Sæbø et al., 2011), for example across project phases (Kamal, et al. 2011; Newcombe 2003; Sæbø et al. 2011; Tennert & Schroeder 1999).

**Statements guiding the identification and characterization of public e-service stakeholders**

Using the characteristics of public e-service stakeholders described above as a point of departure, I propose that public e-service identification and characterization can be achieved by investigating the following:

1. With the public e-service characteristics as base-line information, potential stakeholders can be assessed using the typologies suggested (building on Heeks, 2006; Axelsson et al., 2013; Sæbø et al., 2011).
2. For each potential stakeholder identified, assess its salience by investigating
   a. How the stakeholder is affecting/affected by the public e-service.
   b. The stakeholder’s formal role and responsibilities in relation to the public e-service (indicators of power and legitimacy).
   c. The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of the public e-service (indicators of urgency).
   d. The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).
e. The stakeholder’s potential for threatening or cooperating with the achievement of the public e-service’s objectives (can be used as an indicator of potential need for stakeholder involvement/management).

3. In order to create a comprehensive overview of all stakeholders identified and characterized, map all identified and characterized stakeholders according to their stakeholder type in a Venn-diagram (as suggested by Mitchell et al., 1997). See example in Figure 6.1 below.

![Stakeholder Map](image)

Figure 6.1: An example of a stakeholder map using the Venn-diagram suggested by Mitchell et al. (1997).

6.1.3. **Stakeholder involvement**

After the stakeholders of a particular public e-service have been identified and characterized according to the procedure described above, the issue of stakeholder involvement can be investigated. In this thesis, stakeholder involvement refers to several different approaches and methods for taking stakeholders’ views, needs, requirements, etc., into account in the development process. In this thesis, stakeholder involvement is investigated from the project management perspective; i.e., from the view of those responsible for developing and implementing a public e-service. In chapter 5 it is suggested that stakeholder involvement can be investigated and characterized using the involvement attributes presented by Cavaye (1995), and complemented with input from Damodaran (1996) and Lynch and Gregor (2004). The stakeholder involvement attributes are discussed in chapter 5 and summarized in Table 5.1. The attributes presented in Table 5.1 are integrated in the questions below.
Questions guiding the analysis of stakeholder involvement in the development and implementation of a public e-service

Based on the knowledge generated in the previous two analysis steps, involvement of stakeholders in public e-service development and implementation can be investigated by discussing the subsequent questions for each identified and characterized stakeholder. For each stakeholder, is the stakeholder involved in the development and implementation of the public e-service? If so:

1. (Degree) How is the involvement of the stakeholder organized, and to what degree is the stakeholder involved?
   - **Informative** – stakeholders provide and/or receive information
   - **Consultative** – stakeholders comment on a predefined service or range of facilities; may involve temporary membership of e.g., focus or reference group.
   - **Participative** – stakeholders influence the decision-making process relating to the whole system; includes temporary or permanent membership of decision-making group.

2. (Type) If the stakeholder refers to a group or organization, are all individuals in the stakeholder group/organization involved, or are representatives of the group/organization chosen for involvement?

3. (Content) What content of the public e-service development/implementation is the stakeholder asked to contribute to?

4. (Frequency) How frequent are the interactions between project management and the involved stakeholder?

5. (Formality) Is the stakeholder involvement formal or informal in its character?

6. (Influence) Is the input given by the involved stakeholder taken into account in the development/implementation of the public e-service? If yes, to what extent? What seems to be the consequences of the involvement of the stakeholder?

6.2. The logic of the framework

The sections above, supply summaries of the characteristics of public e-services, stakeholder identification and characterization, and stakeholder involvement presented in the previous chapters. These summaries and the suggested questions and statements aimed at guiding the analysis can be understood as a provisional conceptual framework that is put together in order to address the research question focused in this thesis. By addressing the interpretive case study on public e-service development and implementation using this provisional framework, I aim at contributing with knowledge on public e-service identification, characterization and involvement.

An important conclusion that can be drawn from the stakeholder theory literature is that stakeholder salience and stance are not static and that stakeholders need to be identified, characterized, and involved continuously throughout public e-service development and
implementation (Kamal, et al. 2011; Mitchell et al. 1997; Newcombe 2003; Scholl 2004; Sæbø et al., 2011 Tennert & Schroeder 1999). In addition, different stakeholders are likely to contribute to public e-service development and implementation in different ways during different phases of the project (Markus & Mao, 2004; Rasmussen et al., 2011; Subramanyam et al., 2010).

In chapter 5, the stakeholder involvement attribute *extent of stakeholder involvement* (Cavaye, 1995) was discussed. The attribute aims at assessing during what stages of a project stakeholder involvement has taken place. In the previous chapter, a generic model of IS development phases was suggested as a tool for facilitating such an analysis. This attribute and the generic model of IS development phases were not addressed among the questions suggested to guide the analysis of stakeholder involvement presented above. The reason for excluding this attribute and the generic model above is that, instead of conducting a retrospective analysis of during which phases stakeholders have been involved, I have chosen to use the generic model as a guide for dividing the overall analysis into different phases. This choice was inspired by the work of Kamal et al. (2011), who conducted stakeholder analyses in relation to six different phases; as discussed in section 4.4. Conducting the analysis in respect to different project phases, aims at capturing how the dynamic characteristics of public e-service stakeholders change over time.

In this thesis, stakeholder identity, characteristics and involvement is investigated during two phases; during the development phase of a public e-service, and during the implementation/use phase of the public e-service. As already stated, by conducting the stakeholder analysis several times, this thesis aims at creating an explicitly formulated framework for how to conduct stakeholder analysis in a way that captures the dynamic movements of stakeholders’ attributes. Mitchell et al. (1997) wrote “who and what really counts”, a contribution here is therefore to investigate ‘…and when…’.
PART III

EMPIRICAL FOUNDATION
Chapter 7: The Anonymous Exams Case Study

7. **THE ANONYMOUS EXAMS CASE STUDY**

This chapter describes the interpretive case study used as the empirical foundation of this thesis – the Anonymous Exams case study. Hence, this chapter is in part a chapter about how the methods discussed in chapter 2 were used in this work. The chapter is structured in the following manner; the first section gives an overview of the development project on which the case study is based. The second section gives an overview of how the case study was conducted, followed by a section on the data collection. Last, the structure and logic for the subsequent analysis chapters is presented.

7.1. **The Anonymous Exams Project**

The interpretive case study making up the empirical foundation of this thesis deals with an IT-project conducted at a Swedish university. The project in question was called the Anonymous Exams-project and is henceforth referred to as the AE-project\(^1\). This section describes the background of the project and a short review of what happened during the project. This brief description is written based on accounts given by members of the AE-project group; i.e., the case is described from a management perspective. In the next chapters (chapters 8-10), the project is discussed in detail and from other stakeholders’ perspectives when seen through the lenses provided by the framework.

7.1.1. **Background – a demand for student anonymity**

The AE-project was conducted at a Swedish university with approximately 4000 employees and 27000 students distributed across several faculties and approx. a dozen university departments. The students attending the university are organized into student unions, whose main function is to watch over and work with questions related to education and student welfare. The student unions are working closely together and often run campaigns vis-à-vis the university. One of these campaigns is of interest in this thesis, namely the campaign to introduce anonymity for students when writing exams.

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\(^1\) In order to prevent misunderstandings, the project organized by the university is referred to as the AE-project, whereas the case study, organized by me, is referred to as the Anonymous Exams case study.
The campaign in question had its roots in a report published by the National Agency for Higher Education (1998), in which the legal certainty of examination procedures was discussed. The National Agency for Higher Education emphasized that examination of students is an act of exercising authority and that the dependence and asymmetrical power relations between teachers and students involves that issues concerning legal certainty must be taken into consideration. In the report, the National Agency for Higher Education (1998, p.10) states that “both teachers and students may benefit from a system of anonymous participation in examinations”. Due to the report, the anonymity issue was adopted and promoted by the Swedish National Union of Students; therefore, campaigns to introduce anonymity were organized by student unions across Swedish universities at this time. At the university in focus in this thesis, the campaign run by the student unions emphasized that teachers cannot be totally fair (objective) in their marks when they know who the student is. This argument and demand was in line with a general strive for equal opportunities in higher education; i.e., that no students or personnel should be discriminated because of gender, age, sexual orientation, ethnicity, religion or other faith, disability or social background. It is important to note that for the student unions at the university in focus in this thesis, anonymity was a matter of principle. There were no factual discrimination charges that had triggered their campaign. Similarly, the university already put much effort in preventing all kinds of discrimination and soon saw anonymity during examination as a way to prevent unfair treatment of students and to prevent that teachers are falsely accused of discriminating.

7.1.2. The examination process prior to Anonymous Exams

The written examinations in question, for which the student unions demanded anonymity for the students, was a special kind of examination administered by a university unit called the Exam Services. Anonymity was consequently not demanded for essays and other kinds of examinations. The Exam Services unit was a centralized unit at the university supplying teachers with premises and personnel for their examinations. Students from various educational programs wrote their exams at the same time and location under the supervision of examination supervisors employed by the Exam Services unit.

In order to understand the changes following the project in focus (as discussed in the subsequent chapters), the work flow for administrating written examination prior to the implementation of Anonymous Exams is described in general terms in Table 7.1. below. An overview of the technical systems supporting the examination process prior to Anonymous Exams is presented in Figure 7.1.

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2 The expression ‘legal certainty’ is used by the National Agency for Higher Education (1998) in the English summary of their report; it is a direct translation of the Swedish expression ‘rättssäkerhet’.
Table 7.1: A detailed description of the examination process prior to Anonymous Exams.

<table>
<thead>
<tr>
<th>A detailed description of the examination process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the beginning of each semester, information about all courses and exams are registered in the Exam Registration System and Database (ERS; see Figure 7.1) by course administrators at the departments.</td>
</tr>
<tr>
<td>2. A couple of weeks before the exam (10-30 days before), the students register for the exam via the web-based Student Portal. By doing so, a list of assumed attendants (Attendance Register) for each exam is created in the ERS.</td>
</tr>
<tr>
<td>3. Based on the data in the ERS system, examination administrators at the Exam Services department arrange for suitable examination venues and the facilities required for students at that venue.</td>
</tr>
<tr>
<td>4. A couple of days before the exam, the teacher hands over the exam to a course administrator who prepares the exam (prints/copies the right number of exams (based on a printed list of registered students retrieved from the ERS)) and puts these in a safe.</td>
</tr>
<tr>
<td>5. A couple of days before the exam, an email is automatically sent to the students by the Exam Registration System with a reminder of the exam and information on the location.</td>
</tr>
<tr>
<td>6. On the day of the exam, the examination supervisors collect the exams in the safe and transport them to the right location (this can also be done on the day before the exam).</td>
</tr>
<tr>
<td>7. At the examination location, there are several steps in the process:</td>
</tr>
<tr>
<td>a. When the students arrive, they tick their names off on a printed list of anticipated attendants. If a student's name is not on the list, s/he writes her/his name by hand on the list and the examination supervisor gives an extra copy of the exam for that student (if available).</td>
</tr>
<tr>
<td>b. When the students are seated and handed their exams, the examination supervisors take a turn around the room and do an identity check, controlling each student’s identity card (Student Identity Card, driving licence, passport). Each student also signs a list of attendance.</td>
</tr>
<tr>
<td>c. When the students are done writing their exams, they hand in their exams to the examination supervisors. The examination supervisors double-check the students’ names on the list of attendance.</td>
</tr>
<tr>
<td>8. The examination supervisors collate all exams and lists (including the lists mentioned above, and toilet break lists).</td>
</tr>
<tr>
<td>9. Exams are put back into the safe by the examination supervisors.</td>
</tr>
<tr>
<td>10. On the day after the exam, course administrators can collect the exams from the safe and hand these over to the teacher(s).</td>
</tr>
<tr>
<td>11. The teacher(s) marks the exams. Hands over exams, lists, and protocol to course administrator with access to the national system for study administration within higher education in Sweden, handling information about students' study results; called the Ladok system (see Figure 7.1.).</td>
</tr>
<tr>
<td>12. A course administrator reports the results directly in the Ladok system by typing each student’s social security number, result and grade. Thereafter, this person extracts a list of results for verification by the responsible teacher. The list then functions as a legally binding document of the exam results. When the list is signed, the results are made official in the Ladok system by the course administrator.</td>
</tr>
<tr>
<td>13. The students can access their study results in the Student Portal. Later, an email is sent to each student revealing his/her results (by the Ladok system). The exams can be collected at a student office.</td>
</tr>
</tbody>
</table>
As illustrated above, the students’ identities are obvious throughout the process; on paper lists of various kinds and on the cover of the physical exams. This process was not perceived by the student unions as legally certain for some groups of students and needed to be changed.

### 7.1.3. Implementing anonymity – the AE-project

After years of pressure from the student unions, the vice-chancellor signed a strategic decision in 2006 that stated that anonymity during written examinations must be implemented. An employee responsible for the university’s local Ladok-system was appointed to suggest a solution for ensuring anonymity for the students. As indicated in Table 7.1, the Ladok system was the national system for study administration within higher education in Sweden, handling information about students’ study results. Together with a student working at one of the student unions, s/he produced an overview of a technical solution for realizing anonymity. For reasons I am not aware of, two attempts to start up a formalized project that could design and implement this technical solution were initiated with unsuccessful results. During this time, the student unions at the university were told that work was in progress and that all they could do was to wait. During a meeting between the vice-chancellor and the student unions, the delays were addressed and the issue received renewed attention. In January 2008, the decision to initiate a formalized project was made.

A project group was put together of employees and the project was named ‘the AE-project’. The aim of the AE-project was to develop and implement a technical solution for ensuring anonymity for the students. This was in line with a long tradition of using internally developed IT-solutions for students and employees. The university implemented its first electronic service for its students in 1999. Since then, approximately 20 electronic services of various kinds had been developed and implemented for students and employees by system developers working at the university’s internal IT-department.
The project was up and running by February 2008 and according to the original plan, the technical solution for anonymity should be developed, tested, and implemented for all students by the 1st of September the same year. According to the project group, it did not take long before rumors of the “new system” started to spread across the university, resulting in strong protests from one of the faculties at the university. The faculty already applied anonymity for all its students during examination using a manual system and refused to implement a different system than their own. As a result of these protests, this one faculty was provisionally exempted from the project.

The first challenge the project group had to face was to understand the current work procedures for written exams of this kind (described in Table 7.1 above). Based on advisory opinions (formal and informal) from employees, a more or less standardized process for exam administration was defined by the project group. A system developer working at the university’s IT-department, who was a member of the AE-project group, developed the technical solution for anonymity based on the process description. In short, the AE-project group developed:

- A defined process description of how to organize written exams at the university (when administered by the Exam Services).
- Re-designed work procedures for the personnel at the Exam Services, including a PDA-solution (Personal Digital Assistant), replacing the manual paper system formerly used.
- An Internet-based service for teachers and course administrators for reporting and grading exam results called the Exam Marking System (in which a grading protocol for each course/exam/date can be generated).
- Connections between various administrative systems and databases at the university, including links to the national system used for documentation of academic information at higher education institutions in Sweden (the Ladok system).

The implementation of the system was slightly delayed and was initially only implemented for parts of the organization. During and after the implementation phase, several members of the AE-group worked as a support function for personnel affected by the new systems. The system developer worked with refinements of various parts of the system until the project was officially closed in February 2009. Approximately eight months after the closure of the project, a follow-up of the project was made by a subset of the members of the AE-project group. As a result of this follow-up, further adjustments of the Exam Marking System were made by the system developer. Because of a tight time plan and budget, project documentation was sparse and was, to a large extent, written at the end of (and after) the project.
Figure 7.2: Overview of the AE-project’s phases.

Figure 7.2 gives an overview of the AE-project’s lifecycle. The phases describe the main activities of the AE-project group. The arrow-shaped lines separating one phase from another represent that the transitions were made gradually. Concerning the ‘maintenance’ phase, this phase is a continuous phase (at the time when this thesis was written, this phase was still ongoing). What is most important to illustrate is that the project was officially closed at one point (February 2009), but still continued in an informal manner for yet some time and seemed to phase out gradually.

7.2. The Anonymous Exams Case Study – studying the development and implementation of Anonymous Exams

In parallel to the AE-project introduced above, I conducted an interpretive case study designed to document and understand the AE-project. The overall aims of the case study were to explore 1) how the AE-project was conducted; 2) how different stakeholders at the university were affected by the implementation of system components and work procedures developed and implemented; 3) the stakeholders’ preconceptions, fears, and expectations concerning the AE-project; and 4) if, and how, the stakeholders were involved in the development of Anonymous Exams. Data was collected during two time periods, referred to as pre-implementation and post-implementation (see Figure 7.3. below):

1. **Pre-implementation.** Data was collected during four months (March 2008 – June 2008). During this time, the objective was to draw a ‘before’ picture by exploring 1) the current work procedures; 2) the AE-project groups’ work; 3) the intended/planned system and implementation plan of Anonymous Exams; and 4) the affected employees’ preconceptions, fears and expectations associated with the changes related to student anonymity during written exams.

2. **Post-implementation.** The second data collection period was initiated approximately a year after the implementation of the systems enabling student anonymity during written exams. Data was collected during 11 months (October

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1 These objectives are discussed in detail in chapter 2 (Research approach), in the sections concerning the emergence of the research question (section 2.4.1) and the research projects of which this case study is part (section 2.2.2).
2 See chapter 2, section 2.4.2, for a discussion on the meaning of ‘data collection’ in this thesis.
3 The data collection was divided into two time periods due to parental leave.
2009 – September 2010). During this time, the objective was to explore the consequences of the new system components and work procedures, as experienced by various stakeholders within the university.

During these time periods, I was given access to project group meetings, activities organized by the project group, and project documentation. In addition, I conducted interviews with representatives of different stakeholder groups.

Figure 7.3: Illustration of the case study phases in relation to the phases of the AE-project.

7.2.1. Considerations regarding the choice of studying the AE-project

The reasons behind choosing the AE-project as a focal point of a case study were several. First of all, it fit well with the initial considerations concerning how different actors within an organization are affected by the implementation of an e-service;

- **The project affected a variety of employees at the university.** The written exam process affects several different types of employees at the university which makes the project a good source of information concerning how various stakeholders perceive a shared phenomenon.

- **Intention expressed by project group members to involve stakeholders in the development process.** Already at the initial stage of the project, there was extensive spreading of negative rumors about the project and outright opposition from some employees. Several members of the project group saw involvement of stakeholders in the process as a way of meeting and preventing further opposition. This attitude towards involvement made the project a good candidate for studying stakeholder involvement.

- **Internally developed system.** As an organization, the university in question is experienced regarding developing and implementing e-services and administrative systems. The fact that the technical solution for ensuring anonymity was fully developed by personnel at the university made it an interesting object of study as it 1) made it possible to follow the development phase, and 2) see in what ways future users of the system were involved in the process.
Apart from these three features, the nature of the AE-project was well suited for the interpretive case study format for additional reasons;

- **The time span** during which the AE-project was conducted served possibilities to study both the development of the e-service and to study the consequences of it later. The fact that I was allowed to follow the project from the very start is valuable – little retrospective reconstruction of the project was needed on behalf of the participants being interviewed.

- **News value.** The university in question was not the only Swedish university occupied with finding a way of letting students be anonymous during the grading of written exams. According to the university, they were however the first Swedish university to develop a system for teachers in which there was a direct link to the national system for administration of higher education (the Ladok system).

- **Engaged members of the project group.** Several members of the project group had expressed wishes to participate in a research project prior to the AE-project. Their motive was that they saw participation in research projects as a way to acquire new knowledge on project management. Their interest in research made it easy to gain access to both participants and documentation. The AE-project group’s main objective for allowing me to follow their work was to gain insights on how to disseminate information regarding the project to affected personnel.

A potential weakness in the choice of case study is the organizational setting of the project. Being a university employee myself, there is a risk that my personal experiences of the university setting has negatively influenced how I have interpreted the empirical material, i.e., by taking some things for granted, or relying too much on my personal experience when interpreting accounts. This experience can, however, also be considered to have strengthened my ability to get access to empirical material, as it means that I share a common ground (Clark, 1996) with the people I have encountered in the case study. This shared knowledge may have helped to establish the trust needed to have a fruitful conversation and functioned as a point of departure in the interview situation.

Another weakness concerns the research design; the pause in the data collection. The pause unfortunately meant that I was unable to follow the actual implementation of the system. The interview accounts of the implementation phase are therefore retrospective, as they were captured during the use phase of Anonymous Exams. Considering that our memories are limited and quite easily influenced (Sternberg, 1999), retrospective accounts are less reliable sources of information. On a more positive note, however, the pause enabled me to follow the work with Anonymous Exams during a prolonged time period and study the consequences of Anonymous Exams also in the long run.
7.2.2. **Initial identification of stakeholders**

The data collection was guided by a commonsensical understanding of the stakeholders involved in the process. These stakeholders were identified based on the examination process prior to the implementation of Anonymous Exams (described previously), and my own experiences of working in higher education. These five stakeholder groups guided the data collection and analysis of the empirical material;

- **The AE-project group**
  This group refers to the employees working as members of the AE-project group.

- **Students**
  The students are the target group of Anonymous Exams. This group initiated the project by demanding anonymity during examination.

- **Teachers**
  This group refers to teachers at the university who engage the Exam Services for their examinations. The teachers’ tasks include designing, grading, and reporting the exams.

- **Course administrators**
  This group mainly refers to administrative personnel reporting the students’ exam results in the national system used for documentation of academic information at higher education institutions in Sweden. The group also includes administrative staff responsible for handing out processed exams to students. Most persons represented in the empirical material belong to both types.

- **Examination Supervisors**
  This group refers to the personnel hired to supervise students during the examination occasion. At this particular university, examination supervisors are often senior citizens working part time at the university during the examination period. Their tasks are to administer the examination.

All of these stakeholder groups were represented by a subset of employees in the empirical material; see the next section. The characteristics of these groups are further discussed in the analysis chapters (chapters 8-9).

7.3. **Data collection**

In this section I describe the various kinds of data collection conducted. As illustrated above, the data was collected during two phases. In the following sections, the data collection activities are described thematically according to type of data collection technique. An overview of the data collection is given in Table 7.2. Henceforth, the new
work procedures and technical components designed by the AE-project group are referred to by the label *Anonymous Exams*.

**Table 7.2: An overview of the data collection activities in the Anonymous Exams case study.**

<table>
<thead>
<tr>
<th>Data collection method</th>
<th>Instance (number of instances/people)</th>
</tr>
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<tbody>
<tr>
<td><strong>Phase I</strong></td>
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<tr>
<td><strong>Pre-implementation</strong></td>
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<tr>
<td><strong>Observations</strong></td>
<td>Project group meetings (6)</td>
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<td></td>
<td>Information meetings for employees (2)</td>
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<td></td>
<td>Systems training activity (1)</td>
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<tr>
<td><strong>Interviews</strong></td>
<td>Course administrators (2)</td>
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<tr>
<td></td>
<td>Teachers (3)</td>
</tr>
<tr>
<td></td>
<td>Students (from the students’ union) (3)</td>
</tr>
<tr>
<td></td>
<td>Exam supervisors (2)</td>
</tr>
<tr>
<td></td>
<td>Administrators at the students’ office (3)</td>
</tr>
<tr>
<td><strong>Group interview</strong></td>
<td>Representatives of the reference group (7 persons)</td>
</tr>
<tr>
<td><strong>Documents</strong></td>
<td>Project documentation</td>
</tr>
<tr>
<td></td>
<td>E-mail conversations between the project group and employees</td>
</tr>
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<td><strong>Phase II</strong></td>
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<td><strong>Post-implementation</strong></td>
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<tr>
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<td><strong>Interviews</strong></td>
<td>Project group members (5)</td>
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<td></td>
<td>Teachers (2)</td>
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<td></td>
<td>Students (from the students’ union) (1)</td>
</tr>
<tr>
<td><strong>Meeting</strong></td>
<td>Course administrators</td>
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<tr>
<td><strong>Questionnaire</strong></td>
<td>Distributed to exam supervisors (49 respondents, 89% response rate)</td>
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<td><strong>Documents</strong></td>
<td>Project documentation</td>
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<td></td>
<td>A questionnaire distributed by Exam Service to students</td>
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<td><strong>Summary</strong></td>
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<tr>
<td><strong>Interviews</strong></td>
<td>17 (individual – 12; group – 5)</td>
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<td><strong>Observations</strong></td>
<td>12</td>
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<tr>
<td><strong>Other</strong></td>
<td>One (1) meeting with course administrators</td>
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<tr>
<td></td>
<td>Documents</td>
</tr>
<tr>
<td></td>
<td>One (1) open-ended questionnaire sent to examination supervisors</td>
</tr>
</tbody>
</table>

**7.3.1. Observations**

In total, twelve observations were conducted in the Anonymous Exams case study. The phase during which the observations were conducted is indicated in the title of each subsection below with (pre-impl) for pre-implementation, and (post-impl) for post-implementation.
Observing AE-project group meetings (pre-impl)

In the first phase of the case study, six AE-project group meetings were observed. The AE-project group was made up by eight persons (a detailed description of the group members is presented in section 8.1.1). The aim of these observations was to investigate the intended functions of the sub-parts of Anonymous Exams, how the group was working, and what expectations and fears the group members were experiencing concerning the implementation of Anonymous Exams. There was no intention to evaluate the project group’s work during these observations.

The AE-project meetings took place in various meeting rooms. During my observations of these meetings, I joined the group members at the conference table and took notes of what was discussed. I did not contribute to the discussions during the meeting, but talked to and asked questions to group members (especially the project leader) before and after the meetings. These questions were mostly of a clarifying nature, i.e., questions aimed at clarifying issues discussed during the meeting. Hence, my presence at the meeting was obvious to all group members.

During the sixth, and last, meeting I was asked to present the main features of the empirical material for AE-project group members. I presented my interpretations up to that point and the AE-group members present were asked to respond to my presentation. The picture that I sketched seemed to correspond fairly well with the group members’ own view on Anonymous Exams and its stakeholders. Together we discussed my interpretations of the various stakeholders’ situations and views, and this discussion fed back into the data collection as it added on to the data collected.

Observing information meetings organized by the project group (pre-impl)

In addition to the observations described above, I observed four different information activities concerning Anonymous Exams organized by the project group. The first activity was a meeting for Ladok users at one of the university departments. Next, two information meetings to which all teachers and course administrators at the university were invited were observed. The aims of these three observations were 1) to investigate what information was disseminated by the project group; and 2) to capture the employees’ preconceptions, fears, expectations and questions concerning the design and consequences of Anonymous Exams. When taking notes, I focused on documenting the questions posed by the members of the audience. During these meetings, my presence was known by the AE-project group, but not by the audience.

The fourth information activity that I observed was a test run of educational activities for examination supervisors. The activity was led by a member of the AE-project group. Participants were a subset of the AE-project group members. During this observation I was an active and equal member of the group to be educated. When taking notes, I focused on documenting how the education was organized and what was being communicated.
**Observing information meetings organized by the project group (post-impl)**

A year after the implementation of Anonymous Exams, I observed two information activities organized by members of the AE-project group. These information meetings were marketed as evaluation meetings and similar to the ones mentioned above, all teachers and course administrators at the university were invited. The aims of these observations were 1) to investigate what information was disseminated by the project group and 2) to capture the employees’ questions and opinions regarding Anonymous Exams. I sat in the audience and took notes of what was being said during the meeting. Similarly to earlier observations, I focused on documenting the questions posed by members of the audience when taking notes. During these meetings, my presence was known by the AE-project group, but not by the audience.

**Considerations concerning the observations**

As discussed previously\(^6\), all observations in the case study can be understood as participant observation (Myers, 2009); meaning that I participated in the activities being observed to some extent (although my participation was kept to a minimum). Concerning the openness of my participation and observation, some of the observations made were open only to parts of the people being observed, and covert for the rest of the people present. This section is devoted to discussing the advantages and disadvantages of this feature of the research design.

When discussing the observations in relation to the AE-project group, it must be acknowledged that my mere presence during their work activities might have influenced how their work was conducted. It is however impossible to determine how my presence may have influenced the group; there is simply nothing to compare to. The activities observed were unique occurrences. I have not actively investigated how the AE-group members experienced my presence, but I was told that my presence was appreciated by members of the project group.

Turning to the people participating in the activities organized by the project group, these were not informed of my presence. This implies a different kind of consideration; whether or not it is ethical to observe people without their awareness and permission (Myers, 2009). In this particular case, I did not see a need for my presence being known by the participants of these meetings; I was merely interested in knowing what questions and comments were put forth to the AE-project group. In addition, I wanted to observe the participants’ ‘natural’ behavior towards the project group and I believe that there was a risk that the participants’ behavior would have been negatively influenced if my presence was announced. If the participants had known that the questions asked were being documented by a researcher, this might have led them to ask fewer or differently formulated questions. In order not to violate the integrity and well-being of the people observed, I have focused on the statements being made and not on who made them. I

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\(^6\) In chapter 2, section 2.5.1.
have also made sure to secure the anonymity of the people being covertly observed, in accordance with the ethical recommendations discussed in section 2.5.1.

### 7.3.2. Interviews

In total, seventeen semi-structured interviews\(^7\), each lasting for approx. 30-40 minutes, were conducted as part of the Anonymous Exams case study. The interviews are described in this section. The phase during which the interviews were conducted is indicated in the title of each subsection below with (pre-impl) for pre-implementation, and (post-impl) for post-implementation. An overview of the themes/questions for the interviews is presented in Appendix B.

All participants were informed of their right to be anonymous and to end the interview at any time. Informed consent to use the interview for research purposes was obtained from all participants. I recorded all interviews in MP3 format. In addition, I took notes during all interviews; these notes were later supplemented and enriched using the recordings of the interviews.

**Interview with representatives of the stakeholder groups (pre-impl.)**

Interviews were conducted with representatives of the remaining four stakeholder groups. The aims of the interviews were 1) to investigate how exams were currently administrated and 2) to capture the employees’ preconceptions, fears, expectations and questions concerning the consequences of Anonymous Exams.

Interviews were conducted with the following persons:

- **Teachers** (3 people) – two interviews; one with an individual teacher and one with a pair of teachers.
- **Students** (3 people) – a group interview with three students working for the student unions.
- **Examination supervisors** (2 people) – two separate interviews.
- **Course administrators** (5 people) – three interviews; two with individual course administrators working with teachers, and a group interview with three course administrators working with the handing out of graded exams at a so called examination office.

In the beginning of the case study I was given access to e-mail conversations between the project leader and various employees concerning the AE-project (see section on project documentation below). Based on these emails, teachers were contacted and asked if they wanted to participate in an interview on Anonymous Exams. The first interview was held with a teacher that was contacted because he seemed to hold a cautiously optimistic stance towards Anonymous Exams in his email. The second interview was conducted

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\(^7\) A detailed account of all interviews is found in Appendix B.
with two teachers (who were colleagues) who stood out as particularly negative towards Anonymous Exams in the e-mails. The choice of teachers was meant to give in-depth insights into the perceptions of these two conflicting views on Anonymous Exams.

Considering the students, I contacted one of the student unions and asked to get into contact with someone who was familiar with Anonymous Exams. I received a reply from a person and we arranged for the interview. When I arrived at the interview venue the informant was accompanied by two additional persons. These were representatives of two of the other student unions. The interview was therefore conducted as a group interview.

The names of the examination supervisors interviewed were given to me by a person in the AE-project group who worked at the Exam Services unit. Concerning the course administrators, on the other hand, these were all identified and contacted by me personally. For the two individual interviews, I contacted two course administrators at random. The group interview was conducted with the course administrators working at the student office at the same department. The group interview was conducted at the student office after their opening hours.

**Group interview with reference group members**

In addition to the interviews presented above, a group interview was conducted with members of a reference group put together by and for the AE-project. The AE-project group engaged a reference group made up by representatives of all stakeholder groups affected by Anonymous Exams. The reference group participants were hand-picked by the AE-project group leader and covered all professions and faculties of the university, including students. The reference group was used as a sounding board in order to get feedback during the development phases of the project. Half of the reference group (7 out of 14 persons) agreed to participate in an interview. Questions posed concerned the participants’ experiences of Anonymous Exams and of working in the reference group.

**Interviews with representatives of the stakeholder groups (post-impl.)**

During the post-implementation phase, I conducted interviews with six members of the project group. The interviews focused on how they had experienced their work in the project and their views of Anonymous Exams as a product of their work. Four members of the project group were interviewed individually (the project owner, the project leader, the system developer, and the examination supervisor representative). Two members of the project group were interviewed together (two personnel responsible for system maintenance). The reason for interviewing these two group members together was that they worked closely together.

Interviews were also conducted with representatives of the teachers and students. The aims of the interviews were 1) to investigate the actual outcomes and consequences of the AE-project, and 2) to capture what the employees thought of Anonymous Exams when used for some time. Interviews were conducted with the following actors:
• **Teachers** (2 persons) – two individual interviews with teachers working at different departments at the university.

• **Students** (1 person) – an interview with a student working for the student unions.

For the first interview with a teacher, one of the teachers who had participated in the reference group was contacted. This particular person participated in the group interview with members of the reference group and had stood out as highly committed to Anonymous Exams. I contacted this teacher for an interview because I wanted to find out to what degree the outcome of the AE-project lived up to this person’s expectations. The previous membership in the reference group also made her/him an interesting person to interview.

The other interview with a teacher was conducted with one of the teachers who had been negative towards Anonymous Exams (interviewed during the pre-implementation phase). This interview was a follow-up on the interview previously conducted with this person.

For the interview with a student I contacted one of the student unions once more. Again, I asked to get into contact with someone who was familiar with Anonymous Exams. The persons previously interviewed did no longer work at the student unions. The interview was conducted with a person chosen by one of the student unions.

**Considerations concerning the interviews**

In chapter 2, section 2.5.2, interviews were characterized as being inherently co-constructed by the interviewer and interviewee. The interplay between these two parties determines the length and depth of the conversation, and hence the quality of the text later produced by the researcher. An important factor influencing the interplay is trust and interest (Kvale, 1997). I believe that a high level of trust was achieved in most of the interviews conducted in the case study. I am confident that being a university employee myself, and therefore being well acquainted with e.g., the work of a teacher and the life situation of a student, helped building trust during the interviews conducted in this case study. Being well acquainted with the work of the respondents also meant that we had a common ground (Clark, 1996) from which the conversation could depart, facilitating the conversation. As discussed previously, there is however a risk that my experiences of the university setting may have functioned as unconscious hindrances for understanding the interviewees’ accounts. Regarding the respondents’ interest in the topic, I did not experience that all respondents had an equal interest in the issues at hand; anonymity for students and the AE-project. All respondents had enough interest for the issues as to agree to be interviewed, but the reasons for their participation seemed to differ. I suspect that some participated out of mere curiosity, whereas some participants saw the interview as a possible venue to get their message across to the AE-project group. Two of the teachers and two of the course administrators working at the examination office, interviewed during the pre-implementation period, were particularly agitated by the work of the AE-project. These participants seemed to perceive me as an indirect means for
communicating with the AE-project group. For this reason it became even more important for me to be as open and honest as possible concerning my objectives and my role in the AE-project; I did not want these participants to feel deceived later on. These behaviors are however quite interesting as they can be interpreted as testifying of tensions and miscommunication between different stakeholders in the organization.

As seen in the account of the interviews, some were conducted with the respondents individually, and others were conducted with pairs or groups of respondents. One of the group interviews was planned to be conducted individually, but turned into a group interview when the participant brought two additional persons to the interview. The interview with the two teachers negative towards Anonymous Exams was conducted as a group interview. This choice was based on that they had written a formal complaint on Anonymous Exams together. Regarding the group interview with course administrators at the student office, these seemed to prefer to be interviewed as a group. The reference group members were interviewed together in a format that can best be described as a group discussion. During the four group interviews mentioned here all persons present participated and contributed to the conversation and helped supply me with a rich picture of their view on Anonymous Exams. The fifth group interview was conducted with two members of the AE-group during the post-implementation phase. These were interviewed together because they seemed to be working very closely together in the project. Later, when analyzing the accounts given during this interview it turned out that I was mistaken in how closely related their respective work was. This made it somewhat difficult to distinguish between these two persons in the analysis of the AE-group members’ work. For these particular persons, it would have been preferable if they had been interviewed individually.

When considering all interviews conducted, they differ in form, content, and depth. Still, I believe that they all supplied the case study with important and valuable information for understanding Anonymous Exams. After the data collection, I have contacted members of the AE-project group a few times when I have needed to clarify or validate accounts in the empirical data. In addition, and as implied in section 2.5.2, the members of the AE-project group who were interviewed during the post-implementation phase, were asked to read and comment on the thick descriptions of the AE-project presented in chapter 8 and 9. These interviewees were predominantly content with the descriptions but asked that minor changes were made to the accounts of the work processes and the functionality of the technical systems designed in the AE-project. These measures have functioned as a form of validation of the thick descriptions.

7.3.3. Supplementary data
The observations and interviews described above make up the primary data for the empirical foundation of the thesis. These data have been supplemented with additional
data collected based on (1) a meeting with course administrators; (2) project documentation; and (3) an open-ended questionnaire to examination supervisors.

**Meeting with course administrators**

In order to gain further insights on the situation of the course administrators after the implementation of Anonymous Exams, a meeting with the administrative personnel at one of the university’s departments was arranged. I first contacted the administrative chief at the department, resulting in that I was invited to talk about Anonymous Exams at a meeting for course administrators arranged by the administrative chief. In total, 25 persons attended the meeting. At this meeting, I first gave a presentation of the case study and an overview of what course administrators had said about Anonymous Exams before it was implemented. Thereafter an open discussion took place on the following themes:

- What are the consequences of Anonymous Exams? Positive and/or negative?
- Has the work situation changed at the student offices?
- How does the Exam Marking System work? And who uses it (teachers/course administrators)?

I took notes during the meeting, and recorded what was said in MP3 format. It is difficult to label this meeting in methodological terms. It was not a group interview, nor an observation. The setting was not such that I could obtain informed consent from the participants. In addition, all participants had been asked by the administrative chief to participate, and hence, their participation was not necessarily voluntary. I was highly involved in the meeting, but I was not the only moderator of the meeting as the administrative chief also had an agenda with the meeting (this is further discussed in section 9.2.3). When discussing the use of the Exam Marking System, several participants seemed to regard me as a representative of the AE-project group and wanted me to forward information to the project owner and system developer in the project group. Again, I tried to be as honest as possible regarding my role and informed them of whom to contact with their questions. There were also several different views on Anonymous Exams in this group and open conflicts on how to handle the new procedures and systems (as illustrated in section 9.2.3). The conflicting views and perhaps involuntary nature of this meeting caused me to be particularly careful to respect the integrity of these participants when reproducing accounts from this meeting in the analysis. This meeting supplied me with material that illustrated different views on and consequences of Anonymous Exams. It also gave real-time examples of the kind of conflicts the implementation of the new system and work procedures had entailed in the organization.

**Documents**

As a part of the data collection, I got access to various documents produced by persons involved in the AE-project. The AE-project group had very little time to document their work during the project, resulting in few documents. Most documentation were therefore of an informal and semi-finished character. During the pre-implementation phase, the few
formal documents I was given access to were written before or during the start-up of the AE-project;

- **Project directives** – written by the *project owner* in December 2007. Contains brief information on
  - the background of the project,
  - anticipated effects of the project,
  - goals of the project,
  - time plan, and
  - financing of the project.

- **Project plan** – written by the *project leader* in January 2008. Contains information on
  - the background of the project
  - goals of the project
  - deliverables
  - organization and staffing of the project
  - time plan, and
  - potential risks

- **Plan for informing about Anonymous Exams** – written by the *project leader* in March 2008. Containing an overview of planned activities intended to inform various employees at the university about Anonymous Exams.

In addition to the documents produced by the AE-project group, I was given access to 20 *email conversations*\(^8\) between the project leader and various teachers and course administrators at the university. These emails were given to me in paper form and were used to extract expectations, fears and questions expressed by affected personnel. Using these conversations, I was also able to identify three teachers as suitable respondents for the interviews (see above). Furthermore, a *report by the National Agency for Higher Education* (1998) discussing anonymity during examination was used as background information for the AE-project.

During the post-implementation phase, the documentation obtained includes;

- **A questionnaire sent to all students at the university.** I was given access to the results of a questionnaire that had been distributed to all students by the Exam Service unit at the university. The questionnaire was distributed in December 2009 to approx. 20 000 students, out of which approx. 5000 responded to the questionnaire (equal to a response rate of 25%). The questionnaire contained questions investigating the students’ perceptions of anonymity, the examination supervisors’ new work procedures, and their experiences of attending examinations. The questionnaire responses were forwarded to me by an employee

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\(^8\) These 20 email conversations were comprised of 45 individual emails.
at the Exam Service unit. No advanced analyses had been made of the questionnaire responses; the results were merely presented by a numerical summary of how many respondents had ‘ticked’ each possible answer. On closer inspection, I discovered that the number of responses on each question did not always add up perfectly to the total number of respondents\(^9\). Because of the discrepancies in the numbers, I merely used this data to see trends and patterns in the material. Nonetheless, the results from the questionnaire gave an overview of how the students in general perceived examination and anonymity.

- **The user manual to the Exam Marking System** – written by a member of the AE-project group. The target groups for the manual were all teachers and course administrators working with the Exam Marking System. The manual was published on the university website when the system had already been in use for a year.

Turning to the **technical systems** making up Anonymous Exams, the descriptions of the technology presented in chapters 7-9 are partly based on interview data with the AE-project members, in particularly the interview with the system developer. In addition, the system developer supplied me with **documentation** about the systems on a general level (used to generate figures 7.1. and 8.2.). Furthermore, I have interacted with the user interfaces of the technical systems making up Anonymous Exams (i.e. the Student Portal, the PDAs, and the Exam Marking System; see Figure 8.2). In order to keep the empirical material as anonymous as possible, no screenshots of the user interfaces are presented in the thesis.

**Open-ended questionnaire to examination supervisors**

The examination supervisor group was the smallest of the five stakeholder groups covered in the data collection (apart from the AE-project group) and the most homogeneous group in terms of their work procedures. From the interviews with the project group members and the information meetings observed, I had a rather detailed picture of how Anonymous Exams had influenced this group. This made it possible to formulate distinct questions; questions that could be put on print and disseminated to the whole group in the shape of a questionnaire. The motivation for using a questionnaire and not conduct interviews with representatives of this stakeholder group was that I wanted to reach the whole group in order to cross-check the accounts given in other forums. It also made it possible to investigate if this group was as homogeneous as indicated.

In August 2010, a questionnaire\(^{10}\) was sent by mail to 55 persons working as exam supervisors at the university. The names of the employees were supplied by the

\(^9\) The discrepancy in the numbers was very small, but still cause for concern if wanting to conduct in-depth analyses of this material. For this reason, only percentages were calculated on the questionnaire responses and these were rounded off to the closest 5%.

\(^{10}\) The questionnaire is appended in Appendix C.
Examination Office. Out of these 55 persons 49 persons replied, which is equal to a response rate of 89%. The questionnaire asked questions of four different kinds and was therefore divided in four sections. The first section contained open questions of a general nature concerning their work as exam supervisors and the work procedures related to Anonymous Exams. The second section contained more specific statements concerning their work situation. Each statement was accompanied by a scale on which the respondent was asked to rate to what degree she/he agreed. The third section contained open questions in which the respondent was asked to list what kind of problems occur in their work and how they work to solve them. The fourth part was directed to the respondents who had worked as exam supervisors before the implementation of Anonymous Exams and contained questions in which the respondents were asked to compare their current work procedures with those prior to Anonymous Exams. The response rate to the questionnaire was impressive and the responses given to the questionnaire supplied material for analysis of the examination supervisors’ work situation and view on Anonymous Exams.

Before turning to the detailed account of what happened during the two phases (the subsequent two chapters), I first give a brief description of the structure and logic of the analysis of Anonymous Exams.

7.4. **Structure and logic of the analysis of Anonymous Exams**

In this section, the structure and logic of the analysis of Anonymous Exams is briefly introduced. As discussed in chapter 2, the analysis of the collected data was done using a hermeneutic approach. Considering that the empirical work has been conducted in parallel with the theoretical work, the analysis of the material has been an integral and continuous activity, shaping the research along the way. This activity was previously illustrated in Figure 2.4 in section 2.4.1.

In relation to the case study, Figure 2.4 is relevant once more. After concluding the data collection, a more focused analysis of the empirical material was conducted, guided by the refined research question and the provisional conceptual framework. The result of that analysis is presented in the subsequent two chapters. In the analysis, I used the parts acquired through the data collection, to build a whole (Alvesson & Sköldberg, 2000; Klein & Myers, 1999). The parts hence refer to accounts captured in field notes, interview transcriptions, and documents. The whole, in turn, refers to the presentation of coherent thick descriptions (Walsham, 1995) of what happened when Anonymous Exams was designed, implemented and used at the university in question. In order to reflect the stakeholder focus, the thick descriptions are made from several different stakeholders’ perspectives.

The subsequent two chapters are structured to reflect different parts of the lifecycle of Anonymous Exams, and thus also the two phases during which empirical data was collected. For each phase, thick descriptions of the five stakeholder groups’ views on
Anonymous Exams are presented, followed by a discussion of Anonymous Exams using the provisional framework. In the discussion, the thick descriptions and the provisional framework provides *parts* that can be interpreted and interrelated into a greater *whole* in order to further understand the case and to investigate and illustrate the utility of the framework. The analysis section of this thesis is concluded with a joint discussion on Anonymous Exams in chapter 10, combining the two phases.

Figure 7.4 illustrates the relation between data collection and the phases covered of the life cycle of Anonymous Exams. Consequently, this figure also illustrates the temporal nature of the data discussed in the two subsequent analysis chapters. The first data collection period took place during the analysis- and design phases. During this time period I captured real-time accounts of what happened through interviews, observations, and documents. During the same data collection period, I captured retrospective accounts of the phases preceding the analysis phase; e.g., accounts of what triggered the AE-project. The similar logic is applicable on the second data collection period, conducted during the use phase. During this phase, I captured real-time accounts of the use of Anonymous Exams through observations, interviews and documents, and retrospective accounts of what had happened previously through interviews and documents.

**Phase I: Analysis and design of Anonymous Exams**

A ‘before’ picture, covering

- Real-time accounts of the AE project groups’ work designing the intended/planned system and implementation plan of Anonymous Exams.
- Real-time accounts of the stakeholders’ preconceptions, fears and expectations associated with the changes related to student anonymity during written exams.
- Retrospective accounts of the time period preceding the analysis phase.

**Phase II: Implementation and use of Anonymous Exams**

An ‘after’ picture, covering

- Real-time accounts of the consequences and experiences of the use of Anonymous Exams.
- Retrospective accounts of stakeholders’ experiences of the implementation phase.
- Retrospective accounts of the AE-project groups’ experiences of working with the AE-project.

Figure 7.4: An overview of the relation between the life cycle phases of Anonymous Exams and the types of the data collected.
8. ACCOUNT AND ANALYSIS OF ANONYMOUS EXAMS: PHASE I

In this section, the analysis and design phase of Anonymous Exams is covered. First, an account of the AE-project groups’ work is given, including the design of the examination process and its technical components. Second, the expectations, fears, and perceived needs of Anonymous Exams, as expressed by the other stakeholders in the organization, are presented. Last, Anonymous Exams is analyzed and discussed using the provisional conceptual framework presented in chapter 6, telling the story from a slightly different angle. Considering the interpretive and hermeneutic approach of this thesis, the account of Anonymous Exams is by inevitability ingrained with my continuous interpretations of the empirical material. My ‘voice’ is therefore visible both in the description of the AE-project and in the structured analysis at the end of the chapter.

8.1. The work of the AE-project group

This section is based on the field notes taken during observations of project group meetings during the first data collection period, and interviews with the AE-project group members during the second data collection period.

The AE-project was delayed already from the start. It was up and running by February 2008 and according to the original plan (the project directives from 2007), the technical solution for anonymity should be developed, tested and implemented for all students by May the same year. This was deemed unrealistic by the project group and the deadline was extended to the 1st of September the same year. The extended deadline was exceeded by almost two months due to delays in testing activities. The first examination conducted with the use of Anonymous Exams was performed at the end of October, 2008. This chapter gives an account of what happened during the analysis and design phase (see Figure 8.1); this particular section focuses on the activities of the AE-project group during that time period.
8.1.1. The AE-project group

The project group consisted of eight people working at various units at the University Services. First, there was a project owner, a person with formal and budgetary responsibility for the project, otherwise working with the Ladok system. The project owner had been in charge of the two previous attempts to implement anonymity for students, discussed in the previous chapter, and therefore had a long term perspective on the project and was well acquainted with the background of the project. The project owner was also the author of the directives for the project. The project owner did not, however, have enough time to spend on this project once it had started and was soon supplemented by a project leader, based on demands from the rest of the members of the project group. The project leader, a person also working with the Ladok-system, was appointed leader of the everyday operations of the project, though the project owner remained the formal and budgetary responsibilities.

A system developer working at the centralized IT-unit at the university was part of the AE-project group. The system developer’s role was to develop the technical systems enabling Anonymous Exams. This person, in turn, hired occasional assistance from an external IT-consultant. This consultant was, however, not part of the project group and had a very peripheral role in the project.

A manager working at the Exam Services unit at the university, a representative of examination administration, was part of the project group. In the project this person worked particularly with requirements specification for Anonymous Exams. The examination administration representatives’ regular work was to manage and organize the work of the examination supervisors at the university. This person was also the intended process owner of Anonymous Exams after the implementation. In addition, a person working as an examination supervisor was part of the project group to represent the work of the examination supervisors, and to be a tester of the parts of Anonymous Exams affecting the examination supervisors.

Three of the members of the project group worked with system maintenance at the university. Two of these representatives were appointed to represent system maintenance in the project as they were the ones who would maintain the systems developed after the project was liquidated. One of them worked with the requirements specification and the other was an additional resource to the project and did whatever work was needed. These two members of the project group were my contact persons when gaining initial access to
the AE-project. The third representative for system maintenance in the project group seemed to have a peripheral role in the project group as this person seldom took part of the project meetings observed in the case study. According to the project plan, this group member was responsible for the purchasing of the technical equipment used to develop Anonymous Exams and to function as technical support for the project group. This member had an active role in the project, but is not salient in the case study. For this reason, this person is marked with a grey color in the table below and will not be further addressed in the account of Anonymous Exams below.

In Table 8.1 below, an overview of the AE-project group members is presented. Six of the eight group members were more salient in the case study than the others; these six are marked with a thicker frame in the table below.

Table 8.1: An overview of the group members of the AE-project group.

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities in the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project owner</td>
<td>Formal and budgetary responsibility for the project.</td>
</tr>
<tr>
<td>Project leader</td>
<td>Responsible for the operations of the project.</td>
</tr>
<tr>
<td>System developer</td>
<td>Responsible for the technical solution.</td>
</tr>
<tr>
<td>Examination administrator</td>
<td>Responsible for the requirements specification of the system directed towards the examination supervisors. The future process owner of Anonymous Exams.</td>
</tr>
<tr>
<td>Examination supervisor</td>
<td>Part of the project group as a representative for examination supervisors. Responsible for testing of the components of Anonymous Exams affecting the examination supervisors.</td>
</tr>
<tr>
<td>System maintenance (1)</td>
<td>Part of the project group as a representative for system maintenance. Responsible for the requirements specification and testing of Anonymous Exams.</td>
</tr>
<tr>
<td>System maintenance (2)</td>
<td>Part of the project group as a representative for system maintenance. The role included to be an expert on system maintenance and to support the project in various activities.</td>
</tr>
<tr>
<td>System maintenance (3)</td>
<td>Part of the project group as a representative for system maintenance. Responsible for the purchasing of technical equipment for the project and technical support.</td>
</tr>
</tbody>
</table>

8.1.2. Defining what to do

The work conducted by the project owner prior to the initiation of the AE-project had resulted in suggestions on how to realize anonymity for students. These suggestions involved changes to the systems involved in the examination process (the Exam Registration System and the local Ladok system; see previous chapter) and the development of a service that would tie all systems together. It was also suggested that the students’ Student Identity Cards (used for various purposes, such as ID at student venues, library card, etc.) would be an integral part of the solution. In addition, the suggestion included that Personal Digital Assistants (PDAs) would be purchased and programmed to fit the work of the examination supervisors, and that a direct link between all aforementioned systems and the Ladok system should be created if possible. Directives to build a solution that fitted these suggestions were given to the AE-project group at the start-up of the project (presented in the Project Directives written by the project owner).

The instructions given to the AE-project group from the project owner may seem rather straightforward, but in the beginning of the project, the main challenge for the project
group was to find out how written exams were currently administered. They needed to know the current procedures in order to define and work with the new ones. The members of the AE-group visited several different departments within the university and interviewed employees regarding their administration of written exams. It turned out that there was little consensus across faculties, departments, divisions, and individual teachers and administrators on how to administer and grade exams, resulting in an abundance of different ways to administer exams across the university. In addition, many teachers used various kinds of bonus systems for students, meaning that students were allowed to collect credits based on less formal examination forms (e.g., seminar attendance and shorter papers). These credits were then transferred to the exam and hence raised the grade for some students. The problem with these systems was that these extra credits were not registered other than by the individual teacher, and hence there was no traceability for others concerning how a student could receive more points on the exam than s/he deserved (based on the exam alone).

Based on their instructions from the project owner, the vice-chancellor decision, regulations concerning examinations, and their visits in the organization, the AE-project group expected three main results from enabling students to be anonymous during written exams:

- Unbiased examination for students and teachers.
- A standardized examination process.
- Prestige and marketing advantages.

The main motive for developing Anonymous Exams articulated by the university management, and hence the central expected consequence of the project, was to achieve unbiased examination for students and teachers. Students should not risk favoritism or discrimination, and teachers should not risk to be accused of discrimination. By not letting the teacher know who the person behind the exam is, the risk of unintentionally/unconsciously giving students a higher or lower grade than deserved, based on classroom achievements, is reduced. In order to achieve this result, the AE-project group saw a need for a more standardized examination process. The differences in administrative procedures, and hence also differences in local regulations for students concerning this type of examination, was perceived by the AE-project group as a potential source of bias in the examination process. By implementing a technical solution for administrating written exams throughout the process, all departments and divisions would be forced into the same work procedure, meaning that the administration of written exams would be similar across the whole university. A standardized examination process was also seen as a way of achieving security and trust in the process; with a standardized process, both teachers and students would know what to expect, and be able to trust the examination system. An additional anticipated consequence of the standardized and technically supported examination process, as foreseen by the project owner (in the
An indirect consequence of implementing a technical solution for enabling student anonymity during written exams was prestige in fulfilling this project. The anonymity as such was seen as a marketing advantage when recruiting new students, whereas the technical solution was seen as a marketing advantage against other universities. The AE-project group saw this project as an opportunity to connect the teachers’ registration of the students’ results directly to the national system for study administration within higher education in Sweden, handling information about students’ study results (the Ladok system). If they succeeded with this link, they would be the first university in Sweden to have full integration of all systems concerning examination. Anonymity during examination as such was nothing new at this university; anonymity was already widely used at this and other Swedish universities. Most of the existing solutions for anonymity were however manual and paper-based, and the few technical solutions that did exist at this time did not have a connection to the Ladok system. An expected consequence of this integration was that almost all manual handling of paper documents would be removed; apart from the actual exams, very few paper documents were expected to be produced in this procedure.

8.1.3. Working against the clock

For all members of the group, the AE-project was only one of their responsibilities at the university. The AE-project was much more time-consuming than anticipated, and for many of the members of the AE-project group this meant that they had to work with issues related to the AE-project on evenings and weekends. The project group often had to schedule meetings at seven o’clock in the mornings, one hour before their regular working time. When taking a look at the directives for the project, written by the project owner in 2007, some light is cast on why the project group experienced problems regarding their planning:

“The project has already developed parts [of its intended deliverables]. What remains are the purchasing of equipment worth approx. 300KKr, and extensive development of the web service. No estimation of required time is done, but a preliminary guess is that it will cost approx. 500-700KKr.” [p. 4, The Project Directives, written by the project owner, 2007-12-11].

From the project directives, the conclusion can be drawn that no real estimation of the work or time needed to develop the technical solution had been done. Being responsible predominantly for the financing of the project, the project owner focused mainly on the estimated cost of the development. The project group tried to estimate how much time various activities in the project would take, but seemed to exceed their deadlines continuously throughout the project. The reasons for the additional time needed for the AE-project group were several. First and foremost, the project leader had no prior experience of being a project leader and no experience of system development. Similarly,
most members of the project group were inexperienced concerning projects of this size and complexity. In fact, it took quite some time for the project group to realize the full scope and impact of the project. In retrospect, the project leader said that:

"I was thrown into this [project] rather quickly […] I thought we were in the implementation phase, and we weren’t, much more work than I had anticipated was still remaining […] I had never been in the project leader role and thought that now I’ll get to try on this role, so I thought that it was quite a small project, a small part […] we’ve said afterwards that we had a rather fun period […] but as a project, it wasn’t perhaps all that well-structured…” [Project leader, interview, 2009].

Similar to the groups’ general inexperience of this type of project, the work with the system integration and the PDAs went slow. In the initial project plan there were two system developers designated to work with the technical solution and the PDAs. Unexpectedly, one of the system developers resigned during the start-up of the project and the remaining system developer was left as the only system developer in the AE-project. Apart from doing two people’s work, the remaining system developer had no prior experience of developing a system for such a varied user group, leading to delays in the design of the technical parts of Anonymous Exams. In addition, it was decided that the PDAs would operate over a wireless Internet connection (WLAN). When it was time to start testing the system it turned out that the current WLAN network was not powerful enough to support the intended system, meaning that the WLAN at the university had to be further developed, resulting in additional delays. The additional costs for the WLAN were not, however, covered by the AE-project.

The representative of the examination supervisors became a key figure in the AE-project group. Not only did this person have extensive knowledge about the examination process; the examination supervisor representative also had twenty years of experience regarding system development projects at a large private manufacturing company. This prior experience was however not known by those appointing this person to the AE-project group; this person was merely appointed to the AE-project group based on the position as an examination supervisor. The examination supervisor representative’s prior employment had included working with systems development and being responsible for educating personnel in using various information systems. Based on the previous work, the examination supervisor representative had a strong user focus. This experience was needed in the AE-project and was much appreciated by other AE-project group members. The complexity of the project, and the other project members’ limited knowledge regarding written examination and projects of this kind, meant that this group member played an important role in the project (a role that is illustrated continuously below).

8.1.4. Involvement activities organized by the AE-project group

In the project directives from 2007, the project owner emphasized two factors as critical for the success of the project. First, that people working with the technical development
were given enough resources to complete their work on time. The second success factor, as expressed by the project owner in the project directives, concerns the involvement of employees:

”It is equally important that the employees that are affected by the shift over to Anonymous Exams feel connected to the realization of the project. For some departments, this will involve considerable changes in their work routines; therefore, good anchoring with those who will work with Anonymous Exams is important in order for the implementation to go well.” [p.3, The Project Directives, written by the project owner, 2007-12-11].

In order to formulate a process that most employees could agree with, the AE-project group put together a reference group of employees that functioned as a sounding board for the project group. The reference group consisted of 14 employees from various departments and stakeholder groups. All members of this group, but one, were contacted directly by the project leader and asked to participate. When selecting personnel to the reference group, the project leader strived to find one person from each department at the university. These persons were intended to function as representatives and spokespersons for their departments in the AE-project; and vice versa, as spokespersons for Anonymous Exams at their departments, promoting the work of the AE-project in their regular work. A teacher working at a department with large student groups during their examinations contacted the project leader on own initiative and asked to be part of and was granted membership of the reference group. The project leader failed to find one person for each department, and all in all, three teachers, one student, two examination administrators, and two examination supervisors, were represented in the group. The remaining six persons were course administrators working at various departments. In addition to functioning as spokespersons for their departments and Anonymous Exams, the role of the reference group was to give feedback on design suggestions presented by the AE-project group.

Apart from the reference group, whose purpose was to give direct feedback into the AE-project, the AE-project group also used the Internet, and organized various types of activities to inform employees about, and receive comments on, Anonymous Exams;

- A website about Anonymous Exams was created through which employees could follow the work of the AE-project group.
- Letters and emails with information about Anonymous Exams were sent to teachers and administrative personnel.
- General information meetings concerning Anonymous Exams were organized.
- Specific information meetings concerning the technical parts of Anonymous Exams were organized for course administrators with access to the Ladok system.
- In addition to meetings organized by the AE-project group to inform about Anonymous Exams, the members of the project group also had an articulated
intention to promote Anonymous Exams through their informal, personal, networks at the university.

- **Systems training activities** were organized for examination supervisors.

Apart from spreading information about Anonymous Exams via the Internet, letters, and emails, several *information meetings* were organized, to which all teachers and course administrators at the university were invited. I attended two such meetings (see section 7.3.1). The AE-project group organized these meetings in order to promote Anonymous Exams to the employees, and to respond to rumors flourishing among the employees at the university; rumors that the project group perceived as involving unrealistic expectations and fears concerning the anonymity of exams. For example, there were rumors among some employees that the project was initiated due to mistrust of the employees, and that the AE-project was a centrally steered project that did not take employees’ views into account. Based on previous experiences, the project group expected complaints from the employees, and hoped that these meetings could function as a way to anchor the future system in the organization, satisfy employees’ curiosity, answer their questions, and receive some valuable input on the ongoing work designing Anonymous Exams. Very few people came to these meetings. The few teachers that attended these meetings questioned the underlying motives of the project and the suggested technical solution. The AE-project group members reported of a teacher walking out of one of these meetings in protest, shouting “am I a teacher, or an administrator?” (interview; system maintenance representatives (1&2), AE-project group). Based on this protest, the system developer recognized a need to capture as many teacher-based requests as possible, and to design the forthcoming interface for the teachers in a way that would affect their work as little as possible. Hence, the teachers were perceived as a very important user group by the AE-project group members. The teachers were even seen by the AE-project group as a potential threat to the success of Anonymous Exams. The project group worried that the teachers would realize the impact of Anonymous Exams on their work when it was too late for the system developer to take the teachers’ comments into account, and that the outcome of Anonymous Exams would not be to the teachers’ liking. The individual teachers at Swedish universities are quite autonomous when designing their respective courses and examinations. The AE-project group therefore feared that some teachers would try to bypass Anonymous Exams if it was not working satisfactorily for the teachers when implemented. The project owner was assigned to create a system requirements specification for the system directed towards the teachers. For some reason, the requirements specification was never completed, and the system developer had to start developing the system without it. The system developer quickly created a sketch of the system guided by features of other systems with which s/he knew that the system was meant to communicate. The system developer also created a paper prototype of the interface intended for the teachers. The prototype was discussed during AE-project group meetings and with the members of the reference group, but
there was not enough time to test the prototype together with teachers outside the reference group.

In addition to the general information meetings, several specific information meetings were organized. I was allowed to accompany a meeting for course administrators with access to the Ladok-system, organized by the AE-project leader as part of the project leader’s ‘regular’ work regarding the Ladok system. During this particular meeting, the AE-project leader presented Anonymous Exams and illustrated how these individuals would be affected by the upcoming system changes. The project leader explicitly asked for comments and suggestions and spent considerable time answering questions regarding Anonymous Exams. I was given the impression that the AE-project leader discussed Anonymous Exams in a similar manner also at other meetings at the university. The AE-project leader also sent emails and letters to all teachers and course administrators at the faculties affected by Anonymous Exams. The emails and letters contained information about the AE-project and the upcoming changes in examination procedures. The project leader urged the recipients to reply with questions, comments and feedback to the AE-project. I was given access to a subset of the replies (emails) sent by teachers and course administrators to the project leader. The emails contained both questions regarding the upcoming examination process and the students’ anonymity; and information about current examination procedures, such as information about bonus systems used by teachers. As stated above, the AE-project group members worked to promote and capture feedback regarding Anonymous Exams in their other responsibilities at the university as well, and this example is an illustration of how the project leader undertook this task.

According to the project directives written by the project owner, students, examination supervisors, course administrators, and teachers should all be informed about Anonymous Exams. In addition, the directives stipulate that the examination supervisors, and possibly also the course administrators and teachers, should undergo training on how to use the systems developed. The course administrators using the Ladok system were instructed on the new features of the Ladok system at meetings organized by the AE-project leader. The teachers were also offered ‘training’, but in their case, the training consisted of a lecture offered when the system was already in the implementation phase (see chapter 9). The only group of employees that did receive systems training prior to the launch of Anonymous Exams was the examination supervisors. This was very much the result of the examination supervisor representative’s work in the AE-project. The training session1 for examination supervisors was designed to illustrate the new work procedures, and the interface and functions of the PDAs to be used by the examination supervisors once Anonymous Exams was launched. The examination supervisors were seen as a very

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1 I was given access to a demonstration of such a training session designed for the examination supervisors. The demonstration was given by the examination supervisor representative in the project group, and most AE-project group members participated on this occasion (see section 7.3.1 for details).
important user group by the AE-project group and were given considerable attention in the AE-project. This is hardly surprising considering the examination supervisor representative’s background of having a strong user-focus and educating personnel in computer use. The members of the AE-project group worried that several of the examination supervisors would quit their job if the design of the work process and the technology was not intuitive and easy to learn, and use. Hence, the examination supervisors were seen as a user group whose needs and whishes had to be met to the extent possible. During the training sessions organized for the examination supervisors, the participants were discontent with the design of the user interface of the PDAs and protested against using the PDAs in their current design. Based on the examination supervisors’ feedback on the PDAs, the user interface was redesigned considerably. The examination supervisor representative in the AE-project group was a strong driving force in the redesign of the PDAs and worked closely together with the system developer on this task.

As stated previously, there was an expressed intent by the AE-project group’s members to actively involve employees at the university in the analysis and design of Anonymous Exams. As described here, various activities were organized in order to achieve this involvement. Nevertheless, time was scarce and involvement was hard to achieve. In order to keep the deadline of the project, the system developer was forced to hurry up the development and did not have time to test the systems with actual users to the extent desired. The examination supervisor representative in the AE-project group later described the situation as follows;

“…there should be an requirements specification made by the users, in this case it was the developer who said what he thought, he was a step ahead of the users the whole time, I am used to that the users do it, and then you enlist help of developers and a consultant […] it is not the developers who should govern how it should look, it is the users” [interview, examination supervisor representative, AE-project group, 2010].

8.1.5. The defined examination process and its supporting technical solution

As stated previously, the AE-project group had to design a general, standardized, examination process. The standardized process was designed based on the existing regulations concerning written exams, input from employees and the reference group, and the project group’s own perception of how it should work. The resulting work flow, and the technical components designed to support it, also included some simplifications of the former administration processes, including a direct link to the Ladok system. The project group acknowledged that, for some departments, the new work procedures and the technical system would involve major changes in their work procedures, but for others, very little would change. The AE-project group expected that, for most departments, the technical solution would substitute several manual and paper-based
tasks, resulting in easier and less time consuming administrative processes than before. In this section the defined examination process and technical solution, as designed by the AE-project group, is presented. A word list supporting the account of the process and the supporting systems is presented in Appendix D.

The solution for ensuring anonymity during grading of written exams is made up by a defined examination process (see Table 8.2), which is supported by various technical systems (see Figure 8.2). The core of the process is an Anonymous Identity (AID) Number, generated for each student and exam. By using this AID number instead of name and social security number (which is normally the case at Swedish universities), the teacher cannot identify the individual student while grading the exams.

Table 8.2: A simplified overview and description of the examination process part of Anonymous Exams.

<table>
<thead>
<tr>
<th>A detailed description of the examination process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the beginning of each semester, information about all courses and exams are registered in the Exam Registration System and Database (ERS) by course administrators at the departments.</td>
</tr>
<tr>
<td>2. A couple of weeks before the exam (10-30 days before), the students register for the exam via the web-based Student Portal. By doing so, a list of assumed attendants for each exam is created in the ERS.</td>
</tr>
<tr>
<td>3. Based on the data in the ERS system, examination administrators at the Exam Services department arrange for examination venues and examination supervisors for each examination.</td>
</tr>
<tr>
<td>4. A couple of days before the exam, the teacher hands over the exam to a course administrator who prepares the exam (prints/copies the right number of exams (based on number of registered students)) and puts these in a safe (or other safekeeping).</td>
</tr>
<tr>
<td>5. A couple of days before the exam, an email is automatically sent to the students by the Exam Registration System with a reminder of the exam and information on the location. At this time an Anonymous Identity (AID) number is created for each student (a new AID for each exam).</td>
</tr>
<tr>
<td>6. On the day of the exam, the examination supervisors collect the exams in the safe and transport them to the right location (this can also be done on the day before the exam).</td>
</tr>
<tr>
<td>7. At the examination location, there are several steps in the process:</td>
</tr>
<tr>
<td>a. At first, the examination supervisors load and sync the PDAs (Personal Digital Assistant) against the ERS database. The PDAs are equipped with card readers with which the students’ Student Identity Cards can be read.</td>
</tr>
<tr>
<td>b. When the students arrive, the examination supervisors can control that the right student is in the right place by scanning the students’ Student Identity Cards with their PDAs (based on the information downloaded into the PDAs). The PDAs are designed to signal that the students have arrived to the right venue by producing an audio signal (a ‘beep’ sound). If the students arrive at the wrong venue, the PDA responds with a different audio signal.</td>
</tr>
<tr>
<td>c. When the students are seated and handed their exams, the examination supervisors take a turn around the room and supply the students with their AIDs by scanning their Student Identity Cards once more. The students, and the examination supervisors, write the students’ AIDs on the cover of their exams.</td>
</tr>
<tr>
<td>d. The examination supervisors sync the PDAs against the ERS database, in order to update the attendance list to include only those students who turned up for the examination.</td>
</tr>
<tr>
<td>e. When the students are done writing their exams, they hand their exams over to the examination supervisors. The examination supervisors scan the students’ Student Identity Cards with a PDA once more in order to register that they have handed in their exams.</td>
</tr>
</tbody>
</table>
f. After all students have handed in their exams, the examination supervisors synchronize the PDAs against the ERS once more. Based on this information, the Attendance Register in ERS is updated to include only the students who handed in their exams. This information is also supplied to the Exam Marking System, which creates a Grading Protocol for each exam (based on course code, exam code, and date).

8. The examination supervisors collate all exams and store these at the Exam Services department.

9. On the day after the exam, teachers and/or course administrators can collect the exams from the Exam Services department. The person who collects the exams must identify her/himself using a valid identify card.

10. After all PDAs have been synchronized, course administrators with access to the Ladok system may activate an Internet-based Grading Protocol in the Exam Marking System by creating a link to Ladok. When this is done, teachers and/or administrative personnel can access the Grading Protocol for his/her exam.

11. After grading the physical exams, teachers or administrative personnel register the results and grades in the Grading Protocol. Once the results and grades for all listed students (identified only by their AID) are registered, the results are transmitted to Ladok by a mouse click on a specific ‘send’ button in the user interface of the protocol. When all data have been transmitted to Ladok, the AIDs are translated into the students’ social security number and name, and hence, the anonymity is broken. By now, the teachers/course administrators can see the students’ true identities in the Grading Protocol.

12. Now, a course administrator with access to the Ladok system can extract a list with the students’ names and results from Ladok. The list needs to be signed by the responsible teacher. The list then functions as a legally binding document of the exam results.

13. When the list is signed, the Ladok administrator ticks off a box in Ladok. The students can access their study results in the Student Portal as soon as the box is ‘ticked’. Ladok automatically sends an email to each student revealing his/her results during the following night. The exams can be collected at a student office.

The technical solution

The technical solution designed for Anonymous Exams consists of three parts; 1) systems for registering and preparing for examinations, 2) systems for attendance registration during examination, and 3) systems for administering the marking of exams. These parts are described below and illustrated in Figure 8.2 below.

The systems related to the preparations and registrations for examination are the Exam Registration System (ERS) and the Student Portal. Exams are prepared by a centralized unit at one of the faculties, or by course administrators at the departments; these employees register upcoming examinations in the Exam Registration System. This system is linked to the Student Portal, a web-based portal in which the students can register for exams. The PDAs used by the examination supervisors during the actual examination day are registered in the Exam Registration System.

The attendance registration part of the technical solution is made up by PDAs, a system for handling information related to the PDAs, AE-PDA, and the Student Identity Card database. On the day of the Exam, the PDAs are updated (synchronized) with information on current exams, their locations and which students are registered to which exam. These systems are Internet-based, and the synchronization of the PDAs is done through a wireless Internet connection (WLAN). Using the PDAs, the examination
supervisors register the attending students by scanning the students’ Student Identity Cards when they arrive, when they are handed their AIDs, and when they hand in their written exams. This creates a list of the students who have handed in exams for grading. The synchronization that must be done to create the attendance list (both after the students have received their AIDs, and after they have handed in their exams) implies that the PDAs are not continuously connected to the WLAN; and the students are only anonymous as long as all synchronizations against the ERS database are successfully completed.

The exam marking part of the technical solution is made up by the Internet-based The Exam Marking System, in which Grading Protocols are generated, and various connections to Ladok. As soon as the PDAs are synced against the ERS database for the last time, a Grading Protocol can be created in the Exam Marking System. In order to generate a Grading Protocol, a course administrator with access to Ladok needs to activate the protocol by ticking a box in the Ladok system. Thereafter, a teacher or course administrator can access the Grading Protocol and register the result and grade for each AID. After the Grading Protocol has been filled in and submitted to Ladok, the course administrator can print a list of the results from Ladok for verification by the teacher.
In sum, and when compared to the examination process prior to Anonymous Exams (presented in Table 7.1 in the previous chapter), we see that steps 1-6 of the new process (see Table 8.2), are more or less identical to the one used prior to Anonymous Exams. On the technical level, however, the processes are different, as the input given in the Student Portal is also transferred to the system supporting the PDAs visible in step 7 of the process. Instead of administrating the examination of students based on various lists printed on paper, the administration is now supported by PDAs that are connected to a system keeping track of and registering all attending students. The manual handling of the exams after the examination is similar to the procedures prior to Anonymous Exams. But, since the teacher can no longer see who has written each exam, the reporting of results and grades is now supported by a web-based Grading Protocol generated in the Exam Marking System. In the grading protocol, the AID of each attending student is already pre-defined, meaning that the teacher only has to fill in the result and grade for each AID. When all attendants’ results and grades are reported, these are automatically submitted to the Ladok system; and thereafter the students’ real identities are revealed to the teacher. This means that it is no longer needed for teachers or course administrators to manually handle students’ social security numbers.

The account given in this section (8.1.) has illustrated my interpretations of the situation of the AE-project group during the analysis and design phase of Anonymous Exams. The following section describes Anonymous Exams as seen from other stakeholders’ perspective.

8.2. Anonymous Exams seen from other stakeholders’ perspectives

This section gives an account of the expectations, fears, and perceived needs of Anonymous Exams as expressed by other stakeholders in the organization. The following stakeholders are covered; 1) the students, 2) the teachers, 3) the course administrators, and 4) the examination supervisors (see section 7.2.2 for information on how these stakeholders were chosen).

8.2.1. Expectations and fears expressed by students

Three students were interviewed during the first data collection period. These students were, or had been, active at two of the student unions and consequently, they therefore represented the group of students who had been putting pressure on the university management to introduce anonymity during written examination. These students’ anticipation was first and foremost, that the implementation of anonymity for students during written exams would lead to an unbiased examination process. They did not believe that the presumed decrease of bias would be measurable in any objective way; it was the perception of a secure, trustworthy, and unbiased process they were after. They were not even convinced that the examination process was biased without Anonymous Exams; the students pointed out that the new process might not make any difference at
all concerning actual discrimination of students, but that the students’ perception of the process hopefully would change for the better. The interviewed students also hoped that the anonymity would enable students to feel more confident when giving feedback to teachers in the classroom; not having to be worried that negative feedback to teachers might eventually affect the grades on their written examinations. These two consequences should, according to the student union representatives, lead to higher student satisfaction with written examination as such.

The student union representatives were predominantly positive regarding the AE-project and anonymous examination. The negative comments spoken during the interview concerned the university’s (1) ability to implement Anonymous Exams on time, and (2) ability to ensure that the system works from the start. Considering that the university had tried to launch a similar initiative twice before, the students were skeptical concerning the AE-project group’s ability to implement the system on time. The students were certain that the anonymity would be launched in some fashion, at one time or another; this time, they saw no possibilities for the university management to back out of what they had promised. In relation to this topic, one of the students pointed out that it was however difficult to know how the university management prioritizes between projects and issues, and it was difficult to trust that an idea would be implemented. One of the student union representatives reported that the university management seldom supplies the student unions with enough information; if the student unions knew more about the grounds on which some decisions were made, maybe they would understand and accept more of the decisions made by the university management. Regarding the second concern stated above, the student union representatives were worried that the technical solution would not function well in the beginning. This was however regarded as a time-limited concern; they were certain that the IT-unit would be able to take care of such technical problems eventually. The students were also concerned that there would be difficulties concerning the handing out of exams at the student offices (after the marking and grading) during the implementation period.

During the interview, the students commented on another system used at the university; a Internet-based system for course evaluation that is mandatory for teachers to use. The students compared the AE-project with the course evaluation system and stated that both were developed in-house by the IT-department at the university. In comparison to the AE-project, the system for course evaluation was initiated and developed very quickly; perhaps too quickly, according to the students. The course evaluation system contains many flaws and does not work very well. The teachers have had no training on how to use it and do not know how the system works. In the students’ end of the system, the system is known for shutting down (“crashing”) when filling in the evaluation sheets. The students saw an imminent risk that the system developed to enable anonymity during written examination would be just as bad as the course evaluation system, considering that they are both initiated and developed in-house at the university.
As mentioned initially, these students were representatives of the student unions. When asked how the ‘typical’ student perceives the issue of anonymity during written exams, one of these students replied that some students have asked what the anonymity is for. The union representative had replied to these students that it would save time, that it was ‘progression’, and a matter of principle. Another student representative said that most of the students, with which this person had discussed anonymity, had reacted hesitantly but stated that it seemed like a good idea. The third representative stated that the majority of the students with which s/he had interacted had reacted positively towards the issue.

8.2.2. Expectations and fears expressed by teachers

This section is based on interviews with teachers; what was said by the teacher representative in the group interview with the reference group; and questions posed by (self-reported) teachers at the information meetings for teachers and course administrators organized by the AE-project group.

The expectations and fears associated with Anonymous Exams differed quite remarkably across this group of employees; the teacher group was far from homogeneous in their views on Anonymous Exams. On the general level, two contrasting groups were visible; 1) a group that welcomed the technical solution, but did not care much about the anonymity for students; and 2) a group that welcomed the anonymity, but did not approve of the process and supporting technology designed by the AE-project group. It is however likely that most teachers at the university had more nuanced ideas concerning Anonymous Exams; situated somewhere in between these two more extreme views.

In the case study, the first group was especially represented by the teacher representative in the reference group. This teacher worked at a department with large student groups during examination and together with colleagues this teacher had been pressurizing the university management for years to introduce some centralized technical system for administrating written exams. Their requests had not received any response, so when they heard that the AE-project was started and that the AE-project leader was looking for employees to staff a reference group, one of these teachers asked to be part of the reference group in order to monitor and influence the outcome of the project. This group of teachers did not care for the issue of anonymity, simply because they had too many students; they are already anonymous as a result of their sheer number. In this group’s view, anonymity for students was the price they had to pay for finally getting the Exam Marking System and Grading Protocols they had long been asking for. The fact that the system was intended to be Internet-based was thought to enable teachers to perform this part of their work from anywhere, and was seen as an increased freedom of action by some teachers. In addition, prior to Anonymous Exams, the teachers had to compare names on the registration lists produced by the examination supervisors with the names written on the exams, and to make sure that they had received the right number of exams. These registration lists often contained incorrect information:
“For us, this will be an improvement since we will know right away who really attended and wrote [the exam] instead of having to look at a registration list in which 25% didn’t show up and 5% attended without prior registration, so this will be much better.” [Interview; Teacher, 2008].

Hence, the integration of all systems was seen as a way to receive information of higher quality than before.

In contrast, the other group of teachers was positive towards the anonymity, but did not approve of the centralized, technical system for achieving the anonymity. A small group of these teachers wrote a formal complaint to the AE-project leader after having heard about the AE-project and the technical components part of Anonymous Exams. When I met these teachers they had already received answers to many of their initial questions and concerns regarding Anonymous Exams through a direct response from the AE-project leader. They had also participated in an information meeting organized by the AE-project group. The response they had received on their formal complaint had eased their worries slightly, but they were still skeptical towards the choice to design a technical system for administrating the anonymity:

"We have been positive towards these [anonymous] exams, but then we see how they [the university management] start ‘technifying’ everything and then you wonder; is it really that difficult?! Isn’t there an easier way of doing this? What it will do – what all technical systems of this kind that are supposed to make the organization more efficient do – it will simply give us more work […] more time will be taken from either the teaching or our spare time….” [Interview, Teacher, 2008]

These teachers were eager to point out, however, that they were not afraid of new technology; their resistance was based on that they perceived that the technology was put in the foreground, instead of the anonymity. They also thought that the AE-project group’s rhetoric concerning Anonymous Exams displayed a limited view on written examination. The only possible advantage of a technical system, in their mind, was that the direct link to the Ladok system might reduce the time required to administer the exams in the future; i.e., enhance productivity.

Apart from the two groupings discussed above, additional themes concerning the teachers’ expectations and fears associated with Anonymous Exams emerged in the empirical data. These themes were found both in the interviews with teachers, in the emails sent by teachers to the AE-project leader, and in the questions posed by personnel at the information meetings organized by the AE-project group. I have named these themes as;

- Fear of technical problems during implementation;
- Anticipations of reduced risk of being accused for discriminating students;
- Anonymous Exams as a sign of distrust; and
- Fear of centralization and being forced into a standardized examination process.
Fear of technical problems during implementation

A general theme that came up regardless of opinions associated to the need for anonymity or the technical system for administrating exams is fear of technical problems during the implementation of the system. A majority of the teachers in the empirical data mentioned that they were afraid that the technical components will not work smoothly when first implemented, resulting in chaotic situations in the beginning. Several teachers were concerned with the interoperability of the various systems involved in Anonymous Exams; others were worried that the examination supervisors would not be able to use the palm computers properly. One teacher mentioned potential problems with compatibility across various web browsers as a potential problem. Several teachers contacted the AE-project leader concerning the potential risk of making mistakes when filling in the Grading Protocol in the web-based Exam Marking System. The apparent ‘horror scene’ for the teachers, concerning technical problems, appeared to be that the translation from AIDs to the students’ social security numbers would fail, resulting in a situation where the teacher is responsible for a bundle of exams for which nobody knows who the corresponding author is.

The feared technical problems were however not seen as pervasive; the issue of technical problems was seen as teething troubles during the initial implementation that would soon be taken care of by the IT-unit. Expectations and concerns, of a more persistent nature, concerned the following three themes.

Anticipations of reduced risk of being accused for discriminating students

Some interviewed teachers did agree with the students unions’ opinion that Anonymous Exams could result in unbiased examination; not only for the students, but also for themselves. The anonymity in itself, together with the full integration of systems, was seen by some of the interviewed teachers as a protection against future discrimination charges. Interestingly, none of the teachers (or course administrators) that I came across in the case study had experienced or knew of any discrimination charges against teachers at this particular university.

Another feature of Anonymous Exams that the teachers thought would contribute to increased trust in the examination process was that all registration (e.g., of expected attendance, attendance, and grading) will be done automatically by the various system components. This was thought to increase the quality of the information, in comparison to the paper-based work procedures. In the paper-based work procedures, it had happened that teachers had registered an “F” (fail) for students who did not attend the examination (i.e., who registered for an examination but did not show up on the day of the examination). The teachers anticipated that this kind of mistake would not be possible with the new system.
Anonymous Exams as a sign of distrust

In contrast to the opinion stated above, some teachers saw Anonymous Exams as a sign of distrust, or even control, of teachers by the university management. This was not an opinion explicitly expressed by the teachers being interviewed in the case study, but was rather expressed as the ‘talk on the town’, referring to opinions expressed by ‘others’. The ‘others’ feared that their competence as fair examiners was questioned by introducing an IT-system. For example, there were rumors that some teachers would stop giving written exams due to the re-designed procedure that followed with the implementation of Anonymous Exams. The alleged reason was that these teachers’ view on examination meant that a teacher can only do a fair examination if the teacher knows who the student is; for example in order to observe improvements in cases when a student had failed the examination several times. In the empirical data it is not obvious who these ‘other’ teachers are; accounts of these teachers are visible in the interviews with AE-project group members, as well as in interviews with course administrators (see section 8.2.3. below).

Fear of being forced into a standardized examination process

Finally, what was seen as one of the premier advantages of Anonymous Exams by the university management – a standardized examination process – was seen as one of the major concerns by several teachers. Some of the teachers feared that technology would be allowed to govern the examination process and consequently force them into a certain pedagogical frame (with a certain set of learning approaches, perspectives, and values embedded). For the teachers utilizing unregistered bonus systems (as discussed previously), the implementation of Anonymous Exams was expected to bring on a need to redesign parts of the examination in their courses to fit with the new procedures. Some teachers were also afraid that a standardized process would result in decreased freedom of action for each individual teacher regarding their pedagogical design of courses in general. At this particular university there were continuous campaigns, organized by a centralized unit responsible for capacity building for employees, to raise teachers’ awareness and use of alternative teaching and examination methods. One of the interviewed teachers commented that the alternative ways of conducting written examination that teachers are encouraged use by one central unit at the university are discouraged by another (i.e., by the standardized process suggested by the AE-project group).

These concerns are in line with a general skepticism towards centrally initiated projects at the university. Several teachers commented on that centrally initiated and conducted projects had become more frequent and that these were typically characterized by a limited understanding of educational methods applied at the various departments. They even suspected that the motives for many centrally designed systems were not to improve the work for the teachers, but to satisfy other stakeholders. They mentioned other systems designed in-house at the university that had replaced highly adapted (often manual) systems with general (and therefore complex) technical systems designed to fit...
everybody, in which all users have to make compromises. These teachers had the impression that the initiative to build these systems came from system developers rather than from the people who would use them:

“…the students have pushed the anonymous exams thing. I understand that you love this kind of system if you are a technician or programmer or system developer, it means employment and interesting developmental work, it’s great. But, the individual teacher out here is often forgotten, it is the other actors’ agendas that are put in the foreground. But they’ve tried to cloak and motivate it by […] it will be better out there where you are, but there are really other motives behind it.” [Interview, Teacher, 2008]

Similarly, these teachers also expressed disappointment about not having been asked directly about their (manual) systems for anonymity (already in use) by the AE-project group. These teachers saw anonymity as an important educational issue and already knew of methods for achieving anonymity. They were disappointed that they had not been contacted by the AE-project group in their roles of educational experts. Instead, they suspected that the AE-project group had been in contact with technical expertise. These particular teachers had attended information meetings and given feedback to the project during these meetings, but did not see in the AE-project’s progression that their input had been taken into account. Similarly, another teacher also claimed that the university management’s understanding of how things were done in the organization often was insufficient in centralized projects such as the AE-project. But in contrast to the teachers mentioned previously, this teacher was very positive that the AE-project group actively went out into the organization to collect comments from employees (including teachers).

### 8.2.3. Expectations and fears expressed by course administrators

During the case study, the course administrators were spoken of (by other stakeholder groups) as the group that would be most negatively affected by the changes implied by student anonymity during written examinations. During the analysis and design phase, many rumors were being spread concerning how the course administrators would be affected and many of these rumors did not seem to be grounded in the actual plans for Anonymous Exams. One such rumor was that many course administrators would be without a job when Anonymous Exams was implemented (see below). The following description of the course administrators’ view on Anonymous Exams is based on 1) interviews with course administrators, 2) the group interview with the reference group (in which several course administrators participated), and 3) e-mails sent by course administrators to the project leader.

As stated previously, the various departments at the university had been allowed considerable freedom regarding administrative procedures, including the administration of written examination. The new system components and work procedures associated with Anonymous Exams was therefore likely to affect this stakeholder group in different ways, depending on the work procedures employed prior to Anonymous Exams. When taken
all accounts given from course administrators during this phase into consideration, three interesting themes emerge, which I have named;

- Fear of changes in workload
- Fear of increased stress when handing out exams to students
- Little understanding of why Anonymous Exams was implemented

**Fear of changes in workload**

Amongst the course administrators represented in the case study, there were three different views on how they thought that Anonymous Exams would affect their future workload; Anonymous Exams was expected to lead to 1) increased workload, 2) decreased workload, or 3) no change.

The work procedures prior to Anonymous Exams included that course administrators registered the students’ results on the exams in the Ladok system. Many teachers also assigned the task to create and print grading protocols to the course administrator; i.e. the teacher graded the exam and wrote the grade on the cover of the exam, s/he then handed the exams over to the course administrator who then filled in the grading protocol before registering the results in the Ladok-system. Other teachers filled in the grading protocol themselves before handing over the exams to the course administrator. The intended design of the Exam Marking System and its Grading Protocols implied that this step was to be done by the teacher in the future. The Exam Marking System was intended to be linked directly to the Ladok-system, hence one or two steps in the administrative process was thought to be replaced by the system. These two steps caused concerns for the course administrators. Some course administrators expressed that the biggest challenge with Anonymous Exams would be to persuade the teachers to use the forthcoming Grading Protocols generated by the Exam Marking System. Some course administrators stated that they worked together with teachers who feared new technology and that they might be forced to learn the system themselves instead of the teacher, leading to an increase of workload for these particular course administrators.

In contrast, some course administrators were afraid that the removal of these two administrative steps would lead to redundancy for several course administrators. For example, course administrators working at some departments administered examinations with several hundreds of students per occasion. For each examination, the course administrator had to print copies of the exam, and then sort the exams and register the results of the exam. This means that for each of these hundreds of students, the course administrator had to register their social security number and exam results manually in the Ladok-system. A consequence of this work procedure was that several course administrators worked fulltime administrating written exams. The course administrators saw that, after the implementation of Anonymous Exams, several of these manual steps would be performed automatically by the system (such as filling in social security numbers
in the system) or by the teachers. Consequently, these course administrators saw a risk of being laid off once Anonymous Exams was implemented.

Finally, some course administrators did not see that the implementation of Anonymous Exams would change their workload in any way. They stated that if the system works as it is supposed to they might have to change their work procedures slightly after the implementation of Anonymous Exams, but did not see that it would result in any changes concerning their workload.

**Fear of increased stress when handing out exams to students**

The course administrators reported that at several of the departments at the university in questions, graded exams were handed over to a student office at the department after the results had been registered in the Ladok-system. These student offices were manned by course administrators who were responsible for handing out the exams to the right students. Three course administrators working at such an office were interviewed and these course administrators expressed fears concerning that Anonymous Exams would result in increased stress at these offices. The work procedures prior to Anonymous Exams included that all exams were sorted according to students’ surnames and kept in filing cabinets. This meant that the course administrators did not need to know what course the student was attending when writing the exam. It also meant that if a student had attended several examinations, all exams written by that student was to be collocated in the same filing cabinet. In the beginning of this phase of the AE-project, the course administrators had not yet figured out how they would sort the exams when the students become anonymous. Therefore they first feared 1) not being able to remember the AID-code when searching the filing cabinets for the exams, and 2) having to search in several cabinets for finding exams (if a student has attended several examinations), making the search process more time consuming. After the AE-project had progressed for some time, these course administrators received a visit from members of the AE-project group with whom they discussed the new codes and work procedures. The course administrators suggested new solutions for the student office, related to Anonymous Exams. The course administrators reported that after this meeting, they had a clearer picture of what to expect from Anonymous Exams and were modestly optimistic; acknowledging that the new work procedures would probably be difficult at first but hoping that the changes would bring something positive to their work in the long run.

**Little understanding of why Anonymous Exams was implemented**

A majority of the course administrators interviewed in the case study knew that Anonymous Exams was based on a demand from the student unions. Nevertheless, a majority of these course administrators thought that anonymity during grading of written exams was ridiculous and that the idea was founded on a strange view on teachers. None of the course administrators participating in the case study had experienced that a teacher they worked with had been accused of discriminating a student. In addition, some of the
course administrators had heard students claim that they saw no point of anonymity. One course administrator stated that;

"I think that this whole thing is quite unnecessary really… then, I know that some have had anonymous exams already before, and then they might think that this can become a better way of doing things, if they've had a complicated system for it. But we've never had it [anonymity] and not seen any need for it either and… I think that it feels a bit like if it comes from the students and that they're discrediting the teachers needlessly, because the teachers do not care that much… or whatever it can be that influences, I mean, if you are biased you should not grade anyway.” [Interview, Course Administrator, 2008].

To conclude, many voices within the university were concerned with the work situation of the course administrators after the implementation of Anonymous Exams. This is quite interesting, concerning that Anonymous Exams was designed in a way that was intended to influence most course administrators very little. For the final stakeholder group, the examination supervisors, the situation was the reverse.

8.2.4. Expectations and fears expressed by examination supervisors

Few concerned voices outside the AE-project group were raised regarding how the work situation of the examination supervisors would be affected by the implementation of Anonymous Exams, despite the fact that the work procedures for these employees would be changed at the core. This is however not that surprising, considering that the examination supervisors belong to a marginalized group at the university; they work part time at the university during the examination periods, meaning that none of them have a permanent employment. In addition, most of the examination supervisors are senior citizens. In the case study, two examination supervisors were interviewed. The account below, presenting fears and expectations concerning Anonymous Exams, is built on these individual interviews and the accounts given by the two examination supervisors participating in the group interview with the reference group.

Feas associated with Anonymous Exams

It was predominantly the work of the examination supervisors that was intended to be affected by the implementation of Anonymous Exams. The examination supervisors’ work before Anonymous Exams involved the administration of a large number of paper-based protocols (various lists accompanying the exams, protocols for attendance, protocols for handed in exams, protocols for toilet breaks, etc.). With the implementation of Anonymous Exams, most of these paper lists would be replaced by the PDAs and the examination supervisors anticipated that the technical solution for anonymity would reduce their paper work, providing that information is stored properly in the system. The examination supervisors were worried that the extensive changes in work procedures would lead to problems before they would become accustomed to the PDA solution and the new procedures, but that the result of these changes would be an improvement of their work situation in the long run. They were worried, however, that the troublesome period would be too long for some examination supervisors. The
demographic characteristics of the examination supervisors, the fact that most are ‘older ladies’, were mentioned as a potential source for problems. It was even suggested that there were rumors amongst the examination supervisors that some of them were uncomfortable with the suggested work procedures and had threatened to quit their jobs as soon as the PDAs and the related work procedures were introduced.

The examination supervisors feared that the time pressure already experienced in their work would increase during testing and implementation of the PDA, especially during the attendance registration in the beginning of the examination. They feared that the attendance registration might take longer time with the new procedures, since the students no longer would register themselves by marking their names on paper lists. The new registration procedure would require the examination supervisor to register each student’s attendance in the PDA. In addition, the identity control and attendance registration step of the procedure would also include handing out the AID to each student. In addition to their worries concerning the time needed to perform the new work procedures, it is hardly surprising that the examination supervisors expressed concerns regarding the stability of the technical system; they were worried that technical problems would intervene with their work once Anonymous Exams was implemented. They were worried that the PDAs would not work properly, for example that data would not be transferred correctly between systems.

**Expectations associated with Anonymous Exams**

The examination supervisors mentioned several expected advantages with the new system, first and foremost concerning the extent of manual paper work needed; they hoped that the PDAs would reduce the number of paper lists handled in the examination process. They also hoped that the integration of all systems related to examination would increase the transparency in the process concerning the students’ registration and attendance. The examination supervisors saw Anonymous Exams as an opportunity to come to terms with, and define stricter rules for, three problem areas concerning examination; namely students’ 1) registration, 2) identification, and 3) tardiness.

The examination supervisors reported that one of the dominant problems with their work procedures was that they often had to deal with students who showed up for an exam in spite of not having registered for the examination in advance. Often, these students claimed that they had registered for the exam and that the paper lists used by the examination supervisors were inaccurate. In these cases it could be difficult for the examination supervisors to know if they should trust the student or the paper list. There were formal rules saying that students must register in advance in order to be guaranteed to participate, meaning that these students still had the right to participate in the examination if there were seats available. Unregistered students turning up for the examination resulted in extra work for the examination supervisors; they had to make sure there were extra exams and seats available. An even more serious problem with these
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students was that it sometimes turned out that they were not even registered for the course that was examined. Unfortunately, these students were usually not identified until it was time for the course administrator to register the results in Ladok. Teachers and course administrators had therefore complained on examination supervisors for letting this kind of students write the exam, as it leads to extra work for everyone in the process. But in the work procedures prior to Anonymous Exams, there was no way for the examination supervisors to control the registration status of the students turning up to the examination. In addition to turning up without prior registration, some students turned up for examination without a valid identity card, resulting in extra work for both examination supervisors and teachers. With the forthcoming use of the Student Identity Cards for acquiring access to the examination and AIDs, the examination supervisors hoped that the problems of students not registering for the examination in advance and turning up without valid identity cards would be solved. The third problem concerned students turning up for the exam after the appointed start time; these delayed students disturbed the work for both the examination supervisors and the students writing their exams. There were currently no way of ‘punishing’ the delayed students or to refuse these students the right to write the exam. The examination supervisors saw the implementation of Anonymous Exams as a good opportunity to introduce harsher rules for the students concerning registration, identity cards, and timeliness as part of the re-defined examination process. In fact, before Anonymous Exams was implemented, the Exam Services (the unit where the examination supervisors are employed) managed to get approval for new, harsher, rules concerning timeliness.

Other hopes associated with Anonymous Exams concerned 1) increased readability of students’ identities, 2) transparency concerning the number of attending students and handed in exams, and 3) increased service level during examination. The first anticipation concerned the readability of students’ names and social security numbers. The examination supervisors reported that they often found it difficult to read this vital information when the students have written it by hand. The examination supervisors hoped that this problem would be reduced when the students only have to write down a short digit combination (their AID). In contrast, the interviewed examination supervisors also acknowledged that the readability would become even more essential with the new way of working; that the AIDs would result in even fewer indications of who the exam’s author was in the future. Another problem, which they hoped could be reduced by the new work procedures, concerned the final control and balancing of the handed-in exams. The work procedures prior to Anonymous Exams made it difficult to keep count of all exams and students. They had a list of all students that had registered for the exam, but there were always some extra students turning up for the examination, meaning that they had handed out a couple of extra exams. In addition, sometimes students left the examination without handing in their exam, meaning that some of the handed out exams were gone when it was time to do the final counting of exams. These issues may seem trivial, but when the examination supervisors were supervising a room full of several
hundreds of students, covering examinations for several different courses and topics, these issues became problematic. The direct link between the Student Portal and the PDAs, the identification of students using Student Identity Cards, and the implementation of harsher rules concerning examination on the whole, were all perceived as possible solutions to the problems experienced by the examination supervisors.

Last, the examination supervisors anticipated that the service level at the examination location would increase as a consequence of the changes in their work. At the examination location, the Exams Services had several different rooms at their disposal and students frequently ended up in the wrong room (i.e., in an examination room other than the one they are scheduled in). With the help of the palm computers and the registration of each student’s identity card, the examination supervisors hoped that they would be able to tell to which room each student should go and point them in the right direction must faster than before (when they had to consult lengthy paper lists). This feature of Anonymous Exams was perceived as hopefully leading to a smoother and more pleasant examination experience for both students and examination supervisors.

8.3. Structured analysis of phase I of the Anonymous Exams case study using the provisional conceptual framework

Based on the extensive literature reviews resulting in the theoretical chapters of this thesis, and based on my experiences of working with the case study, the provisional conceptual framework was formulated (as discussed in chapters 2 and 6). In this section, the story of the design and analysis phase of Anonymous Exams is further analysed and discussed using the concepts provided by the provisional framework presented in chapter 6.

8.3.1. Characterization of the public e-service

In this thesis, Anonymous Exams, referring to the outcome of the AE-project, is considered to be a public e-service. As a public e-service, Anonymous Exams is supplied by a governmental agency (the particular university), and is directed towards a small number of citizens (students attending the particular university). In this section, this public e-service is described and discussed by attending to the questions suggested in the provisional conceptual framework presented in chapter 6. The questions are presented in Table 8.3 below.
Table 8.3: Questions regarding public e-services as posed in the provisional conceptual framework (presented in chapter 6).

<table>
<thead>
<tr>
<th>Suggested guide for characterizing a public e-service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the overall service objective of the public e-service? And, what does the service process look like?</td>
</tr>
<tr>
<td>2. What IT artifacts are making up the e-service? To what other systems and processes is the public e-service connected?</td>
</tr>
<tr>
<td>3. To what extent does the public e-service fulfill the three goals of e-government?</td>
</tr>
<tr>
<td>• to improve citizens’ interactions with the government,</td>
</tr>
<tr>
<td>• to make governmental organizations more efficient and effective, and</td>
</tr>
<tr>
<td>• to increase the transparency of government and lead to a more democratic society.</td>
</tr>
<tr>
<td>4. How do the characteristics of the public e-service correspond with the e-service polarities?</td>
</tr>
<tr>
<td>• Informative $\leftrightarrow$ Performative</td>
</tr>
<tr>
<td>• General $\leftrightarrow$ Individualized</td>
</tr>
<tr>
<td>• Separate $\leftrightarrow$ Coordinated</td>
</tr>
<tr>
<td>• Benefits the common good $\leftrightarrow$ Benefits the individual user</td>
</tr>
<tr>
<td>• Voluntary $\leftrightarrow$ Compulsory</td>
</tr>
</tbody>
</table>

Concerning the first question in Table 8.3, the overall service objective of Anonymous Exams is to enable students to be anonymous during the grading of their written exams. The service process was described in detail in Table 8.2 above. The second question in Table 8.3 concerns what IT-artefacts are making up the e-service and its interrelated technology and processes. An important conclusion can be drawn from the overviews of the service process and the various technical solutions developed to support the anonymity of students. The conclusion is that the e-service mediating the anonymity for students can be understood as a combination of several work flows and supporting technical components/systems. In accordance with the e-service dimensions presented by Lindgren and Jansson (2013) that were discussed in chapter 3, Anonymous Exams must be understood as something more than just a web-based interface towards a citizen.

In the provisional framework, public e-services were characterized as having front- and back-office features. Anonymous Exams has an obvious front-office in the shape of the Internet-based Student Portal$^2$ used by the students. Anonymous Exams also has an obvious back-office system in the shape of the Internet-based Exam Marking System used by the teachers and course administrators to administer the grading of the exams. This system is not visible for the students but is connected to the Student Portal. The Internet-based interface used by the examination supervisors to administer the examinations (in the PDAs), hereon called the Examination Administration System$^3$, can however be regarded both as belonging to the front-office and the back-office of Anonymous Exams. It can indeed be argued that attending the actual examination, organized by the examination supervisors, can be considered as part of the front-office of

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$^2$ Here, only the parts of the student portal relating to Anonymous Exams are referred to. The student portal is a large system encompassing a large number of other services to students.

$^3$ Including the system called the AE-PDA in Figure 8.2.
Anonymous Exams, as it is a highly visible part of the process for the students. During the examination, the students interact indirectly with the Examination Administration System when the examination supervisors scan the students’ Student Identity Cards with the PDAs. The students do not interact directly with the Examination Administration Systems, however, and are not its intended users. I have therefore come to understand the Examination Administration System as a tool designed to help the examination administrators in their work and have thus chosen to consider this sub-system as being part of the back-office of Anonymous Exams. The systems and their relationships are illustrated in Figure 8.3 below.

**Figure 8.3: The three systems/processes making up Anonymous Exams.**

**Anonymous Exams in relation to the e-government objectives**

In the provisional conceptual framework, the fourth question proposed that the e-service should be discussed in relation to the three overall objectives of e-government. When
translating the overall objectives of e-government to the local level of Anonymous Exams, they can be formulated as;

- to improve students’ interactions with the university,
- to make the university processes more efficient and effective, and
- to increase the transparency of university processes and lead to a more democratic organization.

When translated like above, Anonymous Exams is likely to fulfill all e-government objectives to some extent. Concerning the first goal, Anonymous Exams indeed displays potential for improving the students’ interaction with and perceptions of their teachers, and the university as a whole. The student union representatives interviewed in the case study saw anonymity for students during examination as a way of opening up the dialogue between students and teachers. Concerning the second goal, making the examination process more effective and efficient was considered by the AE-project group members as a means for fulfilling all goals of the project (see section 8.1.2.). The last goal above corresponds with the initial and ultimate aim of Anonymous Exams; to define a standardized and traceable (transparent) examination process in which all students are anonymous and treated equally.

**Anonymous Exams in the light of the e-service polarities**

The last question in the provisional conceptual framework concerned how the public e-service corresponds to the three polarities suggested by Goldkuhl and Persson (2006) and the two additional polarities suggested in this thesis (presented in chapter 6, section 6.1.1). In relation to these five polarities, Anonymous Exams can be understood as a performative and individualized e-service, meaning that it is an e-service through which the user can communicate with others. From the external users’ (the students’) view, it might seem as an informative e-service, as the student only ticks off a box to indicate that s/he will attend a particular examination event. The extensive back-office processes initiated by that ‘tick’ however makes the e-service performative in nature. The individualized feature means that the e-service is directed to the particular individual, and in this case the users need to identify themselves in a secure way. The student has to identify her/himself in a secure way both when interacting with the Student Portal (by supplying the system with a correct username and password), and when attending the examination (using a valid Student Identity Card). Furthermore, the e-service is compulsory for all involved users (both at the front- and back-office); all sub-parts of the e-service must be used by their intended users in order for the overall service objective to be fulfilled. Concerning the separate/coordinated polarity, this polarity seems most appropriately applied on the front-office component of an e-service. In relation to Anonymous Exams, the front-office (i.e., the Student Portal) is a portal in which the students can access a variety of different coordinated and aligned services.
The perceptions of the e-service, regarding whether Anonymous Exams is perceived as benefitting the common good or the individual user, varies across and within the stakeholder groups presented above. There is hence no straightforward categorization of Anonymous Exams in relation to this polarity. In fact, for most of the interviewed stakeholders, the e-service is seen as being both beneficial for the common good (the university as a whole) and for the individual users (the students). Concerning the back-office components, the Examination Administration System is seen as having potential to improve the working situation of the examination supervisors (i.e., benefitting the individual user). The Exam Marking System is however considered as potentially bringing both benefits and disadvantages for the teachers and course administrators.

Using the characterization of Anonymous Exams given above as a foundation, stakeholders are identified and characterized in the following sections.

8.3.2. Identifying and characterizing stakeholders

In the case study, the data collection was initially guided by a commonsensical notion of who the stakeholders were. Therefore, data was collected to capture Anonymous Exams from five stakeholders’ perspectives: 1) the AE-project group, 2) the students, 3) the teachers, 4) the course administrators, and 5) the examination supervisors. In this section, I use the statements posed in the provisional conceptual framework in order to conduct an inductive, but still theoretically guided, identification and characterization of stakeholders in relation to Anonymous Exams. The statements posed in chapter 6 are presented in Table 8.4 below.

Table 8.4: Statements guiding identification and characterization of public e-service stakeholders, as suggested in the provisional conceptual framework presented in chapter 6.

<table>
<thead>
<tr>
<th>Suggested guide for identifying and characterizing public e-service stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. With the public e-service characteristics as base-line information, potential stakeholders can be assessed using the typologies suggested (i.e., Heeks, 2006; Axelsson et al., 2013; Sæbø et al., 2011).</td>
</tr>
<tr>
<td>2. For each potential stakeholder identified, assess its salience by investigating</td>
</tr>
<tr>
<td>a. How the stakeholder is affecting/affected by the public e-service.</td>
</tr>
<tr>
<td>b. The stakeholder’s formal role and responsibilities in relation to the public e-service (indicators of power and legitimacy).</td>
</tr>
<tr>
<td>c. The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of the public e-service (indicators of urgency).</td>
</tr>
<tr>
<td>d. The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
</tr>
<tr>
<td>e. The stakeholder’s potential for threatening or cooperating with the achievement of the public e-service’s objectives (can be used as an indicator of potential need for stakeholder involvement/management).</td>
</tr>
<tr>
<td>3. In order to create a comprehensive overview of all stakeholders identified and characterized, map all identified and characterized stakeholders according to their stakeholder type in a Venn-diagram (as suggested by Mitchell et al., 1997).</td>
</tr>
</tbody>
</table>
Identifying potential stakeholders

In line with the arguments put forth in Lindgren (2012), the provisional conceptual framework suggests that potential public e-service stakeholders can be identified by investigating the service process and technology used to mediate the service in relation to the stakeholder roles presented by Heeks (2006) and the e-government entities presented by Axelsson, Melin and Lindgren⁴ (2013). As suggested in chapter 6, the analysis uses the typology presented by Heeks (2006) as a point of departure. For each stakeholder identified for each role, the stakeholder is additionally discussed in terms of its e-government entity (Axelsson et al., 2013; Sæbø et al., 2011). In this section, the potential stakeholders of Anonymous Exams are identified and discussed. Last, these potential stakeholders are presented in Table 8.5. In the table, only the sub-categories of the e-government entities are displayed since all identified stakeholders in this particular case study, except the external IT-consultant and the students, belong to the ‘government’ category.

The first role in the list, the *project manager/team* (Heeks, 2006), is rather straightforward in relation to Anonymous Exams as it corresponds well with the AE-project group. The eight members of the project group were responsible for the analysis, design and construction of Anonymous Exams. Turning to the e-government entity (Axelsson et al., 2013; Sæbø et al., 2011) of this group, the categorization becomes less straightforward. As a group, they are an instance of *management* (Axelsson et al., 2013). As individuals, however, several of the members function as *service providers* in their regular work aside from the AE-project.

The *supplier* (Heeks, 2006) of the technology in relation to Anonymous Exams is first and foremost the IT-unit at the university, represented by the system developer in the AE-project group. The IT-unit is a *service provider* (Axelsson et al., 2013; Sæbø et al., 2011) to the rest of the university, but the particular system developer mentioned here is also a contracted part of the AE-project group, meaning that the system developer is also in a *management* position. During this phase an external consultant was occasionally hired by the IT-unit to support the system developer. The IT-consultant is a *consultant* also in the e-government entity-vocabulary (Axelsson et al., 2013). In Heeks’ (2006) typology, the supplier role also refers to those supplying other kinds of resources, such as personnel. In relation to Anonymous Exams, the personnel participating in the reference group can be understood as a resource. This resource is supplied by managers at various departments. The employees working in the reference group has been given time off their regular work to support the AE-project group’s work. Hence, there are managers at the departments (belonging to the management entity), who are supplying the AE-project with resources, and who have an interest in that the AE-project results in something that is beneficial for their departments.

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⁴ Based on the e-government entities presented by Sæbø et al. (2011), as discussed in chapter 4.
The operators (Heeks, 2006) in relation to Anonymous Exams are not entirely easy to pinpoint. In one way or another, most stakeholders in the description of Anonymous Exams above are needed to operate the system in order to make it work. From a technical standpoint, the system developer at the IT-unit is responsible for the operability of the e-service and the supporting background systems. But the information put into the system by the students, course administrators, and examination supervisors is vital in order to make the system useful. Likewise, the teachers must use the Exam Marking System in order for the anonymity to hold the whole way through the process. Seen from this perspective, all these stakeholders can be seen as operators and service providers (Axelsson et al., 2013; Sæbo et al., 2011). Considering that the students are the external clients of Anonymous Exams and do not belong to the ‘government’ supplying the e-service, I have however interpreted these as belonging to the e-government entity user (Axelsson et al., 2013; Sæbo et al., 2011).

Concerning the clients (Heeks, 2006) of Anonymous Exams, the regular students are the obvious clients of Anonymous Exams as a whole (and for the Student Portal). But for the back-office components of Anonymous Exams there are also clients visible. I have chosen not to discuss these users in terms of primary and secondary clients, since all parts of Anonymous Exams are so closely integrated that such a discussion soon would become unnecessarily complex (where the primary clients of one part of the system are the secondary clients of the information put into the other two sub-parts, and vice versa). The client role transfers directly to the e-government entity user (Axelsson et al., 2013).

The champion(s) (Heeks, 2006) role is quite interesting in relation to Anonymous Exams. In the case study, several different champions are visible, on various levels in the organization, and with various roles in relation to the AE-project. First and foremost, the student union representatives driving the issue from the very beginning are obvious champions of Anonymous Exams. Since these are elected officials who work for the students’ interests at the university, these can be classified as decision makers in their profession. In relation to Anonymous Exams and the university in questions, a more reasonable classification of the student union is however that of engaged user (Axelsson et al., 2013), as they are representing the users of the system. The AE-project group as a whole could be classified as champions of the project, but some members of the group actually seemed more engaged in the project than others. The project leader was an obvious champion of Anonymous Exams; during this time period the project leader seemed to eat, live, and breathe Anonymous Exams, although this person was only in part responsible for the project. In addition, the work with Anonymous Exams was merely one of the project leader’s work duties. Similarly, the two system maintenance representatives, the examination supervisor representative, and the system developer, all members of the AE-project group, were particularly engaged with the project and worked to promote Anonymous Exams in the organization. Again, these stakeholders can be perceived as being both management and service providers (Axelsson et al., 2013; Sæbo et al.,
There was also a very engaged teacher in the reference group, who worked to drive the project on and to promote the implementation of Anonymous Exams. This teacher can be further classified as an *engaged user* (Axelsson et al., 2013).

Regarding the *sponsor* (Heeks, 2006) role, the project was conducted in-house and the financing was decided by the top management of the university, with the vice-chancellor as the responsible manager. In the AE-project, however, the project owner was responsible for the finances of the project. Both these stakeholders can be understood as belonging to the e-government entity *management* (Axelsson et al., 2013). An alternative interpretation of the sponsor role, including informal structures, would include the AE-project group members classified as champions above, as these individuals sponsored the project with unpaid time and efforts. In this thesis, the sponsor role is however seen as implied by the formal structures in the organization, meaning that the informal sponsoring the AE-project is not discussed in this thesis.

The *owner* (Heeks, 2006) of the system is scarcely mentioned in the account of Anonymous Exams given above. The manager that would own Anonymous Exams in its totality when implemented was the examination administration representative in the AE-project group. This person would be the manager, thus fitting into the e-government entity called *management* (Axelsson et al., 2013), responsible for Anonymous Exams once it was implemented.

Heeks (2006) opens up for *other* stakeholders that should be taken into account. In relation to Anonymous Exams, the reference group seems to fit well into this category. The reference group’s task is to give feedback on the design suggestions presented by the AE-project group, to be spokespersons for Anonymous Exams in their respective departments of the university, and to feed information into the AE-project. The members of this group can be understood both as *service providers* and *engaged users* (Axelsson et al., 2013; Sæbø et al., 2011).

All these various stakeholders are summarized in Table 8.5 below.
Table 8.5: Overview of all potential stakeholders affecting/affected by Anonymous Exams during the analysis and design phase.

<table>
<thead>
<tr>
<th>Stakeholder roles</th>
<th>Who affect or are affected by the public e-service?</th>
<th>E-government entity (sub-category)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project manager/team</td>
<td>The AE-project owner</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>The AE-project leader</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>The system developer</td>
<td>Management /Service provider</td>
</tr>
<tr>
<td></td>
<td>Examination administration representative</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>Examination supervisor representative</td>
<td>Management /Service provider</td>
</tr>
<tr>
<td></td>
<td>System maintenance representatives</td>
<td>Management /Service providers</td>
</tr>
<tr>
<td>Supplier</td>
<td>The IT-unit at the university, represented by the system developer in the AE-project group.</td>
<td>Management / Service provider</td>
</tr>
<tr>
<td></td>
<td>The external IT Consultant</td>
<td>Consultant</td>
</tr>
<tr>
<td></td>
<td>Managers at the departments supplying personnel to the reference group</td>
<td>Management</td>
</tr>
<tr>
<td>Operators</td>
<td>The IT-unit</td>
<td>Service provider</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>Users</td>
</tr>
<tr>
<td></td>
<td>Examination Supervisors</td>
<td>Service provider</td>
</tr>
<tr>
<td></td>
<td>Course administrators</td>
<td>Service provider</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>Service provider</td>
</tr>
<tr>
<td>Client(s)</td>
<td>Students</td>
<td>User</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>User</td>
</tr>
<tr>
<td></td>
<td>Course administrators</td>
<td>User</td>
</tr>
<tr>
<td></td>
<td>Examination Supervisors</td>
<td>User</td>
</tr>
<tr>
<td>Champion(s)</td>
<td>The student unions</td>
<td>Engaged users</td>
</tr>
<tr>
<td></td>
<td>The AE-project leader</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>The system developer in the AE-project group</td>
<td>Management/Service provider</td>
</tr>
<tr>
<td></td>
<td>The system maintenance representatives in the AE-project group</td>
<td>Management/Service providers</td>
</tr>
<tr>
<td></td>
<td>The examination supervisor representative in the AE-project group</td>
<td>Management / Service provider</td>
</tr>
<tr>
<td></td>
<td>The teacher in the reference group</td>
<td>Engaged user</td>
</tr>
<tr>
<td>Sponsor(s)</td>
<td>The vice-chancellor</td>
<td>Decision maker</td>
</tr>
<tr>
<td></td>
<td>The AE-project owner</td>
<td>Management</td>
</tr>
<tr>
<td>Owner</td>
<td>The Exam Services</td>
<td>Management</td>
</tr>
<tr>
<td>Other stakeholder</td>
<td>The reference group</td>
<td>Service providers /Engaged users</td>
</tr>
</tbody>
</table>

A conclusion that can be drawn from Table 8.5 is that the same people have various roles and characteristics in relation to Anonymous Exams. This is an important insight for the further characterization of stakeholders in relation to Anonymous Exams.

**Stakeholder identification and characterization**

If we take the content in the Table 8.5 above and turn it around to focus on the actual persons involved with Anonymous Exams, the stakeholders can be organized as in Table
8.6 below. Another conclusion that can be drawn from applying the stakeholder typology (as done above) is that when the stakeholders are broken down into the categories supplied by the provisional conceptual framework, additional stakeholders to those identified on commonsensical grounds are identified. The data collection was initially guided by a commonsensical understanding of which the stakeholders were based on the examination process used before the implementation of Anonymous Exams, encompassing five stakeholder groups. In the list below there are seventeen stakeholders. In the table, the stakeholders marked with grey color were not sufficiently covered in the data collection of the case study.

Table 8.6: Stakeholders organized based on the actual persons involved.

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>The AE-project group</td>
<td></td>
</tr>
<tr>
<td>• The project owner</td>
<td>Project team; Sponsor (management)</td>
</tr>
<tr>
<td>• The project leader</td>
<td>Project team; Champion (management)</td>
</tr>
<tr>
<td>• System developer</td>
<td>Project team; Supplier; Operator; Champion (management; service provider)</td>
</tr>
<tr>
<td>• Examination administration rep.</td>
<td>Project team; Owner (management)</td>
</tr>
<tr>
<td>• Examination supervisor rep.</td>
<td>Project team; Champion (management; service provider); As an examination supervisor also a Client and Operator (service provider).</td>
</tr>
<tr>
<td>• System maintenance representatives</td>
<td>Project team; Champions (management; service provider)</td>
</tr>
<tr>
<td>Students</td>
<td></td>
</tr>
<tr>
<td>• Students</td>
<td>Clients; Operators (users)</td>
</tr>
<tr>
<td>• The student unions</td>
<td>Champions (engaged users)</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
</tr>
<tr>
<td>• Teachers</td>
<td>Clients; Operators (user; service providers)</td>
</tr>
<tr>
<td>• The teacher in the reference group</td>
<td>Champion (engaged user); As a teacher also Client; Operator (user; service provider)</td>
</tr>
<tr>
<td>Course administrators</td>
<td>Clients; Operators (user; service providers)</td>
</tr>
<tr>
<td>Examination supervisors</td>
<td>Clients; Operators (user; service providers)</td>
</tr>
<tr>
<td>The reference group</td>
<td>Other (service providers; engaged users)</td>
</tr>
<tr>
<td>The IT-unit</td>
<td>Supplier, Operator</td>
</tr>
<tr>
<td>The IT-consultant</td>
<td>Supplier (Consultant)</td>
</tr>
<tr>
<td>Managers at the departments supplying personnel to the reference group</td>
<td>Suppliers (Management)</td>
</tr>
<tr>
<td>The vice-chancellor</td>
<td>Sponsor (Decision maker)</td>
</tr>
</tbody>
</table>

Considering the hermeneutic and interpretive mode of this research, the data collection has been governed by what happened in the AE-project, making the description of the case thick enough to identify all of the stakeholders listed above in retrospect. When applying the framework, I was somewhat surprised that I had not covered two of these additional stakeholders in more depth in the case study. These were the 1) examination administration representative in the AE-project group and 2) students in general. The first stakeholder was part of project meetings but did not seem to have a salient role in the project; this stakeholder’s colleague, the examination supervisor, seemed much more influential and was given more attention in the case study. It was only later in the research...
process that I was made aware of this stakeholder’s future role as intended owner of Anonymous Exams. Concerning the students, it may seem odd that students in general were not covered in the case study, but these too were given a rather peripheral role in the AE-project. In addition, the interviewed representatives of the student unions seemed confident and realistic in their account of the students’ perceptions of Anonymous Exams. In retrospect, this was however a somewhat naïve interpretation on my behalf and a weakness in the design of the data collection.

The remaining additional stakeholders on the list of stakeholders above that were not covered in the case study (the last four stakeholders on the list above) did indeed have a marginal role in relation to Anonymous Exams. For example, the IT-consultant hired to do work for the IT-unit related to the PDAs used for Anonymous Exams was not represented in neither the project group, nor the case study. During meetings with the AE-project group, I got the impression that this person merely did technical work (specific programming activities related to the PDAs) that the system developer himself did not have enough competence to perform. This work was, however, conducted on direct order from the system developer. Perhaps this person had more influence over the technical solution than I understood at the time, perhaps not. Concerning the IT-unit as a stakeholder, this was represented in the AE-project group by the system developer responsible for the technical development of Anonymous Exams. The IT-unit was therefore represented in the case study, but not in a way that is possible to separate from the system developer. Concerning the managers at the departments, functioning as suppliers of resources to Anonymous Exams in the shape of staffing the reference group, these are not covered by the case study at all. These were not talked about by the AE-project group or by the reference group members (during the group interview). Last, but not least, the vice-chancellor is present in the case study, although not in person. The vice-chancellor initiated the project through signing a decision in 2006, but after that point, the formal responsibility was given to the AE-project owner. The decision in itself, and that it was signed by the vice-chancellor, made the project legitimate and prioritized and was often referred to by members of the AE-project group and other stakeholders present in the case study. That being said, several of the potential stakeholders identified using the provisional conceptual framework cannot be further analyzed in the continuing stakeholder analysis, meaning that the stakeholder characterization analysis will cover only the following eleven stakeholders;

- The AE-project owner
- The AE-project leader
- The system developer
- The system maintenance representatives
- The examination supervisor representative
- The student unions
Public e-Service Stakeholders

- The reference group
- The teacher representative in the reference group
- Teachers
- The course administrators
- The examination supervisors

For each stakeholder above, stakeholder characteristics have been assessed based on the questions posed by the provisional framework. Note that the AE-project group was not analyzed as a group; instead, the individuals in the AE-project group that emerged in the table above were analyzed. The stakeholder analyses are presented in tables in Appendix E of the thesis. The tables are not inserted in the following discussion due to their size; they would simply obstruct the flow of the text and are therefore presented in isolation.

Before turning to the descriptions and discussion of each stakeholder listed above, a general stakeholder feature must be addressed. Stakeholder theory allows for the identification of stakeholders of different magnitudes; referring to that individuals; groups; organizations; societies; and even the natural environment can be identified as being a stakeholder (Mitchell et al., 1997). In the provisional conceptual framework presented in chapter 6, public e-service stakeholders were limited to being individuals, groups or organizations. All of these three entities are visible in relation to the stakeholders discussed here; some stakeholders refer to individuals, some refer to groups of people, and some refer to organizational units. In this thesis, these stakeholders are discussed on more or less equal terms, regardless of entity. This means that the possible implications imbedded in these three entities, or magnitudes, are not fully addressed in this thesis (see further discussion in section 11.1.2).

**Stakeholder characteristics overview and discussion**

The following section presents the stakeholder characteristics resulting from the analysis presented in the stakeholder characteristics tables presented in Appendix E. The content of the tables have been taken from the account of Anonymous Exams given above, meaning that these tables have functioned as a way to further structure and prioritize the data presented above.

Each stakeholder’s salience (Mitchell et al., 1997) was assessed based on the aggregated interpretations and assessments of the second statement (and sub-statements) in Table 8.4. Based on all this information put together, I assessed each stakeholder’s salience attributes; power, urgency, and legitimacy (Mitchell et al., 1997). In this context, these three attributes were assessed in relation to each stakeholder’s ability to influence the outcome of Anonymous Exams (power), and feeling of urgency in relation to Anonymous Exams, i.e. if the stakeholder considers Anonymous Exams to be an important issue or not (both in positive and negative terms). For each stakeholder I also assessed whether the stakeholder was perceived to hold legitimate claims on Anonymous Exams. The degree
of legitimacy was assessed as a relational attribute; it was not enough that the stakeholder considered that its claims were legitimate; other stakeholders also had to regard the stakeholder’s claims to be legitimate. For the stakeholders who were not part of the AE-project group, I also assessed whether these stakeholders were involved in the design of Anonymous Exams (guided by the questions posed in the provisional framework, section 6.1.3). The involvement of stakeholders is touched upon in the descriptions below and is discussed in more depth in chapter 10.

Before turning to the result of this analysis, it is important to note that the stakeholders’ salience has been assessed with a management focus in mind, but from the researcher’s perspective. This was necessary in order to include the stakeholders representing the management in the salience analysis and gain a deeper understanding of the circumstances of Anonymous Exams. Furthermore, the stakeholders’ salience has been assessed in relation to Anonymous Exams during this particular time period, when understood as a composite of work procedures, support systems, and the three technical sub-systems (the Student Portal, the Examination Administration System, and the Exam Marking System). If this analysis had been done in relation to e.g. anonymity for students, or changes in work procedures, alone, the resulting stakeholder categorizations would have looked different.

The stakeholder characteristics analysis showed that most of the stakeholders identified belonged to one of two stakeholder types; they were either definite or dependent (Mitchell et al., 1997) stakeholders. Definite stakeholders possess all three salience attributes. All stakeholders belonging to the AE-project group were assessed as having all three salience attributes; power, legitimacy and urgency. The remaining stakeholders were assessed as dependent stakeholders, meaning that they were characterized as having legitimate claims on Anonymous Exams and a feeling of urgency related to Anonymous Exams; they however lacked the power to affect the outcome of Anonymous Exams other than by trying to influence the definite stakeholders with their ideas.

In Figure 8.4 below, the salience of the stakeholders identified (see Table 8.6) is mapped in the Venn-diagram suggested by Mitchell et al. (1997). For an overview of the naming of the stakeholder types visible in the Venn-diagram, I refer to Figure 4.3 in section 4.2.2.

The project owner was characterized as a definite stakeholder although bordering to the dominant category. The project owner possesses all three attributes. This stakeholder’s management role (Axelsson et al., 2013) entailed both power and legitimacy in relation to Anonymous Exams. The project owner did however not seem to feel completely committed to the AE-project. The project owner’s absence from the project testifies that this person perhaps did not experience the same level of urgency related to Anonymous Exams as the others in the project group. In fact, the other members of the AE-project
Public e-Service Stakeholders

group complained about the project owner’s lack of interest (urgency), resulting in the appointment of the AE-project leader.

The remaining stakeholders who were part of the AE-project group were all characterized as definite stakeholders, i.e., the project leader, the system developer, the examination supervisor representative, and the system maintenance representatives. These were all categorized as having management positions (Axelsson et al., 2013) and possessed all three salience attributes as part of their formal roles in the project. All of these four stakeholders were particularly engaged with the project and these were characterized as being champions for the project, meaning that they drove the project on (Heeks, 2006). The project leader was remarkably committed to the success of the AE-project. This individual’s inexperience concerning project management could have posed a threat to the project, but this stakeholder saw great potential in Anonymous Exams and seemed to have been triggered to put extra effort into the work.
Regarding the *system developer*, this stakeholder was also inexperienced regarding projects of this complexity. The system developer was the only person in the project with the technical know-how needed to develop the systems required to support the anonymity of students. The system developer gave the impression of being an independent, but highly involved, person. The system developer participated in most of the activities observed in the case study, which testifies of a person who is interested in interacting with and learning from others. Another example of this behavior is that the system developer developed the PDAs in close cooperation with the examination supervisor representative in the AE-project group. Similarly, the *system maintenance representatives* were highly committed to the AE-project and worked hard to realize Anonymous Exams. Perhaps it is no coincidence that these particular stakeholders were champions of the project. Apart from having a formal responsibility for the project, which can lay the ground for championship in itself, these two stakeholders had an interest in the outcome of the project in their entity as *service providers* (Axelsson et al., 2013; Sæbø et al., 2011). Beside their work in the AE-project, these stakeholders held service provider positions at the university. In that entity, they all knew that they would be working closely to the systems part of Anonymous Exams also after the project was closed. Their commitment seem to correspond with Sæbø et al.’s (2011) statement that service providers are more likely to care for the quality of services to citizens.

Correspondingly, the *examination supervisor representative* was categorized as a *champion* (Heeks, 2006) of the AE-project. This stakeholder was also categorized as working both in a *management* position (Axelsson et al., 2013), referring to her role in the AE-project, and in a *service provider* position (Axelsson et al., 2013; Sæbø et al., 2011), referring to her work as an examination supervisor. To this point, this stakeholder has been discussed mainly from the management position perspective, as this person was a full member of the AE-project group. An alternative interpretation of this stakeholder, however, is that it can be regarded as a case of *participative involvement* (Damodaran, 1996). In contrast to the other members of the AE-project group, this stakeholder was not working in a position in which membership of centrally steered project groups could be expected. In fact, this person was asked to be a member of the AE-project group in order to represent the examination supervisors and defend their interests in the development of Anonymous Exams. This stakeholder’s membership of the project group can therefore be understood as the highest degree of stakeholder involvement, participative involvement, in which the involved stakeholder is granted membership and decision rights in the project management.

The *teacher representative* in the reference group was characterized as a *dependent* stakeholder, as this stakeholder was dependent on other stakeholders, in this case the AE-project group members, to carry out its will. This was a stakeholder with a strong feeling of having urgent and legitimate claims concerning Anonymous Exams. This stakeholder was particularly engaged in the AE-project and was categorized as being both a service
provider and an engaged user in relation to the e-government entities (Axelsson et al., 2013). This teacher represented a group of teachers that had tried to affect the university management for an extended time to introduce some kind of technical system to facilitate the examination process. Their request had not been taken into account until Anonymous Exams was initiated. When hearing about the AE-project, this teacher representative asked to be part of the reference group in order to be able to influence the outcome of the project. Being part of the reference group gave this particular stakeholder more power to affect Anonymous Exams than this person would have had as a ‘regular’ teacher. It also increased the level of legitimacy of this stakeholder’s claims in other stakeholders’ eyes. For this reason, this stakeholder was characterized as bordering to being a definite stakeholder, despite the fact that this stakeholder refers to an individual who lacked formal power in relation to Anonymous Exams.

The reference group (in general) was characterized as a dependent stakeholder. This might seem as a contradiction to the characterization of the teacher representative almost being characterized as a definite stakeholder. But as a group, the reference group had limited ability to affect the actual outcome of the AE-project. These were involved in the project through their close ties to the AE-project group, but merely on an informative and consultative level (Damodaran, 1996); they were informed about the progress of the project and were asked to give input on various parts of the upcoming systems and work procedures, but they were not part of the actual decision making.

The examination supervisors as a group were categorized as a dependent stakeholder. Again, this is a stakeholder that was dependent on others to carry out its will. The examination supervisors had a strong feeling of urgency and holding legitimate claims concerning Anonymous Exams. Although this stakeholder posits no formal power in relation to Anonymous Exams, this group seemed to be given priority by the AE-project group. This group was, as stated above, represented in the AE-project group by the examination supervisor representative. This group therefore managed to affect the design of Anonymous Exams through their connection with the examination supervisor representative in the AE-project group. The close connection between these two stakeholders makes it possible to discuss the examination supervisors in terms of informal power, referring to their ability to influence (Johnson et al., 2005) the outcome of the AE-project through their representation in the AE-project group.

The student unions were categorized as a dependent stakeholder. This stakeholder had considerable influence over Anonymous Exams during the lifecycle phase preceding the current analysis and design phase; this is the stakeholder who initiated Anonymous Exams in the first place. As such, this stakeholder can be understood as a project champion (Heeks, 2006) and an engaged user (Axelsson et al. 2013) during this phase. During this phase, however, the vice-chancellor decision was already made and the student unions
had little power to affect the actual outcome of the project other than through representation in the reference group.

The *teachers* at the university, as a general group, were categorized as a *dependent* stakeholder. Again, this group was dependent on other stakeholders’ to carry out their will. Many of the teachers whom I came across in the case study had a strong feeling of having urgent and legitimate claims concerning Anonymous Exams. This is however not a homogeneous group, and it could perhaps be argued that this group should be divided into sub-groups based on their stance towards Anonymous Exams. I am however not confident that their stance regarding Anonymous Exams affected their ability to affect the AE-project or its outcome. It is plausible that the comments from teachers with a positive stance towards the project were given precedence by the AE-project group, as they were in line with the project group’s own view. In the case study there were however no indications of such advantages being given by the project group. Based on the data available, all teachers’ comments seemed to receive similar attention by the AE-project group. Seen from the other stakeholders’ perspectives, this stakeholder holds highly legitimate claims regarding Anonymous Exams. Nevertheless, the AE-project group found it difficult to get teachers to engage with the project, although the teachers could be understood both as the future *users* and *service providers* (Axelsson et al., 2013) of Anonymous Exams. Few teachers participated in the activities organized by the AE-project group, testifying of a lacking interest or too limited resources (such as time) to be involved in Anonymous Exams. Therefore, the teacher group was categorized as bordering to the discretionary category. The fact that the teachers did not participate to the desired extent in the activities organized by the AE-project group, caused the AE-project group to perceive this group as a potential threat to the success of Anonymous Exams. The project group worried that the teachers would realize the impact of Anonymous Exams on their work when it was too late for the system developer to take the teachers’ comments into account.

Considering the *course administrators*, this group was also characterized as being a *dependent* stakeholder. The categorization of the course administrators using the Heeks (2006) and Axelsson et al. (2013) typologies was identical to the categorization of the teachers. When inspecting their salience attributes they are however different from each other. In Figure 8.4, the course administrators was put at the very bottom as it was perceived to be the dependent stakeholder with the least possibilities to affect Anonymous Exams. This stakeholder had a strong feeling of urgency in relation to Anonymous Exams, especially in relation to the e-service directed towards teachers. In the salience map, this stakeholder was categorized as bordering to being a demanding stakeholder; lacking the power and legitimacy attributes. The reason for this categorization is that this stakeholder seemed to be perceived as holding less legitimate claims than other stakeholders (by the related stakeholders). Although some variation between individuals in this group is seen in the
empirical data, this stakeholder appears to have been given the least attention from the AE-project group when considered on the group level.

In Figure 8.4, the five stakeholders that could not be covered in the characterization analysis have also been mapped. Considering that these were not covered in the data collection, this mapping is based on secondary data. In the figure, they are marked with a smaller and italicized font. The examination administration representative was categorized as a definite stakeholder in line with the categorization of this stakeholder’s colleagues in the AE-project group. The vice-chancellor was mapped as a dormant stakeholder, possessing only power. Similarly, the managers at the departments supplying the reference group with personnel, and the IT-unit, can be perceived as having power, but by not having a legitimate or urgent claim, their power remained unused.

The students in general were categorized as a discretionary stakeholder as they possess the attribute of legitimacy; Anonymous Exams was initiated by and for the students and, hence, students are seen by the other stakeholders to hold legitimate claims on Anonymous Exams. However, regular students had no possibility to affect the outcome of Anonymous Exams and they were not involved by the AE-project in any way. In order for regular students to influence the university management in any way, they had to go through the student unions. In addition, the students in general did not seem to have had urgent claims on Anonymous Exams; this was a question initiated and driven by the student unions. There was no pressure on the AE-project group to engage in an active relationship with the students in general when they had contact with the student unions.

The IT-consultant mentioned in the account given above was categorized as a non-stakeholder.

In sum, out of the 17 potential stakeholders, 16 were assessed as salient to various degree in relation to Anonymous Exams. Out of these, 11 were possible to characterize using the empirical data collected in the case study. In the next chapter, this exercise is repeated for the second phase of the Anonymous Exams case study. Thereafter, chapter 10 presents a more detailed discussion of the stakeholders’ characteristics and stakeholder involvement in the development and implementation of Anonymous Exams.
9. **Account and Analysis of Anonymous Exams: Phase II**

In this section, the implementation and use phase of Anonymous Exams is covered. First, a narrative of the AE-project groups’ work is given, including the implementation of Anonymous Exams; modifications made to the systems and work procedures; and the project members retrospective views on the project and outcome. Second, the other stakeholders’ responses to and experiences of Anonymous Exams are presented. Last, the implementation and use of Anonymous Exams is analyzed and discussed using the provisional conceptual framework presented in chapter 6. In order to avoid reiterations of accounts presented in the previous chapter, this chapter focuses on what was unique for this phase, and contrasts in relation to the previous phase.

9.1. **The work of the AE-project group**

This section covers the work of the AE-project group during the implementation and use phase and their views on Anonymous Exams, focusing on the implementation of Anonymous Exams (see Figure 9.1).

![Figure 9.1: An overview of the phases of Anonymous Exams covered in this chapter.](image)

9.1.1. **Implementing and modifying Anonymous Exams**

As stated in the previous analysis section, the development phase took longer than planned, resulting in delays for test activities. Testing of Anonymous Exams, with real users, began in August 2008. Instead of implementing Anonymous Exams for all departments by September, it was only implemented in parts of the organization. The first
examination conducted with the use of all parts of Anonymous Exams was performed at the end of October 2008, meaning that the extended deadline was exceeded by almost two months.

The intended work procedures and the three technical sub-systems of Anonymous Exams were implemented as planned (see section 8.1.5. in the previous chapter). During the implementation phase, several members of the AE-group worked as a support function for personnel affected by Anonymous Exams; either by telephone, email, or in person. The project leader later described the implementation phase as; “…we had delivered at the end of October, started this and launched it, and we knew that there might be things that we didn’t, that we had wanted to include in the project, but didn’t manage to include now. Then, we didn’t know what questions would come and how they [the employees] would receive it, because we hadn’t had any direct education, we had released it and walked around and informed about it, but not on the detail level […] so we said, we’ll take this chance and see how to do things. And it was planned that we would have proper material with a [user] manual and things, and I wrote one, but it was refused, it was too complicated someone said, so then I made a large X over it and we had no more time to spend on it, and then I said that we’ll see how it goes, and we’ll take the questions through the support” [Interview, project leader, October 2009]

Shortly after the implementation (approx. 2-3 months after), the project leader was away from work for six weeks. During that time the remaining project group members took care of questions addressed to the AE-project group. One of the system maintenance representatives (1) reported that it was a big challenge to get the teachers to understand the interface of the Exam Marking System. During the implementation, this AE-project group member worked as support for teachers and course administrators by email, telephone and personal visits. A similar experience was reported by the project owner, who had to deal with many phone calls and emails from teachers during this time.

As the AE-project moved over to the implementation phase, the system developer gained full responsibility of all systems. The external IT-consultant, who had developed parts of the PDA solution, became even more peripheral than before, functioning as a technical support for the system developer. When Anonymous Exams was first implemented, the system developer did not receive/answer any questions from the users, these were covered by others in the AE-project group. Instead, the system developer looked at the systems’ logs for bugs and errors to see if any problems occurred in the systems. There were few bugs in the Exam Marking System, but some in the Examination Administration System (the PDAs). Based on comments and reactions from employees during the implementation phase, various modifications to Anonymous Exams were made by the system developer. These modifications were however not substantial enough to change the overall process and systems overview described earlier (in Table 8.2). Although the comments from the employees forced the system developer to change details in the three systems, the system developer stated that;
"I believe that the way we designed it [Anonymous Exams] more or less from the beginning, that's how it ended up" [Interview, system developer, November 2009].

The changes made to the Examination Administration System and the Exam Marking System are described in the paragraphs below. The Student Portal is not addressed here since there were no changes made to that system after the implementation.

The Examination Administration System

The examination supervisor representative in the AE-project group worked hard during this time period to educate all examination supervisors on how to work according to Anonymous Exams. During training and testing activities, the examination supervisors were not happy about the design of the user interface of the Examination Administration System. For example, the letters were too small for them to read and there was no visible difference between different steps in the process; hence little match between their actual work and the Examination Administration System. The examination supervisor representative invited the system developer to participate during a day of activities so that the system developer could see the problems experienced by the examination supervisors with own eyes. Based on the demands made by the examination supervisors and the system developer’s visit, the design of the user interface of the Examination Administration System was changed considerably after the implementation. At the time of the interviews (approx. a year after the implementation of Anonymous Exams), the system developer stated that they were currently using the third version of user interface of the Examination Administration Systems. The overall structure and purpose of the system was however the same as before, but colors, fonts, and the order of the functions in the system were different. According to the examination supervisors, the readability of the interface, and the match between the system and the work processes, were improved considerably (in comparison to the first version of the system).

Apart from affecting the design of the Exam Administration System, the examination supervisors were allowed to affect the work procedures the system was designed to support. For example, the examination supervisors were afraid that information might not be uploaded properly at the end of the day and wanted a back-up. As a precaution, a paper list was therefore included in the work procedures, meaning that a written record is created for each exam, on which the students write their names, AIDs, and social security numbers. This list is only used for back-up purposes and is archived so that the identities of the students can be revealed even if the technology fails.

A consequence of the Examination Administration System was that the examination supervisors can see directly if a student is registered for the examination. Students who are registered for the course, but has failed to register for the examination in the Student Portal, can however not be refused to participate in the examination due to the examination regulations (in contrast to what the examination supervisors hoped (see chapter 8, section 8.2.4.)). This means that students continue to appear for examination
without prior registration to the examination. For these students there are no AIDs prepared in the system. The system developer therefore had to add a functionality that makes it possible to create AIDs on the spot. These AIDs are created based on the students’ social security numbers. Considering that only the social security number is needed, other forms of identification than the Student Identity Card are allowed. This is another deviation from the original plan, which included that only the Student Identity Card would be allowed for identification. In addition, with the PDAs it was still not possible for the examination supervisors to control if the student is registered for the course of which the examination is part, meaning that, at least in theory, students not even attending the course can still take part of the examination as long as s/he has a valid Student Identity Card or other means of identification. The design of the Examination Administration System even allows students to participate without valid identification, but in those cases, the teacher has to decide whether or not s/he wants to trust the system and student, or not, when reporting the results of the exam. The teacher can chose to exclude that exam from the examination. All in all, the Examination Administration System is more flexible than first intended.

The Exam Marking System
This system was made available for teachers and course administrators in August so that the users could try it out before Anonymous Exams was fully implemented. During this time, August to October, the teachers and course administrators were also offered ‘training’ consisting of a lecture on how to use the Exam Marking System. There were no hands-on systems training activities for teachers during which they were given the opportunity to test the system. Furthermore, it is unclear from the empirical data how many employees attended these meetings. As anticipated by the AE-project group, the teachers’ interest in Anonymous Exams was awakened during the test- and implementation period. Teachers were starting to protest against the design of the Exam Marking System; some even went so far as to state that they refused to use it unless changes were made to the interface and functionality of the system. Some of these protests were taken into account by the AE-project group, and the system developer made some quick changes to the design and functionality of the system in order to satisfy some of the wishes of these teachers. These changes added on to the increased costs of the AE-project.

The continuous delays of the project had forced the AE-project group to make certain compromises; one such compromise concerned the documentation of the systems, in particular this system. When the Exam Marking System was implemented, there was still no documentation on how to use the system; there was no user manual or ‘cheat sheet’ for the system. Because of this, many people called or emailed members of the project group with questions regarding the system. A year after the implementation, there was still no documentation written and the system developer reported that s/he had heard that some teachers were tired of waiting for a user manual and had written their own manuals.
to the system. The official user manual to the Exam Marking System, written by one of the system maintenance representatives (I) in the AE-project, was published on the university website in February, 2010; seventeen months after the implementation of the system.

In the beginning, some teachers tried to bypass the Exam Marking System by reporting a null result on all students in order to reveal the students’ identities before reporting the results and grades. Thereafter the teacher contested the results sent to Ladok by changing the results on the verification list printed from the Ladok system. The reason for bypassing the system was that these teachers used bonus systems and were not aware of how Anonymous Exams worked. All these teachers were however identified by the system developer as s/he was monitoring the system logs. According to the system developer, this kind of behavior occurred approx. 10-15 times during the first semester of using Anonymous Exams. This behavior was perceived as a serious violation of the rules by the members of the AE-project group and therefore all these teachers were contacted directly by someone in the AE-project group. As a reaction to these incidents, the project owner also informed teachers and course administrators about these behaviors through emails and meetings, in order to discourage others from using similar methods.

After a couple of months (in January 2009), the teacher representative in the reference group contacted the AE-project group with suggestions on modifications of the Exam Marking Systems. The purpose of the modifications was to better adjust the system for reporting the results for very large student groups. These suggestions were realized by the system developer. A year after the implementation, the project leader and the system maintenance representatives reported that the questions regarding Anonymous Exams “have gone quiet” and that they were rather surprised by the silence, considering that there were so many people who were affected by Anonymous Exams.

9.1.2. Closing the project

The AE-project was officially closed in February 2009. At this time, the work was however not finished. The project leader reported that an extensive ‘to-do’ list concerning Anonymous Exams remained when the project group was dissolved.

Some of the project group members continued to work with Anonymous Exams for another year as part of their regular work. A year after the implementation of Anonymous Exams, the project group members had the responsibilities listed in Table 9.1. As illustrated in the table, most of the members of the AE-project group worked directly, or indirectly, with systems related to Anonymous Exams. It is therefore not surprising that several of the group members kept contact and kept working with Anonymous Exams.

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1 ‘Bonus systems’ refer to when students are allowed to collect credits based on less formalized examination forms, (e.g., seminar attendance and shorter papers). These credits are later added on to the students’ exam credits in order to increase the students’ credits on the exam.
The mode of their continuous contact, however, seemed to be an extension of their previous work and hence seemed like an informal continuation of the project.

Table 9.1: The work and responsibilities of the AE-project group members a year after the implementation of Anonymous Exams.

<table>
<thead>
<tr>
<th>Role in the project</th>
<th>Role after the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project owner</td>
<td>Responsible for the Ladok system</td>
</tr>
<tr>
<td>Project leader</td>
<td>Working with system maintenance of the Ladok system</td>
</tr>
<tr>
<td>The examination administration representative</td>
<td>Process owner of the written examination process, including Anonymous Exams.</td>
</tr>
<tr>
<td>The examination supervisor representative</td>
<td>Working as an examination supervisor and responsible for educating new employees at the Exam Services unit on how to work in accordance with Anonymous Exams (including the Examination Administration System).</td>
</tr>
<tr>
<td>The system maintenance representative (1)</td>
<td>Working with various support systems related to Anonymous Exams.</td>
</tr>
<tr>
<td>The system maintenance representative (2)</td>
<td>Working with various support systems related to Anonymous Exams.</td>
</tr>
<tr>
<td>The system developer</td>
<td>Responsible for the Exam Registration System and the Examination Administration System (the PDAs). Also working as a back-up to the person maintaining the Exam Marking System.</td>
</tr>
</tbody>
</table>

9.1.3. Evaluation of Anonymous Exams

One year after the implementation of Anonymous Exams (in September–October 2009), approx. 5000 exams and 63000 AIDs had been processed using Anonymous Exams. By this time, the members of the AE-project group organized three evaluation meetings to which all teachers and course administrators were invited to discuss the Exam Marking System. Observe that these meetings were not organized as part of the AE-project. I participated at two of these meetings. The meetings were organized by one of the system maintenance representatives (1), but other group members also participated. Only 28 employees attended these two meetings (in total); a very small number of the employees at the university. The meetings began with a short introduction of the AE-project and Anonymous Exams. The AE-project group members also made clear that they intended to use the input from the meetings to do changes to Anonymous Exams, but that only minor changes could be made.

Several teachers at the meetings reported that they were positive towards the Exam Marking System and that they wanted to use it for administering other examination forms apart from the written examinations administered through the Exam Services unit. In order for it to work for other examination forms some modifications were needed and several such modifications were discussed during the meetings. Some teachers also mentioned that the rigidity of the Exam Marking System had actualized weaknesses in the

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2 It is not clear from the empirical data if the evaluation meetings were an intentional remainder from the AE-project scheduled to take place during this time, or if these meetings were organize by the former group members based on their own initiative.

3 At the first meeting, the project leader, the examination administration representative, and the system developer participated. At the second meeting, the project owner, the examination supervisor representative, and the system developer participated.
design of their courses, in a positive way, and had caused them to rethink the examination in their courses.

Other teachers participating in the meeting were not equally thrilled by the Exam Marking System and questioned it to its very core; anonymity for students. The project group responded that they had nothing to do with the anonymity; the anonymity was decided by the vice-chancellor and the project group had tried to make the best out of that decision. If the teachers did not approve of anonymity for students, they had to discuss this issue with the vice-chancellor, and not with the AE-project group. Other employees complained about the absence of a manual, or other written instructions, on how to use the Exam Marking System.

Regardless if the personnel were satisfied or disappointed with the Exam Marking System, some comments seemed to be shared by all. These comments regarded the design of the user interface of the Exam Marking System. The employees seemed to agree on that some important functions were missing in the system, and that there were too many 'clicks' and unnecessary steps for the functions that existed in the system. Someone said that the interface looked “unprofessional”, upon which the system developer answered that the interface had been “thrown together in a hurry” and that the strategy had been to introduce a user interface that people could “complain about”. The system developer could then use the complaints to make changes to the interface. The system developer reported that this strategy indeed had been realized; people had complained about the interface, and based on these complaints, the user interface had been improved. The system developer intended to make further improvements to the interface based on the input given at these meetings.

After the evaluation meetings, the project owner tried to get funding from the university management for starting a new project related to Anonymous Exams. This project was intended to be aimed at realizing feedback given at the evaluation meetings. The project owner’s request was however not granted by the university management; no such project was started.

Regarding the other two systems, the Examination Administration System and the Student Portal, I got the impression that the system used by the examination supervisors was continuously evaluated in the sense that the examination supervisors continued to give input to the examination supervisor representative when there were issues with the system. The examination supervisor representative, in turn, forwarded these comments to the system developer, who made changes to the system as s/he deemed appropriate. The Student Portal, however, was not evaluated as part of this evaluation initiative. Instead, the Exam Services evaluated the students’ view on the whole examination process using a questionnaire. This questionnaire is discussed in section 9.2.1. below.
9.1.4. **The AE-project members’ retrospective views on Anonymous Exams**

At the time of the interviews with members of the AE-project group (see section 7.2.3, for details), the AE-project was already closed and the project group dissolved. The evaluation meetings had only just taken place, and Anonymous Exams had recently become an everyday activity at the university. When asked about their overall impression of the AE-project, all members answered that it had been a very intense project that took up quite a lot of time, but that it had been an appreciated and positive experience to be part of the project.

During the interview with the system maintenance representatives, they stated that the project “[SMR2:] was very extensive and unfocused, partly because there were so many inexperienced project members and partly because it was so very large, this was actually one of the larger projects we have conducted and we are probably not so experienced of projects of this size and by that I mean large in the sense that it encompasses many stakeholders; the teachers were very many, the administrators were very many, the examination supervisors were very many [SMR1:] and there are many systems that talk to each other [SMR2:] yes, exactly, so it was very complex and it became very extensive and we probably haven’t had something as large and extensive before” [Interview, system maintenance representatives (1&2), 2009]

Still, the project group members seemed very content with their work and the membership of the group; e.g. ”there was a good atmosphere in the project, everybody worked and toiled and thought it was fun, so it felt like a successful project in many ways, many learnt a lot” [Interview, system maintenance representative 2, 2009]. Similarly, the system developer discussed the project in terms of something that had supplied “energy” to do a good job.

Apart from discussing the overall impression of Anonymous Exams and the issues presented above, much of the interviews concerned the AE-project members’ views on Anonymous Exams and their work in the AE-project, such as their view on 1) involvement of other stakeholders in the work with Anonymous Exams, and 2) the consequences of Anonymous Exams.

**Involvement of other stakeholders in the work with Anonymous Exams**

The group members of the AE-project had different views on involvement of employees in the development and implementation of Anonymous Exams when interviewed one year after the implementation of Anonymous Exams. The project owner thought that there should have been less information meetings during the analysis and design phase, and more meetings during the implementation phase. The project owner also stressed the need for a user manual for the systems, something that existed for the Examination Administration System, but not for the Exam Marking System. In contrast, the project leader seemed to like the setup they had used, but thought that the information meetings should have started earlier. Similarly, the system maintenance representatives in the AE-project group were also content with the ways in which the employees had been involved...
and informed about Anonymous Exams. They reported that perhaps, though, it would have been better if they had had the time to visit people in the organization instead of informing about Anonymous Exams through large information meetings. They did not think that a user manual, or other written instructions, would have made any difference, they preferred talking to people in person and explain how things work. Note that writing the manual is one of their work tasks (and that it had not yet been done when the interview took place).

To promote Anonymous Exams in a way that made the teachers accept it, and to urge the teachers to give input on it, was reported as one of the biggest challenges in the project. The system developer (and the examination supervisor representative in the AE-project group) conducted user tests of the Examination Administration System together with the examination supervisors. These tests resulted in major changes to the interface of the system (see section 9.1.1 above). In retrospect, the system developer expressed that s/he wished that s/he had had time to conduct similar tests of the Exam Marking System together with teachers. The system developer showed prototypes of the Exam Marking System to teachers at the information meetings organized during the analysis and design phase of Anonymous Exams, but got very little feedback on these prototypes. In contrast, there was plenty of feedback when the system was implemented and several changes had to be done to the system in order to appease the teachers. The system developer’s conclusion from this experience was that it is difficult to reach out to people before they feel personally affected by what you are doing;

“Those who do not care, I can’t reach them until they are affected by it [the Exam Marking System] and I do not see a solution to that [problem]” [Interview, system developer, 2009].

The system developer was very content that they had managed to educate the examination supervisors on how to use the Examination Administration System and the PDAs. Interestingly, the teachers were not seen as equally important in this respect. The system developer even stated that, considering how the university management acted, the teachers did not have a choice but to learn the new system; and since they had managed to learn how to use other systems previously, it should not be a problem for them to learn how to use the system on their own.

The course administrators seem to be a somewhat forgotten group by the AE-project group. The project leader informed the Ladok administrators about Ladok-specific features of Anonymous Exams as part of work aside from the AE-project, working with system maintenance of the Ladok system. In contrast, in their potential role as users of the Exam Marking System, the course administrators do not seem to have been given much attention. They were invited to the same information meetings to which the teachers were invited, but it is unclear from the empirical data how many course administrators participated in these meetings. The system developer stated that course administrators can be “forced” to use any system, even “bad ones”, whereas teachers and
examination supervisors will protest if the system is not good enough (Interview, system developer, 2009). The project leader also reported that s/he, and others in the project group, had worked hard to inform the course administrators, but that sacrifices had to be made for some people in such a large organization, and that the course administrators were the ones whose wishes could not be satisfied in this particular project. Concerning the course administrators handing out the exams at the student offices, the system maintenance representatives in the AE-project group reported that they perhaps should have cared more about the end of the process: handing out the exams. The project leader also stated that they perhaps did not care enough about this step of the process when designing and implementing Anonymous Exams.

The examination supervisor representative was responsible for educating all examination supervisors on how to use the Examination Administration System. In retrospect, the examination supervisor representative was very content with the way in which the training had been conducted and stated that s/he would not change a thing if s/he could do it all over again. The examination supervisor representative had also functioned as the spokesperson for the examination supervisors in the AE-project and was particularly content with the way in which s/he had managed to convince the system developer to change the interface of the system to fit the requirements of the examination supervisors.

**The consequences of Anonymous Exams**

The goals of Anonymous Exams, as defined by the AE-project group, were to 1) achieve unbiased examination for students and teachers, through 2) defining a standardized examination process, and thereby 3) gaining prestige and marketing advantages (see section 8.1.2. in the previous chapter).

The first goal of Anonymous Exams, to achieve unbiased examination for students and teachers, was successfully achieved according to the AE-project group. The AE-project group members believed that the traceability in the system made the examination process transparent and more secure than previously. As anticipated, the AE-project group saw this consequence as a result of defining and standardizing the examination process (the second goal). During the interviews it was reported that the work concerned with standardizing the examination process was what required most effort and was understood as a prerequisite for the success of Anonymous Exams. The anonymity in itself was only a small part of it all. Concerning the goal to achieve a standardized examination process, the members of the AE-project group seemed to be content with the result. The system developer pointed out that they had moved away from a work situation in which the teacher had had full freedom to do whatever s/he wanted when using written examination (as long as it corresponded with the regulations for examination), to a process in which the teacher must follow the procedures designed by the AE-project, or refrain from using this kind of written examination. According to the project leader, the AE-project group members were not the only ones who contributed to the
standardization of the examination process; other actors surrounding the project worked in parallel with the AE-project to streamline the work relating to written examination. The project leader especially pointed out the Exam Services unit at the university, where the employees had developed new guidelines, covers for the exams, forms, and administrative routines for the examination process. The project leader pointed out that the AE-project had actualized many issues that the Exam Services unit decided to develop further on their own initiative. The new harsher rules for students during the examination day are examples of their doing. Note, however, that the examination administration representative in the AE-project group worked at this unit, it is therefore questionable if these initiatives can be seen as totally separated from the work of the AE-project group. In fact, during the interviews conducted after the implementation of Anonymous Exams, the project owner and system maintenance representatives mentioned these streamlined work procedures made by the Exam Services unit as important consequences of Anonymous Exams and as integral parts of the project’s work.

Concerning the third goal, to gain prestige and marketing advantages, it is not really possible to determine if that goal was met. But, as anticipated, the university managed to be the first university to create a fully integrated and Internet-based solution for anonymity that linked directly to the national Ladok system; first-mover advantage fulfilled. Hence, their solution was thought to be leading the way for other universities in the country. The project owner and the examination administration representative of the AE-project group have attended several conferences presenting their solution for anonymity. Since 2010, several universities have indeed been inspired by the solution developed at this particular university, but it is uncertain if the solution has been adopted in its full format by others. For the project group developing and implementing Anonymous Exams, the project was therefore perceived as very rewarding.

Apart from the anticipated consequences of Anonymous Exams, the AE-project group also reported some unexpected consequences resulting from Anonymous Exams. One such consequence was that there were more paper lists that needed to be dealt with centrally at the university after the implementation of Anonymous Exams, such as records over all AIDs issued and the back-up lists connecting each AID to the students’ social security numbers. One of the anticipated benefits with Anonymous Exams was that the numbers of paper forms in the process would decrease. The papers being handled and passed on manually from one stakeholder to another had decreased, but the numbers of paper generated and stored for back-up purposes had increased. In total, the new procedures had resulted in that the number of papers had increased (at least centrally). On a more positive note, however, another consequence of Anonymous Exams was that all registers related to written examination had been reviewed and ‘cleaned up’. Several catalogues had been restructured in order to enable the integration of systems. In addition, the wireless network (WLAN) at the university had been extended in order for the Examination Administration System to work on the PDAs; the fact that the wireless
network was not powerful enough when Anonymous Exams was first developed meant that it had to be extended at the whole university. As a result, the wireless network worked much better than prior to Anonymous Exams, something that all employees and students could benefit from in their work.

During the interviews, the group members reported that the AE-project had been hard and stressful work. The project required more time and resources than they had anticipated and several of the group members had to sacrifice their own time to complete tasks for the project. The project leader reported that shortly prior to the launch of Anonymous Exams s/he had hesitated whether or not they could go ahead with Anonymous Exams, or if they had to extend the deadline once more. The project leader’s report testifies of a stressful time characterized by nerves and anxieties for the project group members. Nevertheless, the atmosphere in the project seemed to have been positive. The project group members who took care of the daily operations of the project seemed to have gotten along and enjoyed working together. When interviewed a year after the implementation of Anonymous Exams, the reports of the project were mostly positive.

When asked about their overall view on Anonymous Exams, and what they were most content with, some of the responses of the project members reflected their respective work and responsibilities at the university to some extent. For example, being responsible for the local Ladok system at the university, the project owner emphasized that s/he was most content with the link between the Exam Marking System and the national Ladok system. The system developer was most content with the fact that Anonymous Exams worked (technically). The system developer also emphasized the increased security and speed of the examination process as something s/he was particularly happy about. The system developer reported that s/he had heard that the experience from other universities using anonymity was that the processes usually slowed down when the students were anonymous; at this university, the processes were faster with anonymity. In addition, s/he was pleased that many of the unofficial bonus systems had disappeared, or had become official (and traceable) parts of the examination. The examination supervisor representative was very content with the way the Examination Administration System in the PDAs turned out and that s/he had managed to get all examination supervisors to learn how to use it; and to accept it.

The project leader and system maintenance representatives had a broader take on Anonymous Exams when asked about their overall view of the result. The project leader was particularly content with the fact that they had managed to build an integration of dispersed parts of the organization; a process in which different people interacted across organizational borders. The system maintenance representatives’ response when asked what they were most content with regarding Anonymous Exams was “The result! We made it…” [Interview, System maintenance representatives 1&2, 2009]. They were also happy
about the response from the examination supervisors and the students; they believed that the examination supervisors had been boosted in their roles. They were also happy that they had been able to capture and take into account comments and suggestions expressed by examination supervisors in the development of the Examination Administration System; and that they had been able to implement many of these suggestions.

9.2. **Responses and experiences expressed by the other stakeholders**

This section gives an account of other stakeholders’ responses to and experiences of Anonymous Exams. The following stakeholders are covered; 1) the students, 2) the teachers, 3) the course administrators, and 4) the examination supervisors.

9.2.1. **The students’ view on Anonymous Exams**

Questionnaire data supplied by the Exam Services unit indicated that the students were very satisfied with being anonymous and the new procedures during the exam event; a majority (65%) of the responding students stated that anonymity during the examination was considered as important or very important. When asked about their interaction with the Student Portal (registering for examination), 85% of the responding students stated that it was very easy or easy to register for an exam. The students were also content with the procedures during the actual examination brought about by Anonymous Exams; i.e. the entrance procedures (scanning the Student Identity Card to see that the student is at the right place, at the right time); the identity control and attendance registration (scanning the Student Identity Card once the student is seated to register the student’s attendance to the examination, and to supply the student with her/his AID); and the handing in of exams (scanning the student’s Student Identity Card once more when s/he is handing in the exam in order to achieve a correct protocol of exams handed in for marking). Even the new harsher rules for students, implemented concurrently with Anonymous Exams, were highly appreciated by (approx. 45% of) the students (25% of the responding students had no opinion about the rules).

An interview with a representative of the student union supported this picture as this person was content with Anonymous Exams and had not yet received any negative reports from students regarding the anonymity. The complaints concerning written examinations regarded issues such as teachers overrunning their marking time or different marks being given for similar responds on a particular question.

An interesting consequence of Anonymous Exams for students was that the anonymity entailed that there were no possibilities for special treatment. This was, of course, the whole point of Anonymous Exams, but the discourse preceding Anonymous Exams was focused on the principle of equal treatment for all, i.e. not being judged based on attributes such gender, age, and ethnicity. Nobody actually knew if this was an existing problem at the university, the issue was a matter of principle and precaution. A related
issue that was not part of the discourse, but did exist at the university, was that teachers often were making exceptions to the rules for students who needed the examination process to speed up. For example, when students needed faster registration of their results in order for them to get their results registered in time to receive student loans. This behavior could, indeed, be troublesome in terms of legal certainty in the examination process, but for most students and teachers this was seen as a matter of goodwill. The implementation of Anonymous Exams meant that this ‘positive discrimination’ was prevented as well. Some students had tried to bypass the process by revealing their AIDs and asked to have their results treated faster than the other students. This was however not possible, since all results had to be reported in the Exam Marking System in order to submit the results to Ladok. This behavior displayed by the students was however an indication of that not all students cared for and benefited from the anonymity.

9.2.2. The teachers’ view on Anonymous Exams
A year after the implementation of Anonymous Exams I conducted interviews with 1) the teacher who had been a teacher representative in the reference group, and 2) one of the teachers who had strongly opposed to Anonymous Exams during the development phase. According to the first teacher, not much had changed in the work procedures related to exams since the implementation of Anonymous Exams. As this teacher put it, what was previously done on paper, was now done in the Exam Marking System. The teacher considered the Exam Marking System to be an appreciated tool in the marking process; now all attending students were registered directly in the Exam Marking System, and were automatically displayed in the Grading Protocol, which made it much easier to register the results. In addition, less paperwork was needed.

In addition to the description of this teacher, I wanted to revisit the teacher who had strongly opposed Anonymous Exams during the development phase (and was interviewed in the analysis and design phase of Anonymous Exams). Surprisingly, this person did not remember being interviewed one year previously, nor did s/he remember that s/he had co-authored a formal complaint against Anonymous Exams. As a matter of fact, this teacher reported that s/he did not even use written examination and was not affected by Anonymous Exams. My conclusion is that this teacher’s previous concern for Anonymous Exams was a matter of principle, rather than a concern about something that would actually affect this person’s actual work. When Anonymous Exams was implemented, this teacher did not notice the changes since s/he did not use written examination, and hence, the concerns regarding Anonymous Exams ceased.

During the evaluation meetings, some teachers reported that they liked the Exam Marking System so much that they had started to create their own protocols in the Exam Marking System in order to administer other forms of examination. An additional consequence of Anonymous Exams was that many teachers had had to review the design of their courses and forms of examination. Some teachers had appreciated this work, others not. Not all
teachers were positive towards the Exam Marking System and Anonymous Exams as a whole. One teacher expressed that Anonymous Exams was “a solution to a non-existing problem”. [Evaluation meeting, Teacher, 2009]. Others were very discontent with the user interface of the Exam Marking System. Some teachers did not use the Exam Marking System, but had handed this task over to course administrators.

Soon after the implementation, the system developer found out that a number of teachers had reported null-results in the AE Portal in order to reveal the students’ identities before registering the actual result; as mentioned previously. This was perceived as a serious violation of the students’ right to anonymity and caused the AE-project group members to track down these teachers in order to explain the correct procedures. During the data collection, I heard a teacher report that s/he had not known that there was something wrong with these actions. The teacher had used a bonus-based system for grading the students, and the new system did not allow for the intended reporting of results. Hence, the teacher had a practical problem that s/he had tried to solve by reporting the results the way s/he had done. The teacher had not received any training on how to use the system and there were no instructions available. Interestingly, from the AE-project group’s view, this was perceived as ill-willed and deliberate behavior; they seemed to fail to see the link between these behaviors and the absence of training/instructions for teachers.

9.2.3. The course administrators’ view on Anonymous Exams

This section is based on a meeting with course administrators at one of the departments at the university (see section 7.3.3 for details). In order to get a richer picture of the work situation of the course administrators I contacted the administrative chief at one of the departments at the university. I told this person that I wanted to interview some course administrators about Anonymous Exams. Based on this inquiry, the administrative chief invited me to a meeting for all administrative personnel at the department. The main motive for inviting me to this meeting was to encourage a discussion amongst the course administrators at the department concerning how they should organize their work concerning written examination. Based on such a discussion, the administrative chief hoped that the employees would become inspired to learn from each other. During the meeting I understood why the administrative chief nurtured such hopes; it seemed as if there were many conflicts within this group of employees, some of which related to Anonymous Exams. The group did not seem particularly interested in agreeing on a shared way of working; rather, I got the impression that many of the participants reported on their work procedures with the purpose of convincing others that their way of working was the preferable one. In addition, it was hard to motivate all participants to take part of the discussion. The discussion that did occur during the meeting focused on the following five themes; 1) not having a manual for the Exam Marking System, 2) usability issues with the Exam Marking System, 3) disagreement concerning who should be the user of the Exam Marking System, 4) the stressful situation in the student office,
and 5) not knowing whom to turn to with questions regarding Anonymous Exams. The first two issues correspond with the problems already discussed above, namely that the absence of written instructions on how to use the Exam Marking System was perceived as problematic, and that the user interface of the system left much to be desired. In addition, they reported that there were sometimes technical problems with the Exam Marking System; e.g. that the users get logged out during the filling in of results in the Grading Protocol. Below, the remaining three themes are presented.

**Disagreement about who should use the Exam Marking System**

Only half of the course administrators participating in the meeting said that their teachers used the Grading Protocols generated through the Exam Marking System to report the examination results. For those course administrators whose teachers were using the Exam Marking System, work had become easier. One person reported that she had told “her” teachers that they had to use the system themselves, and that her work had become less stressful since the teachers had started reporting the examination results themselves. Most of the course administrators stated that they reported the examination results for their respective teachers. For some of these course administrators, the workload had increased as a result of Anonymous Exams.

The course administrators who stated that they reported the results in the Exam Marking System received the results from the teacher in different ways; e.g. on paper notes or on the physical exams (on which the result is written on the cover). Regardless of how the course administrators were given the results, a positive consequence of Anonymous Exams was that they did not have to fill in the social security number for each student, as the AIDs were generated in the Grading Protocol by the Exam Marking System. Some of the course administrators described that they generated Grading Protocols from the Exam Marking System, which they converted to Microsoft Excel format. The excel file was then e-mailed to the teacher, who filled in the students’ results in the excel sheet and then e-mailed the file back to the course administrator, who exported the excel-file back into the Exam Marking System. If the teacher made changes in the file, such as the number of cells or columns, the exportation often failed and the course administrator had to spend extra time tracing the source of the error and correcting it. This division of labor is interesting, and troublesome, for several reasons. First, it seems as if these individuals were continuing their work as before, except that the course administrator was no longer reporting the results in the Ladok system, but in the Exam Marking System. This however adds a step to the examination process designed by the AE-project group. When the teacher spends time filling in an excel-sheet, s/he might as well have registered the results directly in the web-based Grading Protocol (which resembles an excel sheet and requires the same amount of time to be filled in). Not only does it increase the time spent on the examination process when two people are registering the same results, but it undermines the transparency and legal certainty of the process; when several persons are handling the reporting of results and files are sent back and forth, the risk of mistakes being made
surely increases. This kind of sub-optimization seems to be symptomatic for some relationships between teachers and course administrators. Some of these course administrators reported that they wanted to perform this extra work, whereas others were stressed because they were asked to report the results instead of the teachers. The latter wanted the top-management of the department to make a formal statement that teachers should do their own reporting in the Exam Marking System. After the meeting, a person came up to me and reported that s/he has received complaints from other course administrators for not reporting the examination results for the teachers. This particular course administrator believed that those angry with her/him were afraid that they would lose their assignments if they handed this task over to the teachers.

The meeting with the course administrators made it clear that there existed various views on what a course administrator’s tasks included. My interpretation of the course administrators’ situation includes that the course administrators had different views on their role at the department; some saw themselves as equals to the teachers and other personnel, whereas others indicated a subordinate role in relation to the teachers. The first group seemed more prone to take action on their own initiative and put demands on their colleagues, perhaps seeing how they contributed with important work to the ‘larger picture’. Perhaps this interpretation can explain what caused some course administrators to ‘serve’ teachers, and others to ‘force’ teachers to do the registering of results themselves.

Stressful work situation at the student offices when handing out exams

Concerning the last part of the process, when the course administrators hand out the marked exams to the students at the student offices, the course administrators complained of a more stressful work environment. First of all, they complained that the students did not know their AIDs when they came to collect their exams. A large part of their work at the student office involved searching for the students’ AIDs on various paper lists, instead of just collecting and handing out the exams. At this particular student office, there were two self-service computers with which the students could retrieve their AIDs. The program constructed to retrieve the AIDs was designed in a way that required log in. It was however not the students, but the course administrators who had to log in to the system. In spite of written instructions to the students not to log out of the system, posted next to the self-service computers, the students had a habit of logging out of the system when they had retrieved their AIDs. This meant that the course administrators had to spend time going back and forth to the computers to log in to the system in order for the students to gain access to their AIDs. When asked if this was the only way that the students could find out their AID (if they have failed to write it down on the day of the examination), the course administrators did not know the answer. After the meeting, I contacted the system developer who confirmed that this was the only way the students could retrieve their AIDs, apart from the paper lists. After the meeting I was told by the administrative chief that s/he had contacted the project owner of the AE-project and
asked for help resolving this problem. The project owner had responded that this was a non-problem when looking at the university at large, and that the project owner did not intend to do something about it. Despite continuous problems at the student office, the administrative chief reported that s/he did not “cope” to contact the project owner again, but that s/he very much liked for the project owner to come and visit them at the student office during the busiest hours, so that the project owner could see the problem with own eyes. No such invitation seems to have been made, however; this problem was therefore seen as likely to proceed.

**The course administrators did not know whom to turn to regarding Anonymous Exams**

It became obvious at the meeting with the course administrators that hardly anyone knew to whom they could turn when there were issues/problems related to Anonymous Exams. There was one particular course administrator who knew more about Anonymous Exams than the others, and many of the course administrators at the department reported that they turned to this person when they had questions or problems related to the technical parts of Anonymous Exams. Interestingly, this person turned out to be personally related to one of the system maintenance representatives in the AE-project group. Some persons mentioned this system maintenance representative as a possible contact person, but only one knew of the system developer in the AE-project group. The person who knew that the system developer was the responsible person for the Exam Marking System was a course administrator who had been part of the reference group. From these statements, it is obvious that information about Anonymous Exams had not quite reached this stakeholder group.

### 9.2.4. The examination supervisors’ view on Anonymous Exams

In a questionnaire sent out to the examination supervisors at the university (see section 7.3.3 and Appendix B for details), a majority responded that the PDAs (and hence also the Examination Administration System) was an invaluable tool in their work and that they could not imagine going back to the old ways of working. Some individuals reported that they had been skeptical towards the Examination Administration System and the PDAs initially, but that they only had positive associations with the system now. The examination supervisors were very content with the training they had received on how to use the system and considered the Examination Administration System to be easy to learn and use. When asked to write freely about their views on the Examination Administration System and the use of the PDAs, all respondents emphasized that the technology functioned as a useful tool in their work. Adjectives such as *fast, smooth, supportive, easy to work with, professional, modern, and good* were used to describe the system. Several respondents also reported that their work had become *less stressful, safer and more trustworthy*. Interestingly, the respondents reported that their work required more *accuracy and thoroughness* after the implementation of Anonymous Exams.
The main advantage with the new ways of working was that the entrance procedures had become less troublesome when using the PDAs and the Examination Administration System. In the Examination Administration System, the exam supervisor could see information about each student when scanning their Student Identity Cards. Based on this information, the entrance procedure was now faster and easier than before; paper lists of the expected participants was no longer needed, and an audio signal from the PDA told the supervisor if the student was expected to participate and if s/he was at the right place;

- if the student was not expected to participate (i.e. was not registered for the examination), this became known already at the entrance – the student was then asked to wait 30 minutes before entering the room.
- if the student was at the wrong place, the supervisor could see where the student was supposed to be and direct her/him to the right place.

Some respondents also saw positive changes in the students’ behaviors as a result of Anonymous Exams; e.g., one respondent reported that “Previously, unregistered students tried to sneak in the room or obstinately tried to maintain that they had registered for the exam even though they were not on the registration list. This behavior has ceased.” [Questionnaire response, examination supervisor, 2010].

There were few negative comments concerning Anonymous Exams, and most of these concerned the amount of time needed 1) to prepare for the examination (loading and syncing the PDAs against the Exam Registration System), and 2) to conduct the attendance registration, during which the AIDs are handed out. The remaining negative comments focused on technical problems that had forced them to cancel the anonymity during examinations. A frequently mentioned problem was that the PDAs failed to connect to the wireless network, and hence could not be synced against the support systems. Sometimes this happened in the middle of the examination, i.e. that the PDAs suddenly lost contact with the network, although it had worked earlier during the day. Another reported problem concerned PDAs suddenly shutting down, sometimes due to insufficiently loaded batteries. When asked how technical problems were usually resolved, two responses were dominating the answers; 1) cancelling the anonymity4, or 2) calling the examination supervisor representative in the AE-project group. Apparently, not only did the examination supervisor representative educate the examination supervisors on how to use the system, s/he also functioned as technical support during the days of examination.

The overall view on the examination supervisors’ perception of Anonymous Exams is that they were very content with the ways in which it had all turned out. One

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4 According to the system developer, the anonymity was cancelled approx. five times during the implementation phase, predominantly because of breakdowns in the WLAN connection for the PDAs.
questionnaire respondent wrote that “It’s fun, you feel more engaged, a few more tasks, also good for the students” [Questionnaire response, examination supervisor, 2010]. Another respondent wrote that “They [the students] probably didn’t expect that an ‘exam lady’ would be able to handle a palm. We sort of have more authority now” and “Now when I know the routines I believe that the work is easy, I feel ‘modern’, somehow.” [Questionnaire response, examination supervisor, 2010].

As stated previously, the examination supervisors had a close relationship with AE-project group members and were able to influence the design of the Examination Administration System a great deal. A year after the implementation of Anonymous Exams, several of the members of the AE-project reported that the examination supervisors had started to relax and thus had started to make sloppy mistakes when writing down the AIDs. The examination supervisor representative in the AE-project group even stated that the Examination Administration System must not become too easy for the examination supervisors to interact with; there had to be some resistance in order for the examination supervisors to keep their focus.

9.3. Structured analysis of phase II of the Anonymous Exams case study using the provisional conceptual framework

In this section, the implementation and use phase of Anonymous Exams, as accounted for above, is further analyzed and discussed using the provisional conceptual framework presented in chapter 6. In order to avoid reiterations of the analysis presented in chapter 8, the analysis presented here focuses on the unique circumstances of this particular time period, and contrasts in relation to the previous time period.

9.3.1. Characterization of the public e-service

As stated in the previous analysis chapter, Anonymous Exams is considered to be a public e-service made up by work processes and three internet-based systems; (1) the internet-based Student Portal5 used by the students; (2) the internet-based Examination Administration System used by the examination supervisors to administer the examinations (in the PDAs); and (3) the internet-based Exam Marking System used by the teachers and course administrators to administer the grading of the exams. An overview of the technical systems making up Anonymous Exams, their users, and user experiences is presented in Figure 9.2. The general design of Anonymous Exams during this particular time period does not differ from the description given in the previous chapter (Table 8.2 and Figure 8.2); the overall service objective, the service process, its goals, and technical systems are the same. How it corresponds with the e-government objectives and the e-service characteristics are also the same as previously described (see section 8.3.1). When Anonymous Exams was implemented, the system developer made some changes to the systems. The changes made to the Student Portal in order to be

5 Here, only the parts of the student portal relating to Anonymous Exams are referred to. The student portal is a large system encompassing a large number of other services to students.
integrated with the other systems used for Anonymous Exams were however not visible for the users (the students). The functionality allowing students to register for exams was considered to be very easy to use. The Examination Administration System was changed considerably during the implementation and first period of use, but merely on the interface level (e.g., fonts and colors). This sub-system of Anonymous Exams was very appreciated by its users, who thought that it was easy to learn and use, and that it provided an important tool in their work.

The Exam Marking System, however, is not as easily described. The system developer made some changes to the user interface after the system was implemented as a response to criticism from its users. Some users liked the system as they saw it as an important tool in their work; others thought that the Exam Marking System was unnecessary and did not want to use it. An interesting feature of the Exam Marking System regards its compulsory nature. It turns out that the e-service is compulsory to use in order to report students’ examination results to the Ladok system. It is however not compulsory for a particular

Figure 9.2: An overview of the systems making up Anonymous Exams; illustrating the users, and the users’ experiences of the systems.
type of user (like the Student Portal and the Examination Administration System). It could be stated that the system ‘should’ be compulsory for teachers to use in order to streamline the examination process. But the possibility for course administrators to be users has been built into the system, meaning that teachers who do not wish to use the system can delegate this task to a course administrator. This means that there are non-users of the system; people who could use the system (some even should use the system), but refrain from doing so. In the teachers’ case, non-use implies that a course administrator needs to do this task, thus pushing this person into becoming a user of the system. In some cases, the initiative for this constellation of roles came from the course administrator, who wanted to be the user of the system. However, as described in section 9.2.3 above, some course administrators refused to take on the user role and urged the teachers to use the system themselves.

9.3.2. Identifying and characterizing stakeholders

In this section, the potential stakeholders are discussed, as derived from the characteristics of Anonymous Exams when understood as a public e-service. Then, these stakeholders are characterized and discussed further in order to assess and map their salience in relation to Anonymous Exams during this particular phase. As stated previously, the analysis in this chapter focuses on the differences between the two phases of Anonymous Exams; the discussion therefore contains several references to the previous chapter (chapter 8).

Identifying potential stakeholders

The potential stakeholders identified, in relation to the implementation and use of Anonymous Exams, are more or less the same as those identified in relation to the previous phase (discussed in the previous chapter). There are however three deviations that are discussed here. The first deviation between the two phases is that the system maintenance representatives in the AE-project group are now treated as two separate stakeholders (in contrast to being treated as a pair of individuals classified as one stakeholder). This is due to that the interview conducted during the post-implementation phase revealed that these persons worked less closely together than I had first understood (as discussed in section 7.3.2).

The second difference concerns the champion(s) role (Heeks, 2006) in relation to Anonymous Exams. In the analysis and design phase, six champions were identified (see section 8.3.2 in the previous chapter). During the implementation and use phase, only four of these remain. First and foremost, the project leader was an obvious champion of Anonymous Exams; during this time period the project leader worked hard to realize the implementation of Anonymous Exams. After the implementation, the project leader participated in the evaluation of Anonymous Exams. Similarly, one of the two system maintenance representatives, the examination supervisor representative, and the system developer, taking part of the AE-project group, were particularly engaged with
Anonymous Exams during this phase. It is possible that there were ‘local’ champions at the departments who tried to promote Anonymous Exams, e.g. the former members of the reference group. I was however not able to cover such champions in the data collection. The stakeholders who were no longer classified as champions of Anonymous Exams were the student unions, who now saw Anonymous Exams as a finalized mission, and the teacher representative in the reference group, who was now classified as belonging to the ‘other’ category.

Table 9.2: Stakeholder roles and entities during the implementation and use phase of Anonymous Exams.

<table>
<thead>
<tr>
<th>Stakeholder roles</th>
<th>Who affect or are affected by the public e-service?</th>
<th>E-government entity (sub-category)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project manager/team</td>
<td>The AE-project owner</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>The AE-project leader</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>The system developer</td>
<td>Management /Service provider</td>
</tr>
<tr>
<td></td>
<td>Examination administration representative</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>Examination supervisor representative</td>
<td>Management /Service provider</td>
</tr>
<tr>
<td></td>
<td>System maintenance representative (1)</td>
<td>Management /Service providers</td>
</tr>
<tr>
<td></td>
<td>System maintenance representative (2)</td>
<td>Management</td>
</tr>
<tr>
<td>Supplier</td>
<td>The IT-unit at the university, represented by the system developer in the AE-project group.</td>
<td>Service provider</td>
</tr>
<tr>
<td></td>
<td>The IT Consultant</td>
<td>Consultant</td>
</tr>
<tr>
<td></td>
<td>The Exam Services unit, represented by the exam.adm.rep (see project group).</td>
<td>Management</td>
</tr>
<tr>
<td>Operators</td>
<td>The IT-unit, represented by the system developer in the AE-project group.</td>
<td>Service provider</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>Users</td>
</tr>
<tr>
<td></td>
<td>Examination Supervisors</td>
<td>Service provider</td>
</tr>
<tr>
<td></td>
<td>Course administrators</td>
<td>Service provider</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>Service provider</td>
</tr>
<tr>
<td>Client(s)</td>
<td>Students</td>
<td>User</td>
</tr>
<tr>
<td></td>
<td>Teachers</td>
<td>User</td>
</tr>
<tr>
<td></td>
<td>Course administrators</td>
<td>User</td>
</tr>
<tr>
<td></td>
<td>Examination Supervisors</td>
<td>User</td>
</tr>
<tr>
<td>Champion(s)</td>
<td>The AE-project leader</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>The system developer</td>
<td>Management; Service provider</td>
</tr>
<tr>
<td></td>
<td>System maintenance representative (1)</td>
<td>Management; Service providers</td>
</tr>
<tr>
<td></td>
<td>The examination supervisor representative</td>
<td>Management; Service provider</td>
</tr>
<tr>
<td>Sponsor(s)</td>
<td>The vice-chancellor</td>
<td>Decision maker</td>
</tr>
<tr>
<td></td>
<td>The AE-project owner</td>
<td>Management</td>
</tr>
<tr>
<td>Owner</td>
<td>The Exam Services unit, represented by the exam.adm.rep (see project group).</td>
<td>Management</td>
</tr>
<tr>
<td>Other</td>
<td>The teacher in the reference group</td>
<td>Engaged user; Service provider</td>
</tr>
<tr>
<td></td>
<td>The course administrator who was personally related to the system maintenance representative (1)</td>
<td>Engaged user; Service provider</td>
</tr>
</tbody>
</table>

The third deviation from the previous classification of potential stakeholders therefore concerns the other category (Heeks, 2006). The teacher who was a member of the
reference group seems to fit well into this category. The reference group was not mentioned during this phase since it had dissolved sometime before the implementation of Anonymous Exams. It is however unclear exactly when it was dissolved. Nevertheless, the project leader mentioned that this particular teacher had contacted them after the implementation of Anonymous Exams and supplied them with suggestions on how to improve the Exam Marking System. These suggestions were implemented in the system, indicating that this teacher still was an influential person in relation to Anonymous Exams. Furthermore, the course administrator functioning as a link between the course administrators and the AE-project group (through this person’s personal relationship with the system maintenance representative (1)) can be placed in this category of stakeholders. The stakeholders mentioned in this category can be understood both as service providers and engaged users (Axelsson et al., 2013).

**Stakeholder identification and characterization**

If we take the content in Table 9.2 above and turn it around to focus on the actual persons involved with Anonymous Exams, the stakeholders can be organized as in Table 9.3 below. Once again, the stakeholders marked with grey color were not sufficiently covered in the data collection of the case study.

**Table 9.3: Stakeholders organized based on the actual persons involved.**

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>The AE-project group</td>
<td></td>
</tr>
<tr>
<td>• The project owner</td>
<td>Project team; Sponsor, (management)</td>
</tr>
<tr>
<td>• The project leader</td>
<td>Project team; Champion (management)</td>
</tr>
<tr>
<td>• System developer</td>
<td>Project team; Supplier, Operator; Champion (management; service provider)</td>
</tr>
<tr>
<td>• Examination administration rep.</td>
<td>Project team; Owner (management)</td>
</tr>
<tr>
<td>• Examination supervisor rep.</td>
<td>Project team; Champion (management); As an examination supervisor also a Client and Operator (service provider).</td>
</tr>
<tr>
<td>• System maintenance rep (1)</td>
<td>Project team; Champions (management; service provider)</td>
</tr>
<tr>
<td>• System maintenance rep (2)</td>
<td>Project team (management)</td>
</tr>
<tr>
<td>Students</td>
<td></td>
</tr>
<tr>
<td>• Students</td>
<td>Clients; Operators (users)</td>
</tr>
<tr>
<td>• The student unions</td>
<td>Champions (engaged users)</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
</tr>
<tr>
<td>• The teacher in the reference group</td>
<td>Other (engaged user); As a teacher also Client; Operator (user; service provider)</td>
</tr>
<tr>
<td>Course administrators</td>
<td></td>
</tr>
<tr>
<td>• Course administrators (in general)</td>
<td>Clients; Operators (users; service providers)</td>
</tr>
<tr>
<td>• Course administrator (related to system maintenance rep. 1)</td>
<td>Other (service provider); As a course administrator also Client; Operator (user; service provider)</td>
</tr>
<tr>
<td>Examination supervisors</td>
<td>Clients; Operators (user; service providers)</td>
</tr>
<tr>
<td>The Exam Services unit</td>
<td>Supplier; Owner (management)</td>
</tr>
<tr>
<td>The IT-unit</td>
<td>Supplier, Operator (service provider)</td>
</tr>
<tr>
<td>The IT-consultant</td>
<td>Supplier (consultant)</td>
</tr>
<tr>
<td>The vice-chancellor</td>
<td>Sponsor (decision maker)</td>
</tr>
</tbody>
</table>
All, but the course administrator related to the system maintenance representative (1), were identified and discussed in the previous analysis chapter (see discussion in section 8.3.2). This particular course administrator, however, was mentioned by the course administrators at one of the departments at the university as an important person in relation to Anonymous Exams. This stakeholder was described as a person with considerable knowledge about Anonymous Exams and personal connections to the project group, which made this person an important mediator of information. At the time of the interview, I however failed to appreciate this person’s role and recognize this person as a potential stakeholder.

Based on the thick description of this phase of Anonymous Exams, there is information available to conduct a further stakeholder characterization analysis on the following twelve stakeholders:

- The AE-project owner
- The AE-project leader
- The system developer
- The system maintenance representative 1
- The system maintenance representative 2
- The examination supervisor representative
- The examination supervisors
- Teachers
- The teacher representative in the reference group
- The course administrators
- Students
- The student unions

For each stakeholder above, stakeholder characteristics were assessed based on the questions posed by the framework. These analyses are presented in tables in Appendix F. As mentioned in the previous chapter, the tables are not inserted in the following discussion as they would obstruct the flow of the text due to their size.

**Stakeholder characteristics overview and discussion**

The following section presents the stakeholder characteristics resulting from the analysis presented in the stakeholder characteristics tables in Appendix F. The content of the tables have been taken from the account of Anonymous Exams given above, meaning that these tables have functioned as a way to further structure and prioritize the data presented above. Each stakeholder’s salience has been assessed on the same ground as the ones presented in the previous chapter (see section 8.3.2 for details)
Similarly to the previous analysis chapter, the stakeholder characteristics analysis showed that most of the stakeholders identified belonged to one of two stakeholder types; they were either definite or dependent stakeholders. All stakeholders belonging to the AE-project group were assessed as having all three salience attributes; power, legitimacy and urgency. A majority of the other stakeholders were characterized as having legitimate claims on Anonymous Exams and a feeling of urgency related to Anonymous Exams, they however lacked enough power to affect the design of Anonymous Exams other than through trying to influence the definite stakeholders with their ideas.

In Figure 9.3, the salience of the stakeholders identified is mapped. The project owner was characterized as a definite stakeholder. During the analysis and design phase the project owner seemed to lack some of the urgency displayed by the other project members. During the implementation phase, however, the project owner was a highly involved stakeholder. The remaining stakeholders who were part of the AE-project group were all characterized as definite stakeholders. Several of the stakeholders belonging to the AE-project group were particularly engaged with the project and these were characterized as being champions for the project, meaning that they drove the project on. Apart from having a formal responsibility for the implementation of Anonymous Exams, several of these stakeholders also had an interest in the outcome of the project in their roles as service providers. Beside their work in the AE-project, these stakeholders held service provider positions at the university and in those positions they worked closely to the systems part of Anonymous Exams. Three members of the AE-project group stood out during the implementation phase; the system developer, one of the system maintenance representatives (1), and the examination supervisor representative. The system developer still maintained a multitude of roles in relation to Anonymous Exams, making this person a very salient stakeholder. Similarly, one of the system maintenance representatives (1) was more salient than the other, as this person organized the evaluation meetings and functioned as a contact person, formally and informally, for many employees at the university during and after the implementation of Anonymous Exams. Last, the examination supervisor representative in the project group seemed to fully combine the two different roles of being both a member of the AE-project group and being an examination supervisor. The examination supervisor representative functioned as a mediator of information in both directions and was a very salient stakeholder also during this time period.

The teachers at the university, as a general group, were categorized as a dependent stakeholder. Again, this group had little power to affect Anonymous Exams and was dependent on other stakeholders’ to carry out their will. This was not a homogeneous group regarding their stance towards Anonymous Exams, but when considered as a collective, the teachers held legitimate claims and experience a feeling of urgency regarding Anonymous Exams. It is likely that some teachers had more power than others,

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6 The project leader, the system developer, one of the system maintenance representatives (1), and the examination supervisor representative.
for example the teacher representative who used to be part of the reference group was characterized as a dependent stakeholder, bordering to a definite stakeholder. It was reported how the teacher representative contacted the AE-project group with suggestions on the design of the Exam Marking System that were realized immediately. Like any teacher, this is a stakeholder with a strong feeling of having urgent and legitimate claims concerning Anonymous Exams. This particular teacher’s ability to affect the design of Anonymous Exams however testifies of more (informal) power and for this reason, s/he was characterized as bordering to being a definite stakeholder. It is possible that there were more such teachers in the organization that did not end up on my radar.

Figure 9.3: Salience of the stakeholders affecting/affected by Anonymous Exams.

The characterizations of the examination supervisors did not change across the two phases. In contrast, the course administrators, was characterized as being a demanding stakeholder (previously, these were characterized as being a dependent stakeholder). This stakeholder had a strong feeling of urgency in relation to Anonymous Exams, especially in relation to the e-service directed towards teachers. Their reports on not being able to affect the
design of the Exam Marking System, nor being offered training or information regarding how to use it, testifies of low levels of power and legitimacy (from other stakeholders’ perspective). Some course administrators even stated that the reporting of results in the Exam Marking System was not supposed to be part of their work tasks, implying that they were not legitimate users of the system. In addition, this group appears to have been given the least attention from the AE-project group.

The students in general were categorized as a discretionary stakeholder as they possess the attribute of legitimacy; Anonymous Exams was initiated for the students and, hence, students are seen by the other stakeholders to hold legitimate claims on Anonymous Exams. However, regular students had no possibility to affect the outcome of Anonymous Exams other than through the student unions. In addition, the students in general did not seem to have urgent claims on Anonymous Exams. In turn, the student unions were categorized as a non-stakeholder during this phase. As soon as Anonymous Exams was implemented, their mission was accomplished and they did no longer have the power or interest to influence Anonymous Exams, nor legitimate or urgent claims regarding Anonymous Exams.

In Figure 9.3, the six stakeholders that could not be covered in the characterization analysis have also been mapped. Considering that these were not covered in the data collection, this mapping is based on secondary data. The examination administration representative was categorized as a definite stakeholder in line with the categorization of the colleagues in the AE-project group. The vice-chancellor was mapped as a dormant stakeholder, possessing only power. Similarly, the IT-unit can be perceived as having power, but by not having a legitimate relationship or an urgent claim on Anonymous Exams, its power remains unused. The course administrator representative who seemed to function as a bridge over to the AE-project group, through the kinship with one of the system maintenance representatives (1), was categorized as a dependent stakeholder, since this person seemed to be considered to have slightly more legitimacy than the other stakeholders through the characteristics of being an engaged user. Similarly, the Exam Services unit was categorized as a dependent stakeholder.

The IT-consultant mentioned in the account given above was categorized as a non-stakeholder.

This chapter has presented my interpretations of what happened during the implementation of Anonymous Exams. In the accounts given above, and in the previous chapter, the involvement of stakeholders in the development and implementation of Anonymous Exams has continuously been touched upon, but not thoroughly discussed. In the following chapter, the two phases of Anonymous Exams are discussed in relation to the stakeholders identified and characterized, the stakeholders’ salience, and the involvement of these stakeholders in the development and implementation of Anonymous Exams.
Chapter 10: Lessons Learned from the Anonymous Exams Case Study

10. LESSONS LEARNED FROM THE ANONYMOUS EXAMS CASE STUDY

The previous two chapters discussing Anonymous Exams are full of interesting aspects regarding public e-services, stakeholders, stakeholder involvement, e-government and IS development. In this section, the two phases are considered together, in comparison, and through the lenses provided by the provisional framework, in order to illustrate some findings from the case study. The discussion is structured using three themes (1) the development and implementation of Anonymous Exams; (2) stakeholders of Anonymous Exams; and (3) stakeholder involvement in the AE-project. In relation to each theme, insights from the case study are highlighted. Last, a set of concluding lessons learned are presented.

10.1. The development and implementation of Anonymous Exams

In the previous chapters, the work of developing and implementing Anonymous Exams was broken down into two phases. In this chapter, those two phases of Anonymous Exams are discussed together, and in relation to each other. The following three subsections discuss (1) the AE-project in general, focusing on the work of the project group; (2) some of the public e-service features of Anonymous Exams; and (3) the consequences of Anonymous Exams. Each subsection is concluded with a highlighted finding.

10.1.1. The AE-project and project group

When looking at the AE-project from a project management research perspective, the AE-project appears to be characterized by unclear management and questionable staffing. Several e-government scholars emphasize the importance of project team skills and expertise as success factors in e-government projects (e.g., Gil-García & Pardo, 2005; Melin & Axelsson, 2009). For example, making sure that the project group’s members are well-skilled and are working according to a clear and realistic plan are highlighted as important factors for succeeding with e-government initiatives (Gil-García & Pardo,
Based on the accounts of the AE-project and the project group members presented in the previous chapters, it can indeed be argued that all of these factors were missing in the development and implementation of Anonymous Exams. There are in particular three issues that stand out regarding the management of the AE-project and the characteristics of the AE-project group members. First, the leadership of the project was unclear. There was an appointed project owner who was supposed to lead the project. This particular project group member was however not present in the daily operations of the project, which forced the other members of the group to demand a new head of the project. This demand led to the appointment of the project leader, who in turn had no prior experience of this kind of work (neither project work, nor system development). The project leader was responsible for the operations of the project, but the formal and budgetary responsibility remained with the project owner. Although the project owner had the formal responsibility, the actual leadership (although informally) of the project thus belonged to the project leader.

Second, in addition to an inexperienced project leader, few of the other project group members had prior experience of system development, and had very limited knowledge of the work processes for which the system was developed. The person with most experience of these issues, the examination supervisor representative, therefore became a very important person for the success of the project. This person was highly committed to the AE-project and was one of its premier champions; e.g., this person was the driving force behind the extensive involvement of examination supervisors in the development and implementation of the Examination Administration System. For this reason, it is interesting to note that the recruitment of this particular person to the project group was quite coincidental. This person was asked to be part of the AE-project group based on her/his work as an examination supervisor. The background and project management competence of this person was not known by those who asked this particular examination supervisor to participate in the AE-project. The examination supervisor representative’s skills were known by the others in the project group once this person started working in the AE-project. Considering the end-user focus promoted by this person, and the extensive involvement activities that s/he organized for the examination supervisors, it is likely that the process of developing Anonymous Exams (and the actual outcome) would have looked quite different if this person had not been part of the AE-project group. It is likely that the examination supervisors would not have been involved to the same degree if this person had not been part of the project group.

Third, the project group did not have a clear plan for how to work and what to do. According to the project directives, no estimation of required time and resources had been done in advance. Therefore, the project group did not have a clear picture of how much time and resources were needed to complete the project. The group members continuously had to work overtime and extend their deadlines in order to cope with their
tasks. During the interviews, several of the project group members reported that the AE-project had suffered from poor planning and structure.

Still, the AE-project was perceived as a success by the project group, in terms of the outcome of the AE-project. The members of the AE-project group did succeed with their tasks and the goals of the project. A possible reason for succeeding is perhaps the fact that they worked overtime and sacrificed their own time to the completion of Anonymous Exams. As can be seen in the stakeholder characterization, several group members were characterized as being ‘champions’ (Heeks, 2009); persons who promoted Anonymous Exams and continuously drove the project on. In this case, the link between ‘champion’ and the constellation of e-government entities seems strong. With the exception of the project leader, the AT-project group members who were champions of Anonymous Exams were also categorized as having double e-government entities (Axelsson et al., 2013); being both managers and service providers. This refers to the fact that these project group members not only had management positions in relation to Anonymous Exams, but were also working in positions in which they had a service provider function in relation to some part of Anonymous Exams. This, in turn, means that they were personally concerned about the quality of the system as they would have to work with it (as part of their service provider entity) after the AE-project was over. This is probably not enough to alone explain why these particular stakeholders were the champions of Anonymous Exams, but might be an important part of the explanation, and a clue to why they managed to carry out the project in spite of the aforementioned shortcomings and challenges.

Already in the introductory parts of this thesis, it was stated that the work presented in this thesis was conducted from a project management perspective. Still, the project management was included in the stakeholder identification and characterization analyses in the previous chapters. I have tried to understand Anonymous Exams from several stakeholders’ perspectives, focusing on the perspective of the project management. In order to understand how Anonymous Exams came into being, I however included the people assigned with the formal responsibilities to develop and implement the public e-service in the stakeholder analysis. A conclusion that can be made from the findings of that inclusion is that the staffing of the project group is important to understand in order to see their influence on the final outcome of the public e-service. In addition, for practitioners working with projects of this kind, it is important not to let the staffing of the project group to be left to chance. This conclusion corresponds with previous findings (Axelsson & Melin, 2009; Gil-García & Pardo, 2005; Melin & Axelsson, 2009).

10.1.2. Anonymous Exams as a public e-service

Public e-services can vary in complexity (Lindgren & Jansson, 2013) and a conclusion from the case study in this thesis is that a public e-service might not be what it first appears to be. Anonymous Exams is an instance of a public e-service that, at first sight, is
of concern for two stakeholders; the university and the students. The students want to be anonymous, and the university management responds to this request by implementing Anonymous Exams. This interpretation of Anonymous Exams corresponds with the traditional, service oriented view on public e-services, in which public e-services are seen as something affecting the citizens and the government (cf. Flak and Rose, 2005). But, in order to enable the anonymity for students, the AE-project group chose a solution that included a full integration of all technical systems concerned with examination. The chosen technical solution thereby means that Anonymous Exams can be understood as a compilation of several technical systems and work processes, each with different clients and operators (see Figure 10.1 below). In the figure, the actions performed by the course administrators with access to the Exam Registration System and the Ladok system (called Ladok administrators in the figure) are also mapped. In the characterization of Anonymous Exams as a public e-service, these systems were characterized as support systems with which Anonymous Exams is integrated (see Figure 8.3). The actions performed in the support systems are more or less identical to how the examination process used to look also prior to Anonymous Exams, and the administrators performing these actions are a subset of the course administrators in the examination process.

Figure 10.1: Anonymous Exams; the service process and the mediating technical systems.

Although the three systems have separate user groups, all these users are connected to each other through the use of their respective system. And, they are dependent on each other to some extent. The examination supervisors are dependent on the students to do their part of the process; i.e., to register for the exam prior to the examination day. If all students have registered for the exam before coming to the examination, the work is
much easier for the examination supervisors (and the students). But, not all students use the Student Portal to register for examination; there are non-users (Selwyn, 2003). All students at this particular university have access to computers that are connected to the Internet; the non-users are therefore not persons lacking possibilities to access the technology needed to use the Student Portal. The non-use is hence caused by something else, possibly ignorance of this functionality in the Student Portal; perhaps not all students have understood that they are expected to register to the examination in the Student Portal. Nonetheless, the non-users of the Student Portal complicate the work of the examination supervisors.

The examination supervisors are the only users in the process who cannot refrain from using the technology, except from when the technology fails and the anonymity has to be abandoned.

At the other end of the process – the marking and grading of exams – someone must register the students’ results in a Grading Protocol generated by the Exam Marking System. That someone can be either a teacher or a course administrator. The registration is thus compulsory, but it is not compulsory for a specific individual. The teachers are the intended users of this system, but the individual teacher can decide to sign this task over to a course administrator (after marking and grading the exams). This means that there are non-users (Selwyn, 2003) also of the Exam Marking System. For a compulsory system, non-use implies important consequences. In the case of Anonymous Exams, one stakeholder’s non-use of the Exam Marking System forces another stakeholder to compensate for the non-use by using the system in the first stakeholder’s place. In the context of this thesis, the non-users can hence be understood as persons who are intended users of a particular system, but who, for some reason, refrain from using the system. This can, in turn, lead to a failure to fulfill the service, or force another stakeholder to compensate for the non-use. In the provisional framework in this thesis, different types of users are covered by the e-government entities (Axelsson et al., 2013); that typology does however not allow for this kind of non-users. The non-use phenomenon is not unique for Anonymous Exams. In fact Bratteteig and Verne (2012) illustrate similar problems concerning non-use in relation to e-services for administration of taxes in Norway. A conclusion that can be drawn from this discussion is therefore that non-use must be investigated further and included in the conceptual framework as an e-government entity.

10.1.3. The consequences of Anonymous Exams

The AE-project group’s work was guided by three goals (as discussed in section 8.1.2). The nature and relationship between these goals can be illustrated as in Figure 10.2 below. The main goal of Anonymous Exams was to achieve an unbiased examination for students and teachers. This goal included increased legal certainty in the process and was, in turn, thought to be met by defining and implementing a standardized examination process; this can hence be understood as a prerequisite for the main goal of the project.
The implementation of a technical system that enables anonymity was embedded in both these goals and seen as the means for both standardizing the process and fulfilling the overarching goal of Anonymous Exams. The anticipated effect by meeting both of these goals was to achieve prestige and marketing advantages in relation to new students and other universities.

**Figure 10.2: The goals and intended organizational effects of Anonymous Exams, as expressed by the AE-project group.**

When inspecting the other stakeholders’ views, expectations and experiences of Anonymous Exams, none of the stakeholders were opposed to the superordinate goal to achieve an unbiased examination for students and teachers, although some already saw the process as unbiased and did not see what the difference would be. However, it appears that the AE-project group’s statement that the process *will become* unbiased was interpreted by some stakeholders (subsets of the teachers and course administrators) as an implication that the university management perceived the examination process prior to Anonymous Exams as being biased. This may in turn be an explanation to why some teachers expressed that Anonymous Exams was a manifestation of distrust of the teachers’ competence as fair judges of the students’ abilities. It is clear from the interviews with the student unions and the AE-project group that the teachers were not distrusted; the implementation of Anonymous Exams was a matter of principle, and a precaution against future discrimination charges, rather than the result of actual problems related to the examination process. Perhaps this was not communicated well enough to the teachers and course administrators during the analysis and design phase. When Anonymous Exams had been implemented, the project group members all seemed to consider this goal to be met, there is however no way to determine whether or not the examination process is improved in this regard. This finding can be compared to the difference between actual and perceived information systems security at large, where perceived security seems more important for users of information systems than the actual security (Oscarsson, 2007), which most people find difficult to assess.

Regarding the standardization of the examination process, this mainly involved pushing different groups of employees to use the technical systems to administer information about the students. It turned out during the development of Anonymous Exams that the context and prerequisites for teachers and course administrators were different across disciplines and departments at the university; e.g. particularly concerning the number of students and teachers involved in the examination process. The situation for teachers

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1 There is no “before”-picture against which the Anonymous Exams examination process can be compared in order to determine changes regarding bias in the examination process.
whose examination concerned 20 students differed remarkably from those whose examination concerned several hundred students, and both of these scenarios had to be facilitated by Anonymous Exams (the Exam Marking System). In addition, at some departments one teacher took care of the design, marking, grading, and reporting of exams. At other departments several teachers shared and divided these tasks in various combinations, meaning that several teachers sometimes need access to the same Grading Protocol in the Exam Marking System. In order to enable teachers with different examination circumstances to use the Exam Marking System, some flexibility was built into the system.

A consequence of Anonymous Exams that is related to the standardized and technically supported process concerns the numbers of paper lists output in the examination process. The AE-project group anticipated that they would be able to decrease the number of paper lists used in the process by using a technical system for enabling the anonymity. A year after the implementation of Anonymous Exams it was obvious that this had not happened; instead, some of the previously used lists had merely changed position in the process. Before, there were many paper lists handled locally (e.g., by the examination supervisors and the teachers), and after the implementation of Anonymous Exams these lists were handled centrally instead; e.g. the registers of issued AIDs that must be printed and achieved centrally at the university. Furthermore, the students’ results still needed to be printed on paper and signed locally (by course administrators and teachers) in order for the results to become official. The printed copies of these registers function as legally binding documents and must be archived centrally at the university. The intention to get rid of papers in the process by implementing a technical solution for anonymity was consequently not fulfilled.

As was discussed in the previous chapter, it is not really possible to determine whether the third goal, to gain prestige and marketing advantages, was met. The university managed to be the first university to create a fully integrated and Internet-based solution for anonymity that was linked directly to the national Ladok system. In addition, several universities have been inspired by the solution developed at this particular university, but it is uncertain if the solution has been adopted in its full format by others. Whether or not the implementation of Anonymous Exams has affected the university’s ability to attract new students is impossible to tell, but the AE-project group members seemed to perceive this goal as fulfilled.

In sum, all three goals set up by the project management were met to some extent. Considering the difficulties of implementing information systems in general (cf. Kim & Kankanhalli, 2009; Lyytinen & Robey, 1999; Schmidt et al., 2001), it is not surprising that the consequences of the implementation of the public e-service only in part resulted in the anticipated effects. This case also illustrates how an emergent perspective (Markus & Robey, 1988) on the causal relationship between public e-services and organizational
change is necessary. Considering that the development and implementation of a public e-service is likely to affect technology, work processes, and people in different ways, it is difficult to fully appreciate and predict behaviors and consequences of a particular public e-service prior to the implementation. A conclusion is therefore that the development and implementation of a public e-service is not easily planned, nor executed, and is likely to deviate from the original plan to some extent.

10.2. Stakeholders of Anonymous Exams
In this section, some findings regarding the stakeholders of Anonymous Exams are discussed. These findings regard the identification and characterization of stakeholders in relation to Anonymous Exams, focusing especially on the identification of potential stakeholders, and the mapping of stakeholder relationships. In addition, the fluent nature of stakeholder salience, and managers’ ability to influence stakeholder salience, is illustrated and discussed.

10.2.1. Identifying and characterizing the stakeholders
As illustrated in the two previous chapters, the typologies included in the provisional conceptual framework helped identify a multitude of stakeholders that I had not perceived as stakeholders during the time I conducted the case study. An overview of the stakeholders identified through the application of the framework is given in Table 10.1 below.

Table 10.1: Stakeholders identified in relation to Anonymous Exams by applying the framework to the empirical data.

<table>
<thead>
<tr>
<th>Stakeholders during data collection</th>
<th>Stakeholders analysis and design phase</th>
<th>Stakeholders implementation and use phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project group</td>
<td>Project owner</td>
<td>Project owner</td>
</tr>
<tr>
<td></td>
<td>Project leader</td>
<td>Project leader</td>
</tr>
<tr>
<td></td>
<td>System maintenance rep. (1&amp;2)</td>
<td>System maintenance rep. (1)</td>
</tr>
<tr>
<td></td>
<td>System developer</td>
<td>System maintenance rep. (2)</td>
</tr>
<tr>
<td></td>
<td>Examination supervisor rep. (Examination administration rep.)</td>
<td>System developer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Examination supervisor rep. (Examination administration rep.)</td>
</tr>
<tr>
<td>Students</td>
<td>Student unions</td>
<td>Student unions</td>
</tr>
<tr>
<td></td>
<td>(Regular students)</td>
<td>Regular students</td>
</tr>
<tr>
<td>Teachers</td>
<td>Teachers</td>
<td>Teachers</td>
</tr>
<tr>
<td></td>
<td>Teacher rep. in reference group</td>
<td>Teacher rep. in reference group</td>
</tr>
<tr>
<td>Course administrators</td>
<td>Course administrators</td>
<td>Course administrators</td>
</tr>
<tr>
<td></td>
<td>(Course administrator (specific individual))</td>
<td>(Course administrator (specific individual))</td>
</tr>
<tr>
<td>Examination supervisors</td>
<td>Examination supervisors</td>
<td>Examination supervisors</td>
</tr>
<tr>
<td></td>
<td>(Vice-chancellor)</td>
<td>(Vice-chancellor)</td>
</tr>
<tr>
<td></td>
<td>(IT consultant)</td>
<td>(IT consultant)</td>
</tr>
<tr>
<td></td>
<td>(Managers at departments)</td>
<td>(Managers at departments)</td>
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<td></td>
<td></td>
<td>(The Exam Services unit)</td>
</tr>
</tbody>
</table>

To the very left of the table, the five stakeholder groups that guided the data collection are listed. As it turned out, each of these five groups were later understood as being made up by several different stakeholders. For example, in the first analysis chapter, the project
group was understood as being made up by individual stakeholders; each individual, except for the two system maintenance representatives, were perceived as a stakeholder respectively. During the first phase, the two system maintenance representatives seemed to work very close together and were consequently difficult to separate from each other in the empirical data. In the second analysis chapter, however, these two project members were more easily separated as they seemed to have different functions during the implementation phase. Therefore, the two system maintenance representatives were separated into two stakeholders in the second phase. Although the data collection was guided by a limited understanding of who the stakeholders were, it was easy to divide the general types into more detailed stakeholders in the analysis phase (i.e., in retrospect). I was somewhat surprised, however, of how many stakeholders I had overlooked in the case study (five in each phase; indicated in parenthesis in the table above). The emergence of these stakeholders testifies of one of the strengths of the framework. These additional stakeholders were right under my nose during the case study work, still I did not pay attention to them; I did not perceive them as being important for the outcome of Anonymous Exams at the time. I do not have a good explanation to why this happened and instead of seeing this omission as a weakness in the design and execution of the case study, I perceive it as the framework’s strength; with the use of the framework I did identify these stakeholders. A conclusion is hence that the structured and deliberate search for potential stakeholders using the provisional framework helped to identify stakeholders previously overlooked.

In chapter 4, stakeholder salience attributes, i.e. power, legitimacy, and urgency (Mitchell et al., 1997), were introduced as a way of distinguishing different types of stakeholders. Mitchell et al.’s notion of stakeholder salience is widely adopted in the e-government field (e.g., Kamal et al., 2011; Scholl 2001; 2004). Later, in chapter 6, it was suggested that these attributes can be assessed through an aggregated analysis of a stakeholder’s characteristics. The aggregated analysis should cover the stakeholder’s views, expectations, and perceived need of the public e-service, as well as its relationships with other stakeholders, and the stakeholder’s expected threat or cooperation with the objectives of the public e-service. In relation to Anonymous Exams, much can be said about each and every one of the suggested stakeholder characteristics assessed in the analysis. How to assess these characteristics is discussed in more detail in the next chapter, in which the revised version of the provisional framework is presented. In this chapter, I have chosen to concentrate on the relationships between the stakeholders, as these have not been fully attended to in the previous two chapters.

**Stakeholder relationships**

In his original work from 1984, Freeman argued that stakeholders should be mapped according to their relationships with the firm, and each other. With time, stakeholder maps have come to focus mainly on the relationships between the stakeholders and the focal firm, resulting in star-shaped maps (Flak & Nordheim, 2007). Several scholars, e.g.,
Flak et al. (2007; 2008), have reintroduced Freeman’s original idea and promote more elaborate mappings of stakeholder relationships. As a response to their promotion, I have tried to investigate the relationships between the stakeholders involved in Anonymous Exams.

In Figure 10.3 below, all stakeholders connected to Anonymous Exams are mapped. The stakeholders belonging to the AE-project group are represented within a rectangular shape, representing the boundaries of the project group. The lines between the outer stakeholders should all be understood as being directed mainly inwards, towards the project group. The dots at the endpoints of the lines represent the contact points between the stakeholder and the AE-project group. The inward direction of the lines means that the map resembles a star-shaped stakeholder map, but in contrast to the traditional stakeholder map, it contains connections also between the stakeholders surrounding the focal organization (which in this particular figure refers to the AE-project group).

The relationships between the stakeholders can be differentiated into four different types. Some stakeholders had personal connections with people in the project group, meaning that they had direct access to someone in the group; these stakeholders’ lines are therefore symbolically drawn as ‘entering’ the project group’s sphere (relationships A and B in Figure 10.3). An interesting pattern in the stakeholder relationships characterization is illustrated in Figure 10.3. The illustration shows how some stakeholders, who in this case were made up by individuals, seemed to function as informal mediators of information or ‘bridges’ between the AE-project group and other stakeholders. As can be seen in both figures, there are some individuals who can function as a bridge ‘into’ the project group for those lacking personal connections with members of the project group (relationship C). Other stakeholders had no personal connections and had to approach the project group through the formal channels; these stakeholders’ lines are symbolically drawn as reaching no further than to the outer boundary of the project group (relationship D).
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Figure 10.3: An illustration of stakeholder relationships during the two phases.

Explanation of types of relationships:

A. Contact with a specific project group member through formal/informal connections
B. Contact with several project group members through formal/informal connections
C. Contact with project group through another stakeholder outside the project group
D. Contact with the project group through formal channels (e.g., the official e-mail address)
During the first phase, the reference group is an obvious stakeholder that can mediate information to the project group from stakeholders lacking connections to the project group. More interestingly, the teacher representative in the reference group is an example of an individual with similar abilities. This stakeholder may look as a lonely actor, but this particular teacher reported that s/he took part of the reference group in order to protect the interests of the teachers at the department where s/he was working; this teacher was a representative of a particular community of teachers. Through the membership of the reference group, this teacher could affect the design of Anonymous Exams to some extent, but the membership of the reference group also entailed personal contacts with the AE-project group members. This means that this teacher had the possibility to have direct and personal contact with the people who developed Anonymous Exams. Also during the second phase, this teacher contacted members of the project group in order to affect the design of the Exam Marking System, illustrating that this teacher used the personal contacts to influence Anonymous Exams. Teachers in general, however, did not have personal relationships with the AE-project group members and had to approach the project group through the official channels, such as through the project’s website and the project members’ official e-mail addresses. People who knew the teacher representative in the reference group could however contact the AE-project group through him.

During the second data collection phase, a course administrator at the investigated department seemed to have a similar mediating function. This particular course administrator knew one of the AE-project group members personally and therefore had direct access to one of the project group members. When other course administrators at that particular department had questions or problems regarding Anonymous Exams, they turned to this course administrator. They reported that this course administrator often knew the answer to their questions, and if not, this person could contact the AE-project group directly and find out the answer. Both the teacher discussed above, and this particular course administrator, seemed to have considerable influence in relation to Anonymous Exams, but in an informal manner. I consider it likely that there were several other individuals like these at the university; individuals with personal connections with someone in the AE-project group, and who was functioning as an informal mediator of information between the AE-project group and the local community. Unfortunately, the framework does little to identify these individuals unless they are explicitly talked about, or also part of some formalized structure, such as e.g., the reference group. A challenge for the future therefore becomes to find ways of identifying informal connections between stakeholders. Capturing informal relationships between stakeholders could help inform various inquiries of public e-services development and implementation, such as investigations on whose wishes are fulfilled in public e-service development.

Illustration of the fluent nature of stakeholders’ salience and stance
In chapter 4, section 4.4, it was stated that stakeholder salience and stance are not stable (Mitchell et al. 1997; Scholl, 2004; Sæbø et al. 2011) and must be assessed continuously in
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relation to any IS development endeavor (Kamal, et al. 2011; Newcombe, 2003; Tennert & Schroeder, 1999). Although the Anonymous Exams case study covered a relatively limited process and information system, shifts in both stakeholders’ salience and stance can be illustrated when comparing the analyses across the two phases. One of the most remarkable changes in stance was illustrated by the small group of teachers who were strongly opposed to Anonymous Exams during the first phase. They were opposed to Anonymous Exams to the extent that they wrote a formal complaint in an attempt to restrict the use of technology in the examination process. During the use phase, a teacher representing these teachers reported that they were neutral in their stance towards Anonymous Exams and when asked about the formal complaint, the particular teacher did not even recall writing it. A more nuanced shift can be seen when inspecting teachers in general. Few teachers seemed to feel that Anonymous Exams was an urgent issue for them during the first phase; e.g., few attended the information meetings or engaged with the AE-project group. When Anonymous Exams was implemented, however, the interest for Anonymous Exams among teachers increased, and the AE-project group reported that many teachers contacted them with concerns regarding the Exam Marking System. Similarly, the student unions’ stance and salience changed across the two phases; going from being a salient stakeholder to a non-stakeholder. Hence, stakeholder salience and stance are dynamic phenomena and must be investigated continuously throughout the duration of a public e-service development and implementation project. This conclusion corresponds with previous findings (e.g., Kamal et al., 2011; Mitchell et al., 1997; Scholl, 2004; Sæbø et al., 2011).

In chapter 5, it was suggested that managers can affect stakeholders’ salience (Mitchell et al., 1997). According to stakeholder theory, managers can try to influence stakeholders to adopt a supporting stance in relation to the issue at hand (e.g., Blair & Whitehead, 1988), and several scholars testify of examples of such management influence on stakeholders’ salience and stance (e.g., Scholl, 2004; Tennert & Schroeder, 1999). The Anonymous Exams case study supply further illustrations of how this can be done. The examination supervisor stakeholder group is the primary example of this. As stated in the previous chapters, examination supervisors are usually marginalized within the university; they are senior citizens who are hired by the hour for the purpose of administrating examinations during the examination days. These employees usually have very little influence over the daily operations at the university. In relation to Anonymous Exams, however, they received perhaps un-proportional attention and resources by the AE-project group and got to influence the outcome of the AE-project to a great extent. In the stakeholder characterization analysis, they were categorized as bordering to being a definite stakeholder due to their ability to affect Anonymous Exams. The attention given to this group can be said to have ‘empowered’ them to affect Anonymous Exams and hence increased their salience in relation to Anonymous Exams.

In contrast, the course administrators were affected by Anonymous Exams to a similar extent as the teachers. Still, the teachers were perceived by the AE-project group as the
more important stakeholder of these two. By receiving less attention from the management, the course administrators’ salience in relation to Anonymous Exams decreased over time.

In sum, it can be said that the managers’ inclusion or exclusion of stakeholders in the development of public e-services influences the stakeholders’ salience attributes; meaning that some stakeholders have the power to influence other stakeholders’ salience.

10.3. Stakeholder involvement in Anonymous Exams

In the AE-project, there was a pronounced intention to involve employees in the development and implementation of Anonymous Exams in various ways. The importance of involving people affected by the changes was emphasized by the project owner in the project directives from 2007, and was clearly stated by several members in the AE-project group during meetings and interviews. In chapter 8 and 9, the involvement of various stakeholders was addressed throughout the stakeholder descriptions, but was not thoroughly discussed. In this section, the involvement of stakeholders in the development and implementation of Anonymous Exams is discussed. First, the stakeholder involvement attributes presented in the provisional conceptual framework are addressed. Last, some interpretations regarding the chosen stakeholder involvement strategies are discussed.

10.3.1. Stakeholder involvement in Anonymous Exams in relation to the stakeholder involvement attributes

If looking at the discourse and practice of the AE-project group regarding stakeholder involvement in the development and implementation of Anonymous Exams, we see that the AE-project group succeeded to realize the intention of involving stakeholders in the development and implementation process for some, but not for all, employees affected by Anonymous Exams. In the subsequent subsections, the stakeholder involvement activities organized by the AE-project group are discussed using the concepts presented in the provisional framework.

Degree of the stakeholder involvement in Anonymous Exams

The majority of the involvement activities organized by the AE-project were of the informative degree (Damodaran, 1996) of stakeholder involvement. This means that these activities aimed at providing the participating stakeholders with information about the ongoing activities, and the upcoming systems and work procedures associated with Anonymous Exams. The informative stakeholder involvement activities refer to the AE-project group’s initial visits in the organization, and various emails sent to, and information meetings organized for, the teachers and course administrators. This means that most, if not all, of the informative involvement was directed to the teachers and course administrators in their intended role as users of the Exam Marking System. In the emails sent out to all teachers and course administrators, and during the information
meetings organized for these employees, the AE-project leader urged for the employees to provide the AE-project group with information about their current work procedures, and with input on the ongoing work of the AE-project group. The information supplied to these employees concerning the work of the AE-project group was however not particularly detailed, meaning that it was probably hard for these employees to give informed input on what the AE-project group was presenting. Much of the questions forwarded to the AE-project group, both at the information meetings and in the emails sent by employees to the project leader, seemed to be aimed at clarifying the anticipated consequences of Anonymous Exams. Note that the students in general were not actively informed about the development and implementation of Anonymous Exams prior to the implementation; they were simply informed through general information and an updated examination guide for students available on the university website.

Only the examination supervisors and the reference group were asked to give direct feedback on prototypes and early versions of the systems; i.e. consultative (Damodaran, 1996) involvement. The interface of the Examination Administration System was designed in close cooperation with the examination supervisors. For the Exam Marking System however, the system developer wanted input from teachers participating in the information meetings. Here, an interesting dissonance between the rhetoric and actions of the AE-project group is seen. In the project directives, and in the interviews, the project group members stated that the teachers made up an important stakeholder group, and that the AE-project group was keen to involve this group in the process. When few teachers took part of the information meetings, and hence did not supply the AE-project group with the kind of information they needed, the AE-project group was disappointed. They did not chose to change strategy however, and approach this group in a different way, e.g., by conducting user tests on the Exam Marking System together with teacher representatives. Instead, the system developer implemented a preliminary version of the Exam Marking System and then wanted the users to “complain about it” when using it, so that the system developer could make improvements to the e-service based on complaints. It seems as if s/he intended to design the system through some kind of ‘quick-and-dirty’ prototyping approach. When the Exam Marking System was implemented, however, the time and resources for making adjustments to the design were already running out and only minor changes could be done. A multitude of various (minor) modifications were made to the e-service after it was implemented, but many teachers still seemed to refrain from using the system by delegating this task to course administrators.

A year after the implementation of Anonymous Exams, the system developer stated that a lesson learned from the AE-project regarded the value of testing prototypes of the systems with real users. The system developer was very content with the Examination Administration System, for which extensive involvement of the future users was organized. Here, a parallel to the findings of Subramanyam et al. (2010) can be made;
Subramanyam et al. illustrate how involvement of stakeholders help system developers to disentangle uncertainties, leading the system developer to be more content with the developed system. The system developer stated that the AE-project group ought to have had organized user tests also of the Exam Marking System, indicating an insight that consultative involvement would have been preferable regarding the design of the system directed towards teachers and course administrators too. If the teachers’ requirements on the system in question had been captured in a more consultative manner, perhaps more teachers would have used the system2.

Considering the most extensive degree of stakeholder involvement, participative stakeholder involvement (Damodaran, 1996), the examination supervisor representative’s membership of the AE-project group can indeed be understood as participative involvement (as addressed in section 8.3.2). All members of the AE-project group members expect for this particular person worked in positions at the university in which membership of project groups of this kind could be expected. The examination supervisor was asked to participate in the project in order to protect the interests of the examination supervisors, since these employees were seen as critical to the success of Anonymous Exams. This means that this particular person was allowed membership of the AE-project group and was thus given the opportunities to influence decisions relating to the whole system (Damodaran, 1996).

When taking a closer look at the interviews with members of the AE-project group, the people in the project group had different opinions about how and when involvement should be organized. Interestingly, only the system developer and the examination supervisor representative talked about involvement in a way that went deeper than informative involvement; they promoted consultative and perhaps even participative (Damodaran, 1996) involvement. The other group members seemed to think that it was enough to inform and convince people about what was coming. Interestingly, three of the members of the project group considered personal, face-to-face, meetings to be the preferable way of communicating how to use the Exam Marking System even though the target user group was made up by thousands of individuals. Two of these group members were responsible for writing a user manual to the system but did not have time to do so, partly because they spent their time visiting individuals in the organization explaining how to use the system. In fact, these group members seemed to have too much faith in the face-to-face meeting; if there had been a user manual to the system, perhaps these visits would not have been needed. Considering the number of people affected by Anonymous Exams, the overall strategy to have a reference group made up by representatives from all types of employees, in combination with informative involvement of the ‘masses’, was perhaps the most useful strategy for the AE-project group in regards to Anonymous

2 Although from the account of the teachers’ view on Anonymous Exams it is clear that some teachers’ requirements were fulfilled in the design of the system, considering that many teachers were content with the system and used it also for administrating other examination forms.
Exams at large. For the design of the Exam Marking System this involvement strategy did not seem to work out, however, considering that few employees participated in the information meetings.

**Type of the stakeholder involvement in Anonymous Exams**

Cavaye (1995) distinguish between two types of stakeholder involvement; either all stakeholders, or representatives, are involved. Cavaye’s (1995) two types were presented in relation to user involvement in the development of information systems. In this case, there were several systems, with different sets of users, being developed. For the Examination Administration System, all individuals belonging to the examination supervisor stakeholder group were involved to some degree in the development of the system. Regarding the other two systems, the Student Portal and the Exam Marking System, only representatives of the future users were involved. It must be acknowledged, however, that the AE-project group invited all teachers and course administrators working at the university to information meetings about these systems; therefore this can be understood as a failed attempt to organize informative involvement for all individuals in these stakeholder groups. Regarding the service process, i.e., the work processes the technical systems were designed to support, representatives of the various stakeholder groups were involved by the AE-project group, mainly through the reference group.

**Content of the stakeholder involvement in Anonymous Exams**

Concerning the content (Cavaye, 1995) of the involvement, the AE-project group mainly asked for input from the various stakeholders on the examination process in general. I got the impression that they primarily asked for information on current work procedures, in order to gain an understanding of how the work procedures at the various departments looked prior to Anonymous Exams. At the information meetings organized for teachers and course administrators, the AE-project group presented their ideas and asked for general input on the intended design of Anonymous Exams. For the Examination Administration System, however, the examination supervisors were asked to give input on all parts of the system (work process, the user interface, etc.).

**Frequency of the stakeholder involvement in Anonymous Exams**

Regarding the frequency (Lynch & Gregor, 2004) of the involvement activities, it was not possible for me to keep track of all activities in which the members of AE-project group participated and that could qualify as involvement of other stakeholders. I can therefore not tell how frequent the various encounters between the AE-project group and the various stakeholders were. This is in part related to the next attribute, discussed below.

**Formality of the stakeholder involvement in Anonymous Exams**

Turning to the formality (Cavaye, 1995) of the stakeholder involvement, the activities that were observable for me were mainly formal and were organized during the analysis and design phase of Anonymous Exams; only the examination supervisors were given the possibility to affect the design of the Examination Administration System in a formally
organized manner also after it had been implemented. All throughout their work in the project, the members of the AE-project group also seemed to activate their informal networks in order to generate information for the project. When interviewing the AE-project group members I got the impression that there was considerable informal involvement, as they reported that they had received many phone calls and emails from people in the organization with suggestions on changes to the Exam Marking System. The project group members also reported that some of these contributions to Anonymous Exams had been taken into account in the design of Anonymous Exams. It is therefore likely that the AE-project group’s informal connections not only functioned as a channel for spreading information about what was happening in the AE-project, but also as a way for some stakeholders in the organization to influence the AE-project group in return.

The influence of informal communication and structures on information systems design is acknowledged by several IS scholars (e.g., Markus, 1983; Lyytinen & Robey, 1999). Ability to influence something through informal links is also emphasized in the stakeholder theory literature as a source of power (Johnson, et al., 2005). The circumstances of the case study did unfortunately not allow me to capture this kind of informal involvement to the full.

**Influence of the stakeholder involvement in Anonymous Exams**

As a consequence of the difficulties of assessing the attribute discussed above, it was difficult to assess the influence (Cavaye, 1995; Lynch & Gregor, 2004) of the stakeholder involvement, as much of the influence seemed to come from informal connections. For example, concerning the design of the user interface of Exam Marking System, for which the system developer created a ‘quick-and-dirty’ prototype, it was not obvious whose opinions were taken into account by the system developer, and on what grounds. In contrast, it is clear that the contributions provided by the examination supervisors on the Examination Administration System were taken seriously by the AE-project group, particularly by the system developer. The reference group was put together with the sole purpose of providing input for the AE-project group. Unfortunately, I was not able to assess the extent of the reference group’s influence in the AE-project. Regardless of the difficulties I experienced capturing the stakeholder’s influence, it is clear from the interviews that some individuals (such as the teacher representative in the reference group) felt that their contributions were taken seriously by the AE-project group, whereas others (such as the administrative chief at one of the departments) felt that their input was being ignored by the AE-project group.

**10.3.2. Interpretations of the stakeholder involvement strategies chosen by the AE-project group**

When looking at the involvement of stakeholders in the design of Anonymous Exams at large, an interesting pattern can be seen. If breaking down the examination process into the four general steps that were presented in the beginning of this chapter (Figure 10.1)
and map the attention and resources spend by the AE-project group on each step, we can see how the attention decreases as the process proceeds (presented in Figure 10.4 below).

First, the students received very little attention from the AE-project group once the project was up and running. Two students working for the student unions were part of the reference group. Other than that, no involvement of students was organized. In many ways this makes sense, considering that the changes made to the Student Portal were not visible for the students. The changes made in the Student Portal only involved the integration of the Student Portal with other systems. The greatest change to the examination process perceivable for the students, apart from now being anonymous, were the examination supervisors’ redesigned work procedures during the day of examination. In relation to the work procedures, it seems as if the AE-project group did not consider the students’ opinions regarding the examination procedures to matter much. Perhaps the AE-project group felt that the students already had had their say in the matter through their initiation of the project in the first place. The AE-project group was satisficing the student unions’ demands and the student unions were supposed to represent the students in general.

Figure 10.4: Stakeholder involvement in relation to the examination process.

In contrast, the examination supervisors and the Examination Administration System received much attention and resources by the AE-project group as they were given the
opportunity to affect the design of the system to a large extent. Also, the work flow during the examination day was redesigned considerably to fit the wishes and requirements of the examination supervisors. As discussed previously, the system used by the teachers and course administrators did not receive the same kind of attention. And last, the final step in the process in which the exams are handed out to the students, seems to have received very little attention by the AE-project group, other than through the project group’s visits in the organization in the very beginning of the project. In fact, as discussed in the previous chapter, the personnel at one student office had approached the AE-project owner asking this project group member to help them solve the stressful situation at the student office and the project owner had declined their request. Considering that the systems making up Anonymous Exams are so tightly interrelated that, in order for the students to be anonymous during the marking of written examinations, everybody in the process must do their parts, it is interesting that the AE-project group failed to distribute their attention and resources evenly across the process.

There are several different interpretations that can be made from the empirical data regarding the AE-project group’s decrease of attention across the process. One interpretation is that the AE-project group saw the beginning of the process as the most crucial part of the process, and therefore chose to focus on that part. The examination supervisors are early in the process and hence most obvious as ‘the ones on whom the whole process depends’ (as visible in the project group’s rhetoric about educating the examination supervisors). This group was also a new user group of technology at the university; these employees did not use any technical systems prior to Anonymous Exams. Similarly, the AE-project group put a lot of effort in making the beginning of the process as pleasant and smooth as possible for all involved stakeholders by streamlining work procedures, but failed to attend to the end of the process in a similar way (which was reported as being very stressful for the course administrators handing out exams to students). Nevertheless, for the anonymity to succeed, the teachers, course administrators, and students are equally important actors in the process; if the students do not ‘play according to the rules’, or the teacher/course administrator fails to register the results in the way they are intended, the process fails. In addition, the system directed toward the teachers and course administrators was also new; meaning that these were also new users of technology in some sense. It is not clear if the AE-project group members thought about the various stakeholders and steps in the process in this way. They seemed to focus mostly on the beginning of the process; the examination supervisors and the Examination Administration System. The latter part of the process was not given as much attention or resources. According to this interpretation, the AE-project group’s strategy for stakeholder involvement can be described as guided by a problem solving rationale; they saw an immediate problem in the beginning of the process and aimed to solve that, omitting later parts of the process that seemed less problematic. If adhering to this interpretation, the AE-project group’s stakeholder involvement strategy can be understood as having an internal, technical (Ehn, 1993), focus. The AE-project group thought that the teachers and
course administrators would manage to operate any system, but were unsure of the new user group found in the examination supervisors. Seen in the light of stakeholder management strategies, the examination supervisors were possibly seen as a bigger threat (e.g. Blair & Whitehead, 1988) to the success of the AE-project; involving the examination supervisors in the development of ‘their’ system was therefore a way of ensuring success for the AE-project.

Another possible interpretation can be made when focusing on the stakeholders’ power and roles at the university. It is possible that the picture above is an overturned manifestation of the hierarchies at the university, in which the examination supervisors is a marginalized group of employees with little experience of working with IT. Perhaps the AE-project group saw that this group needed extra attention in order to be able to affect Anonymous Exams. According to the interview with the system developer, the AE-project group saw the teachers as highly competent staff that could be trusted to learn new technology on their own; they had managed to learn new technology on their own previously (such as the course evaluation system mentioned by the student union representatives). Similarly, the course administrators were described by the system developer as competent and experienced enough to use any system; good or bad. From this perspective, the AE-project group’s stakeholder involvement strategy can be understood as guided by an empowerment rationale; they saw a marginalized group of employees that would benefit from increased involvement. This can be understood as stakeholder involvement of a more political (Ehn, 1993) character; empowering those in weak positions in the organization.

A third interpretation is simply that the time and resources in the AE-project ran out before the AE-project group had time to attend to the latter parts of the process. According to this interpretation, the AE-project group’s involvement strategy can be said to have been guided by a project resource rationale; they simply kept on working and tried to do as much as they could before the resources ran out. If adhering to this interpretation, the AE-project group’s stakeholder involvement strategy can be understood as illustrating some of the difficulties concerned with involvement in general. The user involvement literature testifies of difficulties concerning ensuring enough time and resources to organize stakeholder involvement (Bødker et al., 2011). In addition, several scholars (e.g., Boivie et al., 2003; Iivari et al, 2009; Kujala, 2003) point out that there is little support in traditional IS development methods for how to involve stakeholders in the development process. In this particular case, it is however unclear if the AE-project group was working according to an established IS development method at all.

No matter which interpretation is applied, it is clear that the attention given to the different steps in the process is reflected in the stakeholders’ views on Anonymous Exams. The examination supervisors were very content with the way Anonymous Exams turned out, when asked about their experiences of Anonymous Exams a year after the
implementation. Several of the responding examination supervisors pointed out that their work had improved remarkably. In spite of minimal involvement, the students were also content with the new examination procedures. But again, these were not particularly affected by the implementation of Anonymous Exams other than being allowed anonymity during the examination. The teacher and course administrators, on the other hand, had mixed feelings in relation to Anonymous Exams. The least content stakeholder was the course administrator group, especially those handing out exams to students. In the service literature, it is emphasized that both the supplier and the consumer of a service are co-creating value (e.g., Grönroos, 2008; Tronvoll et al., 2011). The Exam Marking System can in some respect be considered as a service to teachers and course administrators, as it is intended to improve the working conditions of those individuals reporting the students’ results. Grönroos (2008) emphasizes that if the consumer of a service does not have the skills needed to make use of what is provided by the supplier, value will be non-existent or lower than otherwise. Considering that the teachers and course administrators in general received very little information about the Exam Marking System prior to its implementation, it is debatable if they had the necessary skills for co-creating the intended value when using the system.

A suggested stakeholder involvement strategy

The AE-project group had a clearly stated intention to involve all stakeholders affected by Anonymous Exams in the development and implementation process of the public e-service. As discussed above, this intention was fulfilled to some extent, but can also be considered to have failed concerning some stakeholders. Based on the expressed aspirations of the AE-project group to actively involve stakeholders in the development process, and the literature on stakeholder involvement presented in chapter 5, a suggestion on how the AE-project group could have organized the involvement of stakeholders (on a general level) is illustrated in Figure 10.5 below.

Figure 10.5 illustrates a general arrangement that I believe could have helped the AE-project group’s understanding and organizing of stakeholder involvement in the AE-project. Figure 10.5 is based on Heeks’ (2006) assumption that all key stakeholders must somehow support a proposed e-service if it is to succeed. In order for stakeholders to support, or at least not to thwart the implementation of the e-service, the e-service has to align with some of the stakeholders’ needs, objectives, and values (Axelsson et al., 2009; 2013; Heeks, 2006). This means that the salient public e-service stakeholders’ should be informed about why the e-service is being implemented and how they will be affected by it, and preferably, some positive consequence3 of the e-service for each stakeholder should be communicated. A general rule of thumb is therefore that all stakeholders should be informed about what is going on in ways that are tailored for each stakeholder. In the AE-project,

3 Positive consequences are obviously not possible to communicate to a stakeholder when the e-service will result in redundancy for that stakeholder; but also in those situations, stakeholders must be informed properly about what to expect.
all stakeholders affected by the public e-service should have been informed about Anonymous Exams in ways that were suited for their respective roles and professions in relation to the upcoming system. This claim obviously corresponds with the political dimension of participatory design (Ehn, 1989; 1993; Mumford, 2000; 2003). In the Swedish context, the Joint Regulation or Working Life Act (MBL) even gives the people within an organization a legal right to be informed about issues that affect their work in a substantial way (Mumford, 2003). Apart from having a legal right to be informed, it is likely that the development and implementation process will run smoother if all involved stakeholders are aware of what is happening and have realistic expectations of what is to come (Heeks, 2006).

Informative involvement for all stakeholders.

Figure 10.5: A suggested general strategy for stakeholder involvement in relation to the Anonymous Exams case.

For some stakeholders, however, being informed is not enough. Concerning the development and design of work processes and IT artifacts, it is vital that representatives of those already working, or who will be working, with the service process and the technology supporting the process are consulted. Consultation is needed for understanding the service process and knowing how it fits into the organizational context (Iivari et al, 2011). When there are changes made to existing systems, the users of those systems are likely to be the most knowledgeable regarding the how the systems are currently working (Bødker et al. 2011). In the case of Anonymous Exams, the AE-project group used a reference group of employee representatives for consultation on how to define the examination process. This is probably a fruitful way to approach consultative involvement, provided that all affected stakeholders are represented in that group. For the design of the technical systems, on the other hand, some consultative (or even participative) involvement, including systems testing, with representatives of the users is required in order to capture the user requirements for the system (cf. Bødker, et al, 2011). In the Anonymous Exams case, the AE-project group organized such involvement for one system, but failed to organize such
involvement for the Exam Marking System, which seems to have resulted in a system with low usability and (in some cases) user resistance. If a teacher representative had been involved in the AE-project group in the same way as the examination supervisor representative, perhaps the teachers would have received more attention by the AE-project group. Such degree of involvement of teachers might also have resulted in a more usable system for the teachers.

The illustration in Figure 10.5 above is obviously an ideal picture. It is acknowledged that there are many obstacles for such stakeholder involvement, e.g., limited knowledge, time, and resources (as is illustrated in the case of Anonymous Exams). In addition, there will always be a need for improvisation and adjustments to local conditions (Clement & Van den Besselaar, 1993). This illustration however functions as a reminder that some stakeholders, at least in the Swedish context, have a legal right to be informed of changes associated with a public e-service. For some of these stakeholders, deeper involvement is needed; not for legal purposes, but because it increases the likelihood of successful IS development (e.g., Damodaran, 1996; Norman, 1993). For example, user tests of user interfaces are likely to increase the quality of the users’ future interaction with the system (e.g., Norman, 1993; Rasmussen et al., 2011).

10.4. Conclusions: Lessons Learned

From analyzing the interpretive case study using the provisional conceptual framework, some normative advice can be extracted for those interested in, or responsible for, public e-service development. All of these insights inform who matters for public e-service development;

The staffing of the project team developing the public e-service is important. The project group members’ competence for the tasks at hand, and ability to capture the needs of and requirements of other stakeholders, is likely to determine whether the development project will be successful or not. The make-up of the project group hence matters a great deal. Who is working in the kernel group responsible for the public e-service must therefore not be left to chance.

It is important to understand the scope and make-up of the public e-service and use this understanding as a base for systematically trying to identify its stakeholders. Who are defined as stakeholders determines e.g., whose interests should guide the design of the public e-service and who should be involved or consulted during the development and implementation of the public e-service. Therefore, it is vital that stakeholders are identified in a systematic and deliberate way, not settling with the obvious or self-selected stakeholders. For example;

- Some stakeholders may articulately assert to hold legitimate and urgent claims and try to influence the outcome of the public e-service, but when analyzed thoroughly they may turn out to hold illegitimate claims on the e-service.
Some stakeholders may not understand the future impact of the public e-service and fail to recognize the need for them to engage with the development team of the public e-service. When the public e-service is later implemented, these stakeholders may ‘awaken’ and stir things up by demanding additional features or simply refuse to use the system. In order to prevent unexpected problems related to e.g., users bypassing the system, it is important to find ways of identifying these stakeholders and invoke their interest early in the development process.

Stakeholders who are traditionally marginalized in the organization may be very important for the success of the public e-service, e.g., in the role as users. The work presented in this thesis illustrates the importance of not overlooking those working in the periphery (actualizing the importance of seeing the whole service process). Such stakeholders may have to be ‘given’ temporary power in the organization in order to increase their ability to affect the design of the public e-service and ensure their future cooperation in the service process. One example of how their power can increase is to include them in advisory groups.

It is very likely that there are both formal and informal ways for stakeholders to influence the development of public e-services. The formal structures for involvement or influence are important to map in order to understand who are allowed to influence the design of the public e-service and why. There may also be stakeholders with informal influence over the process, for example stakeholders who function as informal mediators of information between different stakeholders, and thereby impose great influence on the design ‘backstage’ (and hence matter a great deal for public e-service development). These stakeholders may be difficult to identify, and require big eyes and ears on the behalf of the person conducting the stakeholder analysis.

All salient stakeholders must be considered for involvement, but not in the same way. It is illustrated both in the literature and case study that it is of outmost importance that all salient stakeholders are involved in the development of a public e-service in one way or another. Here it is important to attend to all aspects of the public e-service; seeing to the entire service process and its supporting IT artifacts. For most stakeholders involved in the process, information about what is happening and what is to come is probably the only involvement they need and require; but at the right time, and in the right shape. Stakeholders who are not informed about new work procedures cannot be expected to comply with them. For others, especially those who are intended users of the IT-artifacts, consultative or participative involvement must be considered. It is also necessary to educate stakeholders on how to use the system in order to ensure that it is used in the intended way. Stakeholder involvement (of the right people) matters for public e-service development as it can help ensure the information and knowledge needed to design a public e-service that fits with the needs of its intended users and fulfills its purposes in the

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4 The question of who should perform the stakeholder analysis is discussed in the next chapter.
organization. Obviously, this is an ideal picture, but an ideal worth striving for. In addition, it can be hard to involve all stakeholders on an individual level. In each particular case, considerations concerning representation of stakeholders in involvement activities must be made. The question on representation, and its consequences, is barely touched upon in this thesis and provides material for further research.

The insights presented in this section are not new; they can already be found scattered all over the literature on e.g., e-government (e.g., Gil-García & Pardo, 2005; Heeks, 2006; Luk, 2009; Melin & Axelsson, 2009), stakeholder theory (e.g., Blair & Whitehead, 1988; Freeman, 1984), and IS development (e.g., Cavaye, 1995; Damodaran, 1996; Ehn, 1989; 1993; Kujala, 2003). In spite of the large body of the knowledge aggregated in these areas, problems concerning following these advices in practice seem to persevere. The lessons learned above were generated from the Anonymous Exams case study, using the provisional framework for understanding public e-service stakeholders. These insights are obviously still relevant for the development of public e-services.

This chapter has not only resulted in the lessons learned presented here, but also serves to illustrate the utility of the provisional framework presented in chapter 6. Through the structure and vocabulary provided by the framework, all of the lessons learned presented above could be extracted from the thick descriptions given in the previous chapters. The framework could hence be used to see interesting aspects in the interpretive case study and to discuss these aspects in an informed manner. In the following chapter, the utility of the framework is further addressed and discussed. That discussion is concluded with the presentation of a revised version of the framework and an illustration of its logic, internal cohesion, target group, and possible scenarios for future use.
11. THE PUBLIC E-SERVICE STAKEHOLDER FRAMEWORK

In this chapter, the utility of the provisional conceptual framework presented in chapter 6 is discussed in relation to the Anonymous Exams case study. The discussion is presented in a step-by-step manner; with the three subsections of the framework as the points of departure. The discussion results in some changes to the provisional framework and is concluded with the presentation of a revised version the framework; the Public e-Service Stakeholder Framework. The chapter is concluded with some considerations concerning the structure and intended use of the Public e-Service Stakeholder Framework.

11.1. Utility of the provisional conceptual framework in relation to the Anonymous Exams case study

The provisional conceptual framework presented in chapter 6 contained three parts that were aimed at:

- Characterizing a public e-service
- Identifying and characterizing public e-service stakeholders
- Assessing stakeholder involvement in the development and implementation of a public e-service

In this section, each step of the framework is discussed in relation to how useful and applicable it was in relation to the Anonymous Exams case study. Based on this discussion, some modifications to the provisional framework are proposed.

11.1.1. Characterization of the public e-service

The first step of the framework concerns assessing the characteristics of the public e-service by assessing; (1) What is the overall service objective of the public e-service? And, what does the service process look like? (2) What IT artifacts are making up the e-service? To what other systems and processes is the public e-service connected? (3) To what
extent does the public e-service fulfill the three goals of e-government? (4) How do the characteristics of the public e-service correspond with the e-service polarities? These questions are addressed in the following subsections.

**Assessing the overall service objective and service process of the public e-service**

In this step, the overall service aim and the service process were assessed. The service process provides invaluable information about who are involved in providing and consuming the service (Grönroos, 2008). Similarly, the service objective of the public e-service provides information about whose needs and whishes are supposed to be fulfilled by the public e-service (Lindgren & Jansson, 2013). Both of these were relatively easily assessed in relation to Anonymous Exams. Assessing these were important steps towards identifying the potential stakeholders of the public e-service. A process description of what happens when trying to fulfill the service objective provides information about who is doing what, and when. This process can be described in a multitude of ways, as there are many different methods for modeling processes of this kind. In the case study, I modeled the service process by describing the main steps and actions in the process, the sequence of the steps, and the actors involved in each step. I did not adhere to a particular modeling method; my point of departure was that the act of trying to capture and illustrate the process was more important than the mode in which it was done. In the future, it would be fruitful to investigate different ways of capturing the service process of a public e-service.

**Assessing what IT artifacts are making up the e-service**

As discussed in chapter 3, the technology making up the public e-service entails a number of stakeholders (Flak & Rose, 2005); hence, descriptions of the technology provide information about who are developing, delivering, using, and maintaining the public e-service (Lindgren & Jansson, 2013). In this thesis, the technology was described on a rather general level, focusing on the technology mediating the main steps of the service process, the functionality of these systems, their intended users, and the overall connections between the systems. Considering that all of the subsystems making up the public e-service in question were all developed and provided by the same organization and person, the characterization of these systems were quite easily done and illustrated. In larger and more complex public e-service projects, the characterization of the technology is likely to be of a more complex nature; particularly for public e-services that involve several organizations.

**Assessing to what extent the public e-service fulfills the goals of e-government**

This question refers to the goals of e-government (European Commission, 2011; Ministerial Declaration on eGovernment, 2009), which I have chosen to summarize as three overarching goals; (1) to improve citizens’ interactions with the government, (2) to make governmental organizations more efficient and effective, and (3) to increase the transparency of government and lead to a more democratic society. In this thesis, I chose
to translate these goals to the local level of the particular public e-service project (see section 8.3.1). At this point I believe that this question is highly related to the first question above concerning the service objective, and that it therefore can be usefully integrated with the question concerning the service objective of the public e-service. In the revised version of the framework these questions are interwoven. In relation to this question, I also believe that the expected organizational effects of developing and implementing the public e-service should be explicitly addressed in the conceptual framework.

**Characterizing the e-service using the polarities**

By analyzing the public e-service in relation to the e-service polarities by Goldkuhl and Persson (2006) and the two additional polarities presented in chapter 6, more background information and understanding of the particular public e-service can be generated. In a study like the Anonymous Exams case study, in which the e-service was not the main focus, the benefits of assessing these characteristics do not become as salient as they would have if the e-service was the focal point of the study. I believe that the e-service polarities can provide powerful tools in comparative studies involving several public e-services with different characteristics. When applying the polarities to Anonymous Exams, it became obvious that the polarities must not be understood as being of an ‘either/or’ kind; an e-service can be characterized by both ends of the polarity, but to different extent. For example, when wanting to describe Anonymous Exams in relation to the fourth polarity (characterizing the service as benefiting the common good or the individual user), Anonymous Exams was seen as creating benefits both for the common good and for the individual user. This is a lesson learned for the design and application of the framework; based on this insight a note on this characteristic of the polarities is added in the framework below.

**Other available information for consideration**

All questionnaires, forms, and frameworks need an ‘other’ category/slot in which other information can be added; information that does not fit into the previous categories but that is still considered to be important or interesting by the analyst. In the case of Anonymous Exams, the characteristics assessed in the steps above did not change across the phases, but still some interesting modifications had been made to two of the e-services. For the general framework, I therefore choose to add a slot for ‘other’ information that might be of interest regarding the characteristics of the public e-service. This is done for the stakeholder characterization step of the framework as well.

**11.1.2. Stakeholder identification and characterization**

The next step of the provisional conceptual framework suggested that potential stakeholders should be identified by inspecting the description of the public e-service in relation to the typologies suggested by Heeks (2006) and Axelsson et al. (2013). For each potential stakeholder it was suggested that the following issues should be assessed in
Public e-Service Stakeholders

order to determine the stakeholders’ salience; (1) How the stakeholder is affecting/affected by the public e-service. (2) The stakeholder’s formal role and responsibilities in relation to the public e-service (indicators of power and legitimacy). (3) The stakeholder’s expectations of, attitudes toward, and perceived needs and benefits of the public e-service (indicators of urgency). (4) The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy). (5) The stakeholder’s potential for threatening or cooperating with the achievement of the public e-service’s objectives (can be used as an indicator of potential need for stakeholder involvement/management). Last, it was suggested that all identified and characterized stakeholders should be mapped according to their salience type. This can be done in a Venn diagram, such as the one suggested by Mitchell et al. (1997), in order to create a comprehensive overview of all stakeholders.

In the following subsections, the various steps of the public e-service stakeholder identification and characterization analysis are addressed. All of these steps require that the analyst is able to perform considerable assessments and interpretations of the particular situation of each stakeholder. In this thesis, secondary data about a stakeholder are not considered to provide enough information for a full assessment of a stakeholder’s characteristics and salience.

**Identifying potential stakeholders using the two typologies**

As stated previously, based on the various characterizations of the public e-service made above, potential stakeholders can be assessed using the stakeholder roles and e-government entities presented in chapter 4. These two typologies complement each other (Lindgren, 2012), as they cover potential stakeholder both on the project level (Heeks, 2006), and in relation to e-government on a larger scale (Axelsson et al., 2013; Sæbø et al., 2011). In the Anonymous Exams case study, this part of the framework provided valuable guidance and structure for identifying potential stakeholders in the empirical data. During the data collection, my work was guided by an understanding of five stakeholders. In comparison to the frequently used division of stakeholders being either ‘citizens’ or ‘government’ (Flak and Rose, 2005), I considered five stakeholders to be a favorable deviation. When applying the framework, I identified no less than 18 stakeholders (17 in the first phase, and 18 in the second phase). Not all of these were categorized as being salient in relation to Anonymous Exams, but most of them were. As discussed in chapters 8 and 9, I was somewhat surprised that one of the stakeholders overlooked is likely to have been a definite stakeholder (Mitchell et al., 1997) in relation to Anonymous Exams; the examination administration representative in the AE-project group, who later became the process owner of Anonymous Exams. This stakeholder was part of the AE-project group and participated in project meetings that I observed, but I did not see that this person had a salient role in the project; I can readily admit the prior assessment that the colleague, the examination supervisor representative, seemed much more influential. When viewing the AE-project and Anonymous Exams through the lenses provided by
the framework, it is however obvious that I overlooked a stakeholder with considerable influence over Anonymous Exams when I conducted the case study. Considering that this particular stakeholder was visible already in the service process description, it is likely that I would have been able to identify this stakeholder earlier if I had had access to the framework when designing the data collection.

As discussed in the previous chapter, a weakness of the framework concerns the identification of stakeholders with informal power to influence the development of the public e-service. In the case study I identified two stakeholders with considerable informal influence (see section 10.3.1). For both of these stakeholders it seems that my presence in the organization during the data collection, rather than the framework, helped me to identify these stakeholders. It may be that some kind of insider perspective is needed in order to identify the stakeholders who influence the public e-service ‘behind the scenes’. A challenge for future research on this topic therefore concerns investigating and finding more systematic ways of identifying stakeholders who are affecting the public e-service in an informal manner.

Considering the stakeholder roles (Heeks, 2006), most roles were easily applicable to the Anonymous Exams case study. For the ‘Client’ role, I chose to apply it on a general level, i.e., not dividing this role into primary and secondary clients (as proposed by Heeks (2006)). The reason for this choice was that all systems making up Anonymous Exams were so tightly interrelated that such a characterization would add little value to the analysis. An illustration of how the primary and secondary clients in Anonymous Exams were related would end up in a diamond-shaped illustration with double-pointed arrows between all users of the system. For the same reason, it is not entirely obvious in the case of Anonymous Exams how to distinguish a ‘client’ from an ‘operator’. The tight connections between the systems in Anonymous Exams means that the users of the systems are concurrently service providers to the users of the other systems, hence operators. In order for Anonymous Exams to work, all systems must be used in accordance with their intended use; everybody must do their part in order to enable for the users of the other systems to use their systems. If one party refrains from supplying ‘their’ system with information, the whole e-service fails to fulfill its service objective. This co-dependence is visible in the classification of stakeholders; all users of the systems, except for the students, were classified as being clients and operators (stakeholder roles), as well as users and service providers (e-government entities). In this particular case, there is an obvious, and somewhat confusing, overlap between these categories. In relation to more complex systems with a larger variety of users, the difference between these roles and entities are probably more salient and useful.

Concerning the e-government entities (Axelsson, et al., 2013; Sæbo et al. 2011), these were not as easily applicable as the stakeholder roles. The stakeholder roles are founded on a commonsensical notion of what each role implies (and definitions supplied by Heeks
The main categories of the e-government entities are not difficult to differentiate. But the subcategories of the Government category, the category primarily applicable on the Anonymous Exams case study, were not as easily grasped and differentiated. In the Anonymous Exams case study, several stakeholders were classified as belonging to two entities, depending on their roles and actions in the relation to Anonymous Exams. When applying the entities I also identified a modification to the typology that needs to be made. In relation to the Student Portal and the Exam Marking System in Anonymous Exams, the issue of users refraining from using a compulsory system and hence forcing other stakeholders to compensate for this non-use was illustrated (see the previous chapter). Based on this phenomenon, I will therefore add a category to the e-government entity typology called **non-user** to the framework.

Last, an important issue previously overlooked is that the stakeholders identified in relation to Anonymous Exams are treated more or less alike, although they are referring to individuals, groups, or organizational units. Individuals, groups, and organizational units are obviously different from each other in many ways. Nonetheless, this inclusive categorization of stakeholders reflects stakeholder theory in general, in which stakeholders are considered to refer to individuals; groups; organizations; societies; or even the natural environment (Mitchell et al., 1997). In relation to public e-services, I have chosen to limit the entities encompassed by the stakeholder concept to *individuals, groups, or organizations*, although the entire society in which a public e-service is implemented could indeed be considered to be a stakeholder. In relation to the project management perspective in this thesis these three entities however seem to be the most relevant ones. This is obviously a simplified treatment of these three entities as there are possible implications imbedded in the entities that are not fully addressed in this thesis. For example, an organizational unit that is affected by a particular public e-service is likely to be more immediately salient than an individual. But if the individual at hand is a person in a prominent position who can exercise considerable power in relation to the public e-service, the situation can be reversed. As has been illustrated in relation to Anonymous Exams, individuals can indeed be highly salient stakeholders in relation to a particular public e-service. The case study also illustrated how an individual can be a salient stakeholder on its own and also be part of a greater stakeholder group with a somewhat different degree of salience. The possible implications entailed by the different stakeholder entities provide ample material for future research.

**Describing how the stakeholder is affecting/affected by the e-service**

This step of the stakeholder characterization involves a short and succinct description of how the stakeholder is affected by the e-service, or how it is affecting the e-service. The assessment of how the stakeholder is affected by the public e-service is tightly coupled with changes in the stakeholder’s work procedures. Concerning the ability to affect the public e-service, the stakeholder’s formal roles and responsibilities are good indicators, as well as membership of advisory groups, or other involvement activities.
Describing the stakeholder’s formal role and responsibilities in relation to the public e-service

In the provisional conceptual framework it was suggested that the stakeholders’ formal role and responsibilities in relation to the public e-service should be assessed and discussed. This is however already assessed in relation to the stakeholder role and e-government entity typologies in relation to the typologies in the first step of the stakeholder analysis, and as part of the previous question. This question is therefore removed from the conceptual framework.

Describing the stakeholder’s attitudes and expectations or experiences of the e-service

An integral part of understanding a stakeholder is to become familiar with its attitudes towards, expectations of, or experiences of, the public e-service in question. The ‘attitudes’ refers to the stakeholder’s stance (Scholl, 2004) towards the public e-service and can be guided by an understanding of stances being positive, neutral, or negative. ‘Expectations’ concerns what the stakeholder expect will happen when the public e-service is implemented; i.e., it involves the assessment of the stakeholder’s stance during the pre-implementation phase. ‘Experiences’ concerns how the stakeholder perceives the public e-service when it has already been implemented: i.e., during the post-implementation phase of a public e-service. These assessments can surely be done in a more structured way than done in this thesis. In relation to Anonymous Exams, I used the words and expressions of the participants as a guide to the wordings of the stakeholder characterizations made in the tables in Appendix E and F. These characterizations, in turn, provided the foundation for the stakeholder descriptions made in chapter 8 and 9. For the less interpretive researcher, these categories can probably be operationalized in order to formulate pre-defined categories of attitudes / expectations / experiences to be assessed. This is true for most parts of the framework. I have chosen to study public e-service stakeholders using a qualitative, interpretive, approach. However, the logic of the framework is probably structured enough to comply with the wishes of the more positivistic analyst, as all steps of the framework lends well to operationalization.

Describing the stakeholder’s relationships to other stakeholders

Stakeholders are most frequently present in a context in which other stakeholders also exist (Freeman, 1984). An essential part of understanding a stakeholder is therefore to understand its relationships with other stakeholders. This is, indeed, an important step in the framework, but perhaps the least developed one. When inspecting the Anonymous Exams case study through the lenses provided by the framework, this was one of the most difficult steps to assess. I had not captured the kind of empirical data needed to assess the relationships between the stakeholders to the full. I must reluctantly admit that I collected the empirical data with an insufficient understanding of who the stakeholders were, meaning that little information on how the stakeholders were connected to each other were covered in the textual descriptions of Anonymous Exams. Based on the empirical data available in the case study, the relationships between the stakeholders in
Anonymous Exams have been partly assessed (see discussion in section 10.2.1). This part of the framework requires further research and elaboration and could be subject for future work.

**Assessing the stakeholder’s potential for threatening or cooperating with the achievement of the public e-service’s objectives**

In this step, the assessment of stakeholders’ abilities and possibilities to threaten, or cooperate with, the achievement of the public e-service’s objectives is supported. This step was formulated in line with the discussion on stakeholder involvement in chapter 5. When analyzing this issue in relation to Anonymous Exams, I found that the term ‘cooperate’ makes it easy to mistakably investigate the relationship between the stakeholder and the project management, instead of focusing on the stakeholder’s relation to the public e-service. I prefer to change the wording from ‘cooperation’ to ‘support’, indicating that it is to be assessed whether the stakeholder is likely to threaten or support a successful development and implementation of the public e-service, and not whether the stakeholder cooperates with the project management or not. In this step, threat can be assessed by investigating if e.g., a stakeholder is knowledgeable enough to perform its task in relation to the e-service, or if the stakeholder is likely to refrain from using the upcoming e-service. Support, on the other hand, can be assessed by e.g., investigating if the stakeholder seems to approve with the implementation of the public e-service. Information on threat/support can be used as input when organizing stakeholder involvement.

**Assessing the stakeholder’s salience**

In this step, the stakeholder salience attributes presented by Mitchell et al. (1997) are discussed; referring to power, legitimacy and urgency.

Power is perhaps the most straightforward attribute of the three, but not in any way more easily assessed. As stated in chapter 5, sources and indicators of power (Johnson et al., 2005) can be formalized and fully visible, but they can also be invisible and difficult to recognize for an outsider (or even an insider, for that matter). In the Anonymous Exams case study, two individuals in the AE-project group had formal power in the shape of status, titles, and control over resources; the project owner and project leader. The project owner’s formal power was more significant than the project leader’s; but, on the other hand, the project leader possessed informal power that compensated for the difference in formal power through her/his daily management of the AE-project. Also, other members of the AE-project group were powerful in the shape of possession of knowledge and skills, particularly the system developer and the examination supervisor representative. In the case study, mainly the AE-project group members were assessed as having power to affect the development of the public e-service. The informal sources and indicators of

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1 Stakeholders’ threat or cooperation in relation to the project management could, indeed, be interesting to assess, but is not within the realms of this thesis.
power in relation to Anonymous Exams were difficult to assess, and as discussed previously, more work is needed to find ways to better capture the informal structures and sources of power.

Regarding legitimacy, Mitchell et al. (1997) state that legitimacy refers to a general perception that the actions of the stakeholder are desirable, proper, or appropriate within some socially constructed system. In relation to Anonymous Exams I chose to assess legitimacy in relation to the stakeholders’ claims on Anonymous Exams; i.e., whether or not they were perceived as having the rights to influence the design of Anonymous Exams. The assessment was based on a joint interpretation of (1) the stakeholder’s self-proclaimed rights to affect Anonymous Exams, (2) how other stakeholders seemed to perceive the stakeholder’s rights and obligations in relation to Anonymous Exams, and (3) how the stakeholder was treated by other stakeholders, partly including the degree to which the stakeholder was involved in the AE-project. In other words, similar to the power attribute, legitimacy is not an innate state of the stakeholder regardless of the context in which it is situated and active. Similar to power, legitimacy is relational; it is not enough that a stakeholder perceives its claims to be legitimate, others must think so too.

Regarding the urgency attribute, urgency refers to the degree to which stakeholder claims call for immediate attention by managers (Mitchell et al., 1997, p. 869). Bases for urgency are time sensitivity and criticality, where the first refers to “the degree to which managerial delay in attending to the claim or relationship is unacceptable to the stakeholder”, whereas criticality refers to “the importance of the claim to the stakeholder”. Urgency is hence also closely related to the stakeholder’s vested interest in the public e-service. Sæbø et al. (2011) indicated that there might be a link between urgency and use of technology (in particular regarding citizens’ uptake of e-government systems, such as public e-services); referring to that when citizens are experiencing a feeling of urgency regarding a public e-service, they will also use it. In section 4.2.2., I suggested that this argument should go both ways; imposed use of public e-services ought to create a feeling of urgency concerning these particular systems. In the case of Anonymous Exams, this idea of a link between use and urgency is reinforced and illustrated. The stakeholders who use the Examination Administration System and the Exam Marking System seem to consider Anonymous Exams as urgent. An illustrative example can be made of the course administrators and their relation to the Exam Marking System. This stakeholder group was not supposed to use the system; the teachers were. The course administrators were however allowed as a potential user group in the system, as some flexibility was built into the system in order to satisfy demands regarding e.g., divisions of labor verbalized in the organization. As a result, the course administrators had no power to influence the design of the e-service as they were not seen as legitimate users of the system. Interestingly, there were many course administrators who agreed and did not see themselves as the intended and legitimate users of the system. The course administrators who did end up as users of the Exam Marking System therefore had no power to influence the system, nor were they perceived as
having legitimate claims. All they were left with was a feeling of urgency, meaning that they were categorized as a demanding stakeholder in relation to the system.

When assessing the stakeholder types based on these three attributes I came to the conclusion that there are not clear cut dividing lines between the stakeholder types; they are fluent, partially overlapping, and relational. For that reason, several stakeholders were categorized as being borderline cases; being defined as belonging to two types in the stakeholder maps presented in the analysis chapters (Figures 8.4. and 9.3).

11.1.3. Stakeholder involvement

The last step of the provisional framework supports the analysis of the ways in which the stakeholders have been involved in the development of the public e-service. This investigation rests on the six stakeholder involvement attributes presented in the provisional framework (based on Cavaye, 1995; Damodaran, 1996; Lynch & Gregor, 2004); (1) Type: If the stakeholder refers to a group or organization, are all individuals in the stakeholder group/organization involved, or are representatives of the group/organization chosen for involvement? (2) Degree: How is the involvement of the stakeholder organized, and to what degree is the stakeholder involved? (3) Content: What content of the public e-service development/implementation is the stakeholder asked to contribute to? (4) Frequency: How frequent are the interactions between project management and the involved stakeholder? (5) Formality: Is the stakeholder involvement formal or informal in its character? (6) Influence: Is the input given by the involved stakeholder taken into account in the development/implementation of the public e-service? If yes, to what extent? What seems to be the consequences of the involvement of the stakeholder?

All of the stakeholder involvement attributes, and their applicability on the Anonymous Exams case study, were discussed in section 10.3.1 in the previous chapter (focusing especially on the ‘degree’ of involvement attribute) and will therefore only be touched upon in this section. In the case of Anonymous Exams, this assessment was not done for the members of the project group, other than for the examination supervisor representative, as they were the ones responsible for organizing the involvement activities. For the remaining stakeholders, the stakeholder involvement attributes included in the framework were used to assess the involvement activities for each stakeholder (see stakeholder characteristics tables in Appendix E and F). In the previous chapter, an aggregated analysis of the stakeholder involvement in the AE-project was discussed for each attribute. Since I was not an actual member of the AE-project group, the activities of the AE-project group were not fully transparent and I could not keep track of all activities organized by the AE-project involving other stakeholders. This was especially difficult since the members of the AE-project group had different knowledge and understanding of this topic, and hence different vocabulary and interest for discussing these issues. I got the impression that when asked about how they were involving others in the design of
Anonymous Exams, the AE-project group members mainly reported on the formalized activities, such as the information meetings or reference group meetings, and failed to report informal activities, such as telephone and email conversations with other stakeholders. For these reasons, I could not fully assess all attributes when applying the framework on Anonymous Exams. This does not mean, however, that changes should be done to the framework. I still consider the involvement attributes (type, degree, content, frequency, formality, and influence) to give good directions for how to assess and understand stakeholder involvement.

In spite of failing to assess some of the stakeholder involvement attributes in a satisfying manner, much could still be said about the stakeholder involvement activities in the Anonymous Exams case study. Chapter 10 even included some normative suggestions on how the AE-project group could have organized their stakeholder involvement activities. Note that the framework is not necessarily normative in itself, but that it can be used for normative purposes. In the revised version of the conceptual framework, the questions regarding stakeholder involvement are integrated in the stakeholder salience analysis step.

### 11.2. The Public e-Service Stakeholder Framework

In this section, a revised version of the conceptual framework is presented; the Public e-Service Stakeholder (PeSS) Framework. Only few modifications to the content and original ideas of the provisional framework presented in chapter 6 have been made. These modifications involve (1) a clarification that the polarities in the public e-service characterization are not necessarily ‘either/or’ categories; (2) the integration of the questions concerning the purpose and objectives of the public e-service; (3) an explicitly formulated question regarding the anticipated organizational consequences of the public e-service; (4) the addition of a non-user entity in the stakeholder typology; and (5) a change of wording in the stakeholder characterization step regarding the stakeholder’s potential threat/support. Considering the hermeneutic nature of the research presented in this thesis, the provisional framework was partly constructed based on the empirical work of the thesis (as discussed in chapter 2 and 6). Therefore, it is hardly surprising that the (re)application of the provisional conceptual framework on the thick descriptions of the interpretive case study material only resulted in slight modifications made to the framework. In the following subsections, the Public e-Service Stakeholder framework is described along with descriptions of each step of the framework. The description is chiefly done in the shape of tables with sequential questions and statements designed to guide a structured analysis of a public e-service, its stakeholders, the stakeholders’ characteristics and salience, and how these are involved in the development and/or implementation process of the public e-service.

The first step of the PeSS framework involves meta-level information about the analysis in itself (see Table 11.1 below). A recurrent statement in this thesis is that stakeholder analyses must be performed continuously throughout the development and
implementation of a public e-service. In the PeSS framework, this iteration is guided by a generic model of IS development phases presented in chapter 5. The analysis therefore begins by providing some information about the analysis, on the meta-level. This includes stating during which phase of the public e-service development the analysis is made, by making an indication in the generic model of IS development phases. In this step, it should also be indicated whether or not this is a single-occasion or iterative analysis, clarifying how many iterations have been. In order to be transparent concerning the aim and purpose of the analysis, information about the objectives behind the analysis should be stated.

Table 11.1: The first step of the PeSS Framework: Information about the analysis (meta-level information).

<table>
<thead>
<tr>
<th>General information about the analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>During which development phase is the analysis performed? <em>Indicate in model below.</em></td>
</tr>
<tr>
<td>![Diagram of IS development phases]</td>
</tr>
<tr>
<td>Is this a single-occasion analysis, or iterative analysis?</td>
</tr>
<tr>
<td>If iterative, which iteration is this? <em>First analysis, second iteration, etc.</em></td>
</tr>
<tr>
<td>What is the general aim and purpose of the analysis? <em>Indicate the aim and purpose of the analysis, e.g., if it is done from a specific perspective, with a certain focus in mind, or in relation to specific research questions.</em></td>
</tr>
</tbody>
</table>

The next part of the framework concerns assessing the characteristics of the public e-service; this is done in several steps (see Table 11.2 below). First of all, the overall purpose and objectives of the e-service is described. This is done by assessing the overall aim of the e-service, how it corresponds to the overall goals of e-government, and its expected organizational effects. Thereafter, the service process is described, followed by assessment and description of the technology supporting the e-service, including a characterization of the public e-service in relation to the public e-service polarities. If there is additional information that the analyst wishes to refer to in the analysis, this can be supplied in the last step, called ‘other available information for consideration’.
### Table 11.2: The second step of the PeSS Framework: Characterizing the public e-service

<table>
<thead>
<tr>
<th>Characterization of the public e-service</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What is the purpose/ objective of the e-service</strong></td>
<td></td>
</tr>
<tr>
<td>a: Overall aim:</td>
<td>Indicate the overall aim of the public e-service, such as what the service includes and who the intended beneficiary of the service is.</td>
</tr>
<tr>
<td>b: Relation to the overall goals of e-government:</td>
<td>Indicate if, how, and to what extent the public e-service helps realizing the three general goals of e-government; (1) to improve citizens’ interactions with the government, (2) to make governmental organizations more efficient and effective, and (3) to increase the transparency of government and lead to a more democratic society.</td>
</tr>
<tr>
<td>c: Expected organizational effects:</td>
<td>Indicate what the expected organization effects of implementing the public e-service are.</td>
</tr>
<tr>
<td><strong>Describe the service process:</strong></td>
<td>Model the process by which the service is performed. This can be done on different levels of detail depending on the knowledge and interest of the analyst.</td>
</tr>
<tr>
<td><strong>Describe the technology supporting the e-service:</strong></td>
<td>Here, the technology mediating the e-service is to be described. This can be done on different levels of detail depending on the knowledge and interest of the analyst.</td>
</tr>
<tr>
<td><strong>Characterize the e-service using the polarities:</strong></td>
<td>Indicate the nature of the public e-service in terms of the following polarities:</td>
</tr>
<tr>
<td>Informative --- Performative</td>
<td></td>
</tr>
<tr>
<td>General --- Individualized</td>
<td></td>
</tr>
<tr>
<td>Separate --- Coordinated</td>
<td></td>
</tr>
<tr>
<td>Benefits the common good --- Benefits the individual user</td>
<td></td>
</tr>
<tr>
<td>Voluntary --- Compulsory</td>
<td></td>
</tr>
<tr>
<td>Observe that these polarities are not necessarily of an ‘either/or’ nature, a public e-service can have features that corresponds with both features of a polarity.</td>
<td></td>
</tr>
<tr>
<td><strong>Other available information for consideration:</strong></td>
<td>If there is additional information that is deemed important for the understanding of the public e-service, that information can be indicated here.</td>
</tr>
</tbody>
</table>

After describing and modeling the public e-service according to the steps in the previous part of the framework, potential stakeholders in relation to the public e-service can be assessed and illustrated in a table such as Table 11.3 below. The search for potential stakeholders can be guided by the typology of stakeholder roles and e-government entities (see Table 11.4). Here, the definitions presented in the typologies have been modified to concern public e-services, rather than e-government at large.
Table 11.3: The third step of the PeSS Framework: Identifying potential public e-service stakeholders.

<table>
<thead>
<tr>
<th>Stakeholder roles</th>
<th>Who affect or are affected by the public e-service?</th>
<th>E-government entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project manager/team</td>
<td>Fill in the stakeholders who seem to fit into this category. Use the typology.</td>
<td>For each stakeholder, assess their e-government entity type. Use the typology.</td>
</tr>
<tr>
<td>Supplier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Champion(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other stakeholder</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11.4: Typology for guiding the assessment of roles and e-government entities. Based on (Heeks, 2006; Axelsson et al., 2013; and Sæbø et al., 2011).

<table>
<thead>
<tr>
<th>Stakeholder roles</th>
<th>E-government entities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Project manager/team</td>
<td>Government</td>
</tr>
<tr>
<td>• Supplier</td>
<td>Decision maker – Decision and policy maker.</td>
</tr>
<tr>
<td>• Operators</td>
<td>Management – Middle and higher level salaried career employees executing decision makers’ policies.</td>
</tr>
<tr>
<td>• Client(s)</td>
<td>Service provider – Lower level salaried career employees carrying out day to day government jobs directly or indirectly interaction with citizens/users.</td>
</tr>
<tr>
<td>• Champion(s)</td>
<td>Citizen/User</td>
</tr>
<tr>
<td>• Sponsor(s)</td>
<td>User – Uses the public e-service.</td>
</tr>
<tr>
<td>• Owner</td>
<td>Engaged user – Users involved in efforts to affect specific government policies and decisions through civil action, often individually or in groups.</td>
</tr>
<tr>
<td>• Other stakeholder</td>
<td>Non-user² – people who are intended to use the public e-service but refrain from doing so.</td>
</tr>
<tr>
<td></td>
<td>Businesses</td>
</tr>
<tr>
<td>• Consultant and vendor</td>
<td>Government</td>
</tr>
<tr>
<td>• Consultant and vendor</td>
<td>Consultant and vendor – Companies, mostly private, who provide systems (software, hardware, infrastructure) and/or consulting services in public e-service projects.</td>
</tr>
</tbody>
</table>

For each stakeholder identified in the third step of the PeSS Framework, the stakeholder’s characteristics can be assessed by performing the last step of the analysis. This step is illustrated in Table 11.5 below; for each of the potential stakeholders, a table similar to this table should be created. The analysis in this step is ultimately aiming at assessing each

² The non-user category is a contribution to the typology made in this thesis.
stakeholder’s salience in relation to the particular public e-service. In this step, stakeholder involvement can also be assessed and described.

Table 11.5: The fourth step of the PeSS Framework: Assessing stakeholder characteristics, salience, and involvement attributes.

<table>
<thead>
<tr>
<th>Characterize stakeholder</th>
<th>Indicate which stakeholder is under analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classified as:</td>
<td>Indicate stakeholder roles and e-government entities here.</td>
</tr>
</tbody>
</table>

**Assess and describe how the stakeholder is affecting or will be affected by the public e-service:**
Indicate in what ways the stakeholder is affected by the public e-service, and/or how the stakeholder is affecting the public e-service. This assessment can cover changes in the stakeholder’s work procedures, as well as the stakeholder’s formal role and responsibilities in relation to the public e-service.

**Assess and describe the stakeholder’s attitudes towards and expectations/experiences of the public e-service:**
Indicate the stakeholder’s stance in relation to the public e-service.

**Assess and describe the stakeholder’s relationships to the other stakeholders:**
Indicate the stakeholder’s relationships with other stakeholders identified in the analysis.

**Assess and describe indicators of the stakeholder being a potential threat and/or support to the achievement of the public e-service’s objectives:**
Indicate if, and in what ways, the stakeholder could be seen as a threat, or support, to the successful development and implementation of the e-service.

**Assess the stakeholder’s salience:**
Indicators of **power**: Formal power can be assessed by investigating the formal structures for affecting the public e-service. Informal power structures must also be investigated and can be partly assessed by investigating whose input is allowed to influence the design of the public e-service; who is given precedence before others (aside from the formal structures).

Indicators of **legitimacy**: Can be assessed by investigating whether the stakeholder’s actions and connection to the public e-service is perceived as proper, desirable, and appropriate by the stakeholder itself, and by others. This is a highly relational attribute.

Indicators of **urgency**: Can be assessed by investigating the stakeholder’s sense of interest, time sensitivity, and criticality in relation to the public e-service. In contrast to the other attributes, this attribute is of subjective nature.

→→ **Stakeholder salience type**: Indicate stakeholder type (based on Mitchell et al.’s (1997) typology).

**Stakeholder involvement:**
Indicate whether the stakeholder has been/will be involved.

If the stakeholder has been involved – assess and describe how the stakeholder has been involved using the stakeholder involvement attributes.

- Type: all users, representatives
- Degree: informative, consultative, or participative
- Content: e.g., technical design, design of work processes, sociotechnical design
- Frequency: indicate frequency of interactions with stakeholders
- Formality: formal, informal
- Influence: input ignored, contribution considered, input taken seriously

**Other available information for consideration:**
If additional information is deemed important for the understanding of the stakeholder in question, that information can be indicated here.
The stakeholder characterization can be complemented with illustrations of stakeholder salience and stakeholder relationships (as illustrated in Figures 8.4; 9.3; 10.3, and 10.4. in the analysis chapters).

11.3. **Logic and cohesion of the Public e-Service Stakeholder Framework**

According to the hermeneutic research tradition, the quality of the research can be judged in relation to its internal cohesion (Ödman, 2007; Alvesson and Sköldberg, 2000; Johansson, 1999). In this section, the logic of the framework and the cohesion of the theories combined in the conceptual framework are discussed.

11.3.1. **The logic of the framework**

As indicated and illustrated previously, the framework is made up by several steps (see overview in Figure 11.1 below). In this thesis it is argued that a public e-service must be understood as being made up by both technology (an IT artifact and support systems in the supplying organization) and a service process. It is also argued that the particularities of the public sector context in which the e-service is situated must be taken into account when characterizing a public e-service. Hence, a public e-service is not an easily distinguishable entity; rather, a public e-service is a composite of various technology, processes and people. In order to identify stakeholders in relation to a public e-service it is therefore important that the public e-service is carefully defined and described. In the framework, guidance for such definition and description is given using the characteristics and questions presented in the second step of the PeSS framework.

Once the scope and content of the public e-service is set, the stakeholder typologies presented in the third step of the PeSS framework can guide the identification of potential stakeholders in relation to the public e-service in question. The assessment of potential stakeholders results in a list of individuals, groups, or organizations that affect, or are affected by, the public e-service.

In the next step, the potential stakeholders can be analyzed further using the stakeholder characteristics presented in chapter 4. This investigation aims at assessing the stakeholders’ salience attributes (power, legitimacy and urgency) in order to determine stakeholder type for each potential stakeholder. Information about each stakeholder can then inform further analyses of various kinds. In this thesis, issues concerning involvement in the development and implementation process of the public e-service are investigated. The involvement attributes can be assessed, resulting in knowledge on how public e-service stakeholders can be identified, characterized, and involved in the development and implementation of a particular public e-service.
I perceive the framework as being made up by certain a logic and components. The logic refers to the structure of the framework and the order in which the analysis is to be carried out. The components refer to the parts of the framework and their specific content. I perceive the logic of the components as more important than their specifics; the content of the components are exchangeable with other content as long as it addresses the same type of issues. By this I mean that the component characterizing public e-services could be exchanged by a component characterizing another type of information system. The component regarding stakeholder roles and entities could be exchanged with a component containing another typology than the ones presented here, and so on. Similarly, as mentioned in section 11.1.2., the content of the components lends well to various levels of operationalization. I prefer the design of the components as presented here for addressing the question posed in this thesis, but other analysts with other questions and preferences could still use the logic of this framework and modify it as they see fit, as long as the components are internally coherent.

11.3.2. The internal cohesion of the framework

In chapters 8-10, I illustrated how the provisional version of the framework could be used to structure and understand an interpretive case study on public e-service development and implementation. In chapters 8 and 9, the provisional framework was used to structure the thick descriptions of what happened during the two phases of Anonymous Exams. In chapter 10, the provisional framework was used to abstract a number of useful lessons
learned from the case in question. As discussed in section 11.1 above, the experiences of using the provisional framework for analyzing the interpretive case study (in chapters 8-10) has then influenced and shaped the design of the revised version of the framework presented above. Hence, the PeSS framework is empirically grounded, and its usefulness in practice has been displayed, particularly in chapter 10. It is therefore possible to claim that the work presented here corresponds with the general IS ideal of applicability and practical relevance (Robey, 2003). Illustrating applicability and utility of the PeSS framework is however not enough when wanting to claim that the framework lives up to the hermeneutic quality criteria discussed in section 2.6. This section is therefore devoted to illustrating that the PeSS framework is also internally coherent (see section 2.6.1.).

Internal cohesion refers to whether the inner structure and components of the framework fit together (Ödman, 2007; Alvesson & Sköldberg, 2000; Johansson, 1999). In Table 11.6 some general characteristics of the three main research themes covered in this thesis are displayed, referring to (1) public e-services, (2) stakeholder theory, and (3) user involvement. These three themes are described in relation to their origin, goals, values, and perspectives. ‘Origin’ refers to the general research field from which this research originates. ‘Goals’ refers to the typical, ideal, goals that this research theme is trying to fulfill. ‘Values’ refers to principles that are considered to be desirable in this line of research. Considering that all three themes deal with organizational issues, the label ‘perspective’ refers to which perspective the research theme is taking in relation to the organizational hierarchy. The perspective is understood as being bottom-up, middle-out, or top-down. ‘Bottom-up’ refers to when the perspective of the people at the bottom of the organizational hierarchy is used as the point of departure; whereas ‘top-down’ refers to when a top-management perspective is adopted. ‘Middle-out’, in turn, refers to the middle-management perspective. The aim of this illustration is not to plunge into an elaborate theoretical discussion on underlying philosophical assumptions, but to merely display the general similarities and disagreements between these theoretical perspectives. For that reason, the discussion is held on a general and simplified level.

Starting with the research on public e-services referred to in this thesis, this literature has its origin in the e-government research field. The e-government literature is highly diverse and interdisciplinary. The complexity of e-government is reflected also in the literature on public e-services, where some scholars focus on the technology, whereas others focus on organizational and managerial issues, and some focus on citizen- and democracy issues in relation to public e-services. The goals of public e-services research, adopted in this thesis, correspond with the general goals of e-government. These goals are founded on policy documents such as the Ministerial Declaration on eGovernment (2009). From these goals, a set of values can be extracted; ‘ease of access’, ‘efficiency and effectiveness’, and ‘transparency and democracy’. Top-down or bottom-up perspectives are the dominant perspectives in e-government literature on public e-services, but there are also publications focusing on the middle management, or project management perspective.
Turning to stakeholder theory, this research theme has its origins in managerial literature. A simplified description of stakeholder theory is that it aims to help managers to openly and thoughtfully address questions about the purpose of the organization and the responsibilities of managers to specific stakeholders (Freeman, 1981; 2010; Mitchell et al., 1997). Although the normative strand of stakeholder theory also discusses stakeholders from an ethical and moral standpoint (Flak et al., 2008; see section 4.1.), the main values of stakeholder theory in general still involve successful management and profit for the focal organization. The dominant perspective is the ‘top-down’ perspective; meaning that stakeholders are understood from the managers’ perspective.

Table 11.6: An overview of the general origins, goals, values, and perspectives of the three theoretical fields supplying concepts to the framework.

<table>
<thead>
<tr>
<th>Origin(s)</th>
<th>Goal(s)</th>
<th>Value(s)</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public e-services</strong></td>
<td>Improve citizens’ interactions with government</td>
<td>Ease of access</td>
<td>Top-down, Middle-out, or Bottom-up</td>
</tr>
<tr>
<td></td>
<td>Make governmental organizations more efficient and effective</td>
<td>Efficiency/effectiveness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase the transparency of government and lead to a more democratic society</td>
<td>Transparency/democracy</td>
<td></td>
</tr>
<tr>
<td><strong>Stakeholder theory</strong></td>
<td>Help managers to openly and thoughtfully address questions about the purpose of the organization and the responsibilities of managers to specific stakeholders.</td>
<td>Successful management</td>
<td>Top-down</td>
</tr>
<tr>
<td></td>
<td>Protecting managerial and organizational interests</td>
<td>Profit</td>
<td></td>
</tr>
<tr>
<td><strong>User involvement</strong></td>
<td>Full participation of all users in decisions that affect their work situation (in order to formulate objective that fit with the needs of the users)</td>
<td>Democracy, Transparency, Workplace satisfaction</td>
<td>Bottom-up</td>
</tr>
<tr>
<td><strong>Political</strong></td>
<td>Ensuring information and knowledge needed for designing IT that supports the actions of the intended users.</td>
<td>Successful IS design, Acceptance of technology</td>
<td>Top-down or Middle-out</td>
</tr>
<tr>
<td><strong>Technical</strong></td>
<td>Stimulation user acceptance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Considering the user involvement literature, it can be understood as having either a political or technical origin (Ehn, 1993). The political origin and focus is visible in the humanistic approach to user involvement represented by scholars such as Mumford (2000; 2003). In this line of user involvement literature, the focus lies on workplace satisfaction and democracy in the workplace. User involvement is seen as a way of ensuring workers’ quality of work and designing work systems that fit with the needs of the workers. Democracy, transparency, and workplace satisfaction are therefore seen as
important values. This approach has an obvious bottom-up perspective on the actors in the organization. The technical approach to user involvement, on the other hand, is visible in the general IS development literature, in which the focus lies on designing IT systems. In this literature, user involvement is seen as a way of ensuring information and knowledge needed for designing high quality IT that can support people in their work. It is also seen as a way of stimulating user acceptance of new technology. The desirable values can be summarized as successful IT design and acceptance of technology. The perspective on the organization in this line of research is typically ‘top-down’ or ‘middle-out’, considering that user involvement often is organized on the project level.

As illustrated in the table above, there are similarities and differences between the three research themes focused in this thesis. If using the literature on public e-services, and hence e-government, as the point of departure for a more elaborate comparison, some interesting issues emerge. First, all of the three goals of public e-services are inherently political. Two of them, the goal of improving citizens’ interaction with government and increasing transparency and democracy, correspond well with the goals of the political branch of user involvement research, in which increased influence for workers (or citizens) is emphasized. The second goal, however, focuses on the economic values and goals of the government and corresponds well with the managerial focus of stakeholder theory and the technical stream of user involvement literature.

If comparing the three research themes from a stakeholder theory perspective instead, it is clear that the underlying values of stakeholder theory do not fully overlap and correspond with the values of e-government. Stakeholder theory takes a managerial perspective. As discussed in section 5.1, I have chosen to present a merger of ideas on stakeholder management with concepts and ideas from the user involvement literature. The reason for this merger is that I find the user involvement take on how to ‘manage’ people affected by new technology as more cohesive with the ideas of public e-services. In addition, it clarifies the role of technology in relation to public e-services. Considering that the goals of public e-services include both the needs and wishes of the citizens, and an increased efficiency and effectiveness of government, it is vital that the project management responsible for public e-service development is able to expand their outlook to include all of these actors. It is also important to consider involving representatives of these various stakeholder groups in the development and implementation of the public e-service in various ways. This requires a more humanistic outlook on stakeholders than the one presented in the stakeholder theory literature covered in this thesis. In this thesis, the merger is constituted by combining ideas and concepts for how to identify and characterize stakeholders extracted from stakeholder theory, with concepts and attributes for understanding stakeholder involvement extracted from the user involvement literature. This means that ideas on stakeholder management have been excluded in favor of user involvement concepts. The merger is perhaps not particularly advanced; the concepts are merely extracted and aligned. I believe that, with time, these concepts can be
elaborated and integrated further as the framework is used in relation to additional case studies.

If characterizing the PeSS framework in a similar way as the three themes were characterized above, Table 11.7 emerges. In Table 11.7 it is illustrated how the PeSS framework origins from research on public e-services, stakeholder theory, and user involvement. The goal of the framework is twofold. The first goal is directed towards the research community interested in public e-service stakeholders; to help researcher understand public e-service stakeholders. The other goal is to help project managers to develop and implement public e-services which fulfill the goals of e-government, through inclusive development and implementation processes. The values for the PeSS framework include (1) ease of access and use for intended users of public e-services, and (2) efficiency and effectiveness for organizations supplying public e-services. The third value, (3) transparency and democracy, can be understood both in relation to the public e-service in itself, and the process of developing and implementing a public e-service. Considering the project management perspective of the framework, the perspective on the organization is by necessity ‘middle-out’. In the e-government literature, public e-services are often discussed from a citizen perspective or a management perspective. By combining stakeholder theory with user involvement issues, and adhering to a middle-out perspective, I aim to promote a discussion on public e-services from a citizen and a management perspective combined. The stakeholder/user involvement approach also implies that both of these groups are made up by multiple layers of people and processes that need to be taken into account when developing public e-services.

Table 11.7: An overview of the origin, goal, values, and perspective of the Public e-Service Stakeholder Framework.

<table>
<thead>
<tr>
<th>Origin</th>
<th>Goal</th>
<th>Values</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>The PeSS Framework</td>
<td>Research on public e-services, stakeholder theory, user involvement.</td>
<td>To help researchers understand public e-service stakeholders. To help project managers to develop and implement public e-services which fulfill the goals of e-government, through inclusive development and implementation processes.</td>
<td>Ease of access and use for intended users. Efficiency and effectiveness for supplying organization. Transparency and democracy.</td>
</tr>
</tbody>
</table>

An final caveat regarding the use of the framework

An important lesson learned from the work underlying this thesis is that the purpose and focus adopted in the stakeholder analysis influences what salient stakeholders will emerge from the analysis. In relation to most public e-services there will be no such thing as an ‘objective set of stakeholders’ just waiting to be discovered and it is highly unlikely that the analyst will be able to capture the ‘whole picture’. In this section I illustrate this statement with examples from the Anonymous Exams case study.
This thesis is written from a project management perspective due to the fact that I was allowed to follow the project management in the AE-project; they provided the admission to the case. The management perspective is however somewhat broadened to include the project management also as stakeholders in relation to the public e-service at hand. If the analysis had been made by the members of the AE-project group, they would probably not have included themselves in the analysis, and the result would therefore have been different. The perspective adopted in the stakeholder analysis conducted in this thesis meant that several stakeholders were ‘black-boxed’, in particular the regular students. If I had investigated the same case using the same conceptual framework, but conducted the analysis from the students’ perspective, it is likely that the student group would have been more in focus, and probably dividable into several stakeholder groups (based on study subjects, stance towards anonymity, class size, or similar). It is also likely that the AE-project group would have been ‘black-boxed’ into one stakeholder group, as the university management is not particularly transparent for students in general. Similarly, if I had investigated Anonymous Exams with a more pronounced technical focus, more stakeholders involved with the technology are likely to have been visible. For example, it is probable that the external IT consultant and the IT unit at the university would have been more salient in relation to Anonymous Exams than in the analysis conducted in this thesis. The point made here is that there is no objective reality in which there is a set of stakeholders, and that by using the ‘right’ tool, we can gain access to all of these stakeholders. Instead, stakeholders are subjective/relative entities that become visible in relation to concepts included in the Public e-Service Stakeholder framework, and in relation to the purpose and focus of the stakeholder analysis.

11.3.3. Target groups and possible scenarios for the Public e-Service Stakeholder Framework

As stated in the introduction to this thesis, and in the previous subsection of this chapter, there are two main target groups for this thesis and the Public e-Service Stakeholder Framework. This thesis is directed towards researchers and practitioners interested in advancing their understanding of what constitutes a public e-service, how the development of a public e-service is shaped by the stakeholders involved in the development process, and how the implementation of a public e-service can affect the life and work of different stakeholders.

In the overview of the framework given in Table 11.7 above, the goal of the PeSS framework directed towards researcher was summarized as to help researchers understand public e-service stakeholders. The aspiration of the framework is to function both as a descriptive and prescriptive guide for how to understand public e-services, public e-service stakeholders, and the linkages between them. I see the framework as a foundation for scientific investigations of a multitude of different issues. Here, the identification and characterization of stakeholders have been put in the foreground. With the same framework, stakeholder involvement could have been put in the foreground, or
Chapter 11: The Public e-Service Stakeholder Framework

problematization of the content of the typologies presented. Similarly, the framework could have been used to analyze characteristics of public e-services in a more salient way than done here, analyzing how different types of public e-services can be understood in relation to e.g., their stakeholders. Additional possible research scenarios involving the PeSS framework include;

- Investigations of public e-service stakeholders, focusing on involvement issues, benefits realization analyses, etc.
- Comparative studies of public e-services for different purposes, in different countries, with different user groups, etc.
- Critical studies of public e-service stakeholders, focusing on whose voices are heard in public e-service development projects, issues of empowerment, etc.

In Table 11.7, it was stated that the second goal of the PeSS framework was to help project managers to develop and implement public e-services which fulfill the goals of e-government, through inclusive development and implementation processes. This goal refers to those working with IS development in general, and who struggle to determine and understand the importance and impact of stakeholders in relation to any information system, might find the logic and content of the framework useful in their work. I hope that the framework can help practitioners to think about stakeholders in a structured and deliberate way, and use the framework to investigate stakeholders in relation to the public e-services they have at hand. Possible scenarios for practitioners involving the PeSS framework include;

- Investigations of public e-service stakeholders for system requirements analyses, user testing strategies, system training activities, etc.
- Investigations of public e-service stakeholders for user involvement, marketing, and communication strategies, etc.

In order for the framework to constitute a helpful tool for researcher and practitioners to structure and present information about public e-service stakeholders, it is essential that the descriptions made in each of the steps are not too lengthy or detailed. It is probably true for all conceptual frameworks of the kind presented in this thesis, that there is indeed an inherent conflict between the precision and amplitude of the framework. There is a need for precision in order to gain detailed information and knowledge about the stakeholders involved in relation to a public e-service. Still, too much detail and information will not be helpful. Too many questions to answer and too much detail in the descriptions will make it difficult to perform the analysis. In relation to the PeSS framework it is still too premature to determine if there is a good balance between its precision and amplitude; this can be determined with further use of the framework.


12. CONCLUSIONS AND FUTURE RESEARCH

In this chapter, the research question is addressed in order to conclude the contributions of this thesis. Furthermore, the quality and consistency of the research presented in this thesis are discussed, followed by a discussion on the knowledge contributions of this thesis. The chapter is concluded with suggestions for future work on this topic.

12.1. Conclusions

Public e-services have the potential of improving the quality of work and life for many people in our society. Public e-services also have the potential of unintentionally excluding citizens from public services, or making work unnecessarily complicated for service providers in governmental organizations. For those reasons, the development of public e-services must not be left to chance; they must be thoughtfully and skillfully developed and implemented in order to live up to their potential. Part of such thoughtful and skillful development and implementation involves an understanding of who are affecting, or are affected by, the public e-service; i.e., public e-service stakeholders. For this reason, the research question posed in this thesis was formulated as follows;

How can stakeholders of a public e-service be identified, characterized and involved in order to inform the development and implementation process of that particular public e-service?

In order to address the research question, the thesis aimed at formulating a conceptual framework for understanding how public e-service stakeholders can be identified, characterized and involved. A provisional version of the conceptual framework was generated through a hermeneutic approach in which both theoretical and empirical work informed the structure and content of the framework. The framework was formulated by extracting, structuring, and interrelating concepts, models, and methodologies concerning (1) public e-services, (2) public e-service stakeholder identification and characterization, and 3) stakeholder involvement. The provisional version of the framework was then used to analyze thick descriptions of an interpretive case study covering the development and implementation of a public e-service at a Swedish university. The analysis was divided into
two parts, each part representing a phase of the lifecycle of the development and implementation of the public e-service. The analysis resulted in a number of lessons learned regarding how stakeholders can be identified, characterized and involved in relation to the development and implementation of a particular public e-service. The analysis also resulted in some changes to the provisional version of the framework and led to the presentation of the Public e-Service Stakeholder (PeSS) Framework.

12.1.1. The Public e-Service Stakeholder Framework

The PeSS framework was presented in its totality in chapter 11. In short, the PeSS framework includes four sequential steps, each including tools for characterizing public e-service stakeholders. In the first step, the analyst is urged to define some meta-level preconditions for the analysis, including during which development phase the analysis is conducted, and for what aim and purpose. The second step of the framework presents tools for assessing, describing, and characterizing a public e-service. A public e-service must be understood as being a service process mediated through the use of an Internet-based, interactive and integrated IT artifact. In addition, the public sector context must be acknowledged in relation to the e-service. These highlighted features are referred to as being three inherent dimensions of a public e-service. A phenomenon that is usually referred to as being a mere website is thus something much more complex and extensive; and it is vital to understand that each of the public e-service dimensions entail different sets of attributes and stakeholders, and different consequences for those stakeholders.

The third step of the PeSS framework provides tools for further investigation of the information gathered in the second step. The purpose of this investigation is to identify the potential stakeholders of the particular public e-service. Stakeholders can be individuals, groups, and organizations and their relationship to the public e-service can be diverse; e.g., some are affecting the development or implementation of the public e-service, whereas others are affected by it; or both. It is vital that potential stakeholders are carefully assessed in order to avoid the risk of focusing only on stakeholders that are obvious (e.g., stakeholders with high status roles in relation to the public e-service) and self-selected stakeholders (e.g., stakeholders with a strong sense of urgency in relation to the e-service).

In the fourth step of the framework each potential stakeholder is assessed, described, and characterized through the use of a set of statements. The ultimate aim of the forth step is to assess each stakeholder’s salience in relation to the public e-service at hand; i.e., to assess the stakeholder’s visibility and importance in relation to the public e-service. In this thesis, attributes for investigating whether, and how, a stakeholder has been involved in the development or implementation process are included in this step. Stakeholders can be involved in various ways, extent, and to different degrees. In the PeSS framework, stakeholder involvement is assessed using a set of stakeholder involvement attributes.

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1 See chapter 3 for an elaborate discussion on the public e-service dimensions.
In chapters 8-10, it was illustrated how the PeSS framework can be used to structure and understand public e-service development and implementation in practice. Apart from being empirically grounded, the PeSS framework is also internally coherent, as illustrated in section 11.3.2. In this thesis, the hermeneutic process of formulating the PeSS framework implies that the research question has been partially addressed throughout the thesis, particularly in relation to the specific interpretive case study. The analysis of the empirical work, and the revision of the provisional conceptual framework, resulting in the PeSS framework, ultimately makes it possible to address the research question posed above.

12.1.2. Addressing the research question

As stated in the introduction to this thesis, the research question has been formulated as one sentence but can be broken down into two parts (see section 1.2.). The first half of the question – How can stakeholders of a public e-service be identified, characterized and involved – constitutes the main focus of this thesis. The second half of the question – in order to inform the development and implementation process of that particular public e-service? – is used to set some delimitations of the scope of the question. Stakeholders are indeed important to take into account during all phases of a public e-service’s life cycle, but in this thesis the scope was limited to the development and implementation phases of public e-services.

Turning to the main focus of the research question, stakeholders can be identified and characterized using the PeSS framework. Using the framework for analyzing the Anonymous Exams case study successfully illustrated how the framework provided a useful structure for identifying and characterizing stakeholders in relation to Anonymous Exams in an iterative manner. This structured outlook on the empirical material provided me with tools to identify stakeholders that I had overlooked during the data collection. In chapter 8, 9 and 10, I illustrated how additional stakeholders to the ones identified on a commonsensical notion of the circumstances of the case study, were identified both in relation to the development phase, and the implementation and use phase of Anonymous Exams. As discussed previously, it is very likely that I would have been able to identify these stakeholders at an earlier stage if I had had access to the framework when designing the data collection.

In the e-government literature, public e-services are often discussed from a citizen perspective or a management perspective. By combining concepts from stakeholder theory with user involvement concepts in the PeSS framework, and by adhering to a middle-out perspective on public e-services, the framework supplies tools to discuss public e-services from a citizen and a management perspective combined. This combination also illustrates how the ‘citizens’ and the ‘government’ must be understood as being made up by multiple layers of people and processes that need to be taken into account when developing public e-services.
Chapter 12: Conclusions and Future Research

Considering how stakeholders can be involved in the development and implementation process of a public e-service, the PeSS framework provides tools for assessing and describing stakeholder involvement activities. In this thesis, the analysis of stakeholder involvement focused on the degree to which stakeholders were involved in the development of a particular public e-service. In that analysis, I illustrated how it is possible to draw prescriptive and normative conclusions about a particular case using the PeSS framework. Note, however, that the PeSS framework is not necessarily normative in itself, but can be used for normative purposes in relation to the specific case. This feature of the PeSS framework was illustrated in relation to the Anonymous Exams case study (in chapter 10), where the concepts included in the framework helped to suggest a number of lessons learned from the case study, such as an alternative stakeholder involvement strategy to the one used in the actual AE-project. The stakeholder involvement strategy suggested in chapter 10 consisted of two guiding statements: (1) all stakeholders should be informed about the public e-service in ways that are tailored for each stakeholder. Similarly, concerning the development of work processes and IT artifacts, (2) it is vital that representatives of those already working, or who will be working, with the service process and the technology supporting the process are consulted. The first statement refers to that a public e-service stakeholder per definition is affected by the development/implementation of the public e-service. In the Swedish context, people who are affected by significant changes in their workplace are entitled by law to be informed about and even, to some extent, have a say in what is happening. From a workplace democracy perspective, it can therefore be argued that some public e-service stakeholders have legal (or at least moral) rights of being informed about the public e-service. The first statement also refers to that, in most cases, it is likely that the development and implementation process will run smoother if all involved stakeholders are aware of what is happening and have realistic expectations of what is to come. For some of these stakeholders, deeper involvement is needed (as indicated by the second statement above) simply because it increases the likelihood of successful public e-service development by e.g. ensuring sufficient user requirements, facilitating testing of user interfaces, and, in the long run, helping those responsible for the public e-service to make informed decisions.

These statements are obviously presenting an ideal picture. In this thesis it is acknowledged that there are many obstacles for such stakeholder involvement, such as limited knowledge, time, and resources (as is illustrated in the case of Anonymous Exams). In addition, there will always be a need for improvisation and adjustments to local conditions. In the introduction to this thesis, I stated that the importance of user involvement would be taken somewhat for granted in this work. There are indeed many issues concerning stakeholder involvement that have not been addressed in this thesis and that need to be further addressed in future research. In some situations, for example, it can even be argued that it is immoral to involve stakeholders in the development of public e-service. For example, when a stakeholder’s work is to be exchanged by an automated system, resulting in that the stakeholder is laid off. In this kind of situation,
stakeholder involvement can be understood as a situation in which the stakeholder is forced to contribute to her/his own redundancy. Also, in this thesis, the focus is on stakeholders’ rights and possibilities for involvement, not on involvement as a possible obligation for some stakeholders.

The aim of the PeSS framework is to provide tools for researchers, as well as practitioners, interested in advancing their understanding of what constitutes a public e-service, how the development of a public e-service is shaped by the stakeholders involved in the development process, and how the implementation of a public e-service can affect the life and work of different stakeholders. A systematic and deliberate analysis of a public e-service and its stakeholders, using the PeSS framework, can effectively illustrate that different stakeholders do matter for public e-service development. Similarly, it can help illustrate who is affecting the design of the public e-service and how. Applying the framework on a particular case can also help give prescriptive and normative directions on who should affect the design of the particular public e-service, and why. These assessments are all important tools for anyone interested in studying the emergence of e-services in the public sector, or working with the actual development of those e-services.

I see the framework as a foundation for investigating a multitude of different issues. Here, the identification and characterization of stakeholders have been put in the foreground. With the same framework, stakeholder involvement could have been more clearly focused, or stakeholder implications of various types of public e-services could have been put in the foreground. When wanting to understand the workings of any public e-service it is important to understand who initiated this e-service, and for what purposes; whose interests guided the development of the public e-service in the first place? Furthermore, who was assigned to design the service process, and who was assigned to design the IT artifact? What knowledge and experience do these developers have of such activities? From whom do they take advice on how to design their parts of the system? In order to understand how a public e-service is developed, how it is intended to be used, and why people use it, or refrain from using it, we must find answers to all of these questions. The framework presented in this thesis can guide such an inquiry. Further suggestions on how to use the framework, and for what purposes, are presented in section 11.3.3.

12.2. The quality and consistency of the thesis

The work presented in this thesis was conducted according to the qualitative research tradition and was built on interpretive assumptions of the world and the people in it. The main product of the thesis, the Public e-Service Stakeholder Framework, is the result of an intricate interplay between theoretical and empirical work. This section deals with the overall quality and consistency of this work by discussing it in relation to the principles for conducting and evaluating interpretive research (Klein and Myers, 1999) and by addressing the nature of the knowledge contributions made (Goldkuhl, 2011).
12.2.1. Applying the principles for conducting and evaluating interpretive research on the conducted research

Klein and Meyers’ (1999) seven principles for conducting and evaluating interpretive research, here called hermeneutic principles, were presented in section 2.6. In this section, these principles are discussed in relation to the work presented in this thesis.

The fundamental principle of the hermeneutic circle

A significant feature of hermeneutic research is the moving back and forth between different parts and the whole; represented by the fundamental principle of the hermeneutic circle (Klein and Myers, 1999). In this thesis, the greater whole is meant to supply an answer to the research question, namely How can stakeholders of a public e-service be identified, characterized and involved in order to inform the development and implementation process of that particular public e-service? In order to investigate this issue, the work presented here can be understood as an intricate weave of wholes and parts. For example, in this thesis the different theories contributing to a greater understanding of the phenomena in focus can be understood as parts, e.g., the theoretical building stones (parts) making up the characterization of public e-services (the whole). The various stakeholders described in the case study can also be understood as parts of a greater whole, where each stakeholder (part) contributes to the understanding of Anonymous Exams (the whole). In addition, for each stakeholder group identified, the accounts given by different individuals (the parts) contribute to the understanding of the greater group (the whole) to which they belong. The empirical instances can also be understood as parts of the abstract phenomena represented by the theoretical accounts. Understanding is thus a result of a circular, iterative, movement from the whole, to the parts, and back again, until gaps and contradictions in the theoretical and empirical materials are satisfactorily resolved (Ödman, 2007).

As stated in section 2.6.1, there are three general criteria for knowing when to bring the analysis to an end; when (1) the interpretations are internally coherent (Ödman, 2007; Alvesson and Sköldberg, 2000); (2) the interpretations are supported by facts resulting from the interpreted material (Ödman, 2007; Alvesson and Sköldberg, 2000); and (3) the researcher manages to communicate the interpretations in a way that makes it possible for a reader to follow how the researcher arrived at the insights (Ödman, 2007; Klein and Myers, 1999). In the previous chapter, presenting the Public e-Service Stakeholder Framework, the internal cohesion of the framework was discussed and illustrated. Considering that the framework is the main result of this thesis, the internal cohesion of the framework also reflects the cohesion of the work underlying the framework. The second criterion is difficult to illustrate in a written up account of the research such as this thesis; it ultimately becomes a matter of trust between the researcher and the reader. In my work, I have continuously cross-checked the interpretations made with the interpreted material in order to live up to this criterion. The reader only gets access to the interpreted material and has to trust that this criterion is met. In order to build that trust, the third
criterion comes into play. I have tried to be clear, honest, and precise in my accounts of the interpretations made along the way; I hope that the reader has been able to follow that path and come to similar conclusions.

**The principle of contextualization**

By describing the background and organizational context of the case study, and by giving broad, as well as specific, accounts of the literature used in this thesis, the principle of contextualization was met. I believe that I have managed to capture enough of the context needed to understand public e-service stakeholders in an informative and useful way. By analyzing the case study in several steps, the dynamics of social, organizational and technical contexts were satisfactorily captured. Had the case study not been longitudinal, many interesting aspects of the case study would indeed have been missed, such as the shifts in stakeholders’ stance and salience seen when comparing accounts given during the two phases.

**The principle of interaction between the researcher and the subjects**

As indicated in chapter 2, section 2.4.2, the term ‘data collection’, as used in this thesis, does not mean that the researcher goes out into the world and picks pieces of information for the research. Rather, ‘data collection’ refers to the researcher’s production of text, resulting from the social interaction between the researcher and the participants (Myers, 2009; Orlikowski and Baroudi, 1991). This feature makes the principle of interaction between the researcher and the subjects important. In the Anonymous Exams case study, the collection of data is a result of the interaction between me and employees in the organization in question, and predominantly with the employees who worked in the project group. Regarding the relationships between the participants of the case study and myself as a researcher, I can only account for my view of this relationship. I acknowledge that the participants being observed and interviewed in the case study may have altered their behaviors in accordance to what they thought would seem appropriate for a researcher. It is however difficult for me to tell to what extent behaviors were altered, considering that the case study documented unique occurrences without possibilities to investigate such issues.

Concerning my relationship with the AE-project group members, I experienced our cooperation as fruitful and positive. I got the impression that the AE-project group members were genuinely interested in the research project and appreciated my presence. Several members of the project group showed particular interest in the research project. The very same individuals were classified as project champions in the stakeholder characterization (see discussion in section 10.1.1). The strong commitment to the project probably has several reasons, and the participation in the research project may be one of them; knowing that they were being observed, and that their actions were documented by a researcher, might have contributed with additional incentives for wanting to succeed with Anonymous Exams. Concerning other participants in the case study, some of the
participants representing the other stakeholder groups seemed to perceive me as an ambassador of the project management. These individuals asked me to forward messages to the project group. In these cases I found it important not to deceive the participants concerning my role and objectives. The research project conducted was not of an action research character; meaning that I did not actively and continuously feed information back into the AE-project in order to affect the outcome of the project. I therefore did not want participants to think that what I was told would be directly forwarded to the AE-project group. In addition, it was important that I was understood as an outsider of the project in order to open up for criticism of the AE-project. For most part, I experienced that I managed to build good relationships with the participants of the case study and perceived them as being genuinely interested in sharing their experiences with me.

**The principle of abstraction and generalization**

The principle of abstraction and generalization stresses the importance of theory in interpretive studies. Theory has played an important role in this thesis. In this thesis, theory has chiefly been used as part of the iterative process of data collection and analysis, i.e., the second use of theory as discussed by Eisenhart (1989) and Walsham (1995). Along with the aims of the SAFe and FACe research projects (see section 2.2.2), my pre-understanding and prejudice guided the initial considerations of work underlying this thesis. This guide was quite loose however, as I wanted to be open to what the empirical work might be bringing my way. Hence, during the initial phases of the research presented in this thesis, theory functioned as a sensitizing device that has affected my world view in certain ways. The theoretical work grounding the conceptual framework was performed as an iterative process, moving back and forth between the empirical and theoretical work. As the work progressed (both theoretical and empirical), the theoretical concepts and the frames for the thesis became clearer and more solid. Concerning the main concepts addressed in this thesis, public e-service and stakeholders, one of the main objectives have been to contribute to conceptual clarifications of these concepts in the public e-service context.

Concerning generalization, the formulation of the framework has not only worked as a theoretical lens for understanding the empirical work, but also as a final product of the thesis in itself. Eisenhart (1989) states that research of this kind can present theory as its final output. The conceptual framework presented in this thesis provides analytical generalizations to theory and a meta-level model containing of concepts, models, techniques and methods (Jayaratna, 1994). As discussed in section 2.4.1, the conceptual framework can be understood as the core of a theory for analyzing and explaining (Gregor, 2006) public e-service stakeholders. This means that the PeSS framework can be used to analyze the essence of public e-service stakeholders. Based on this ‘what is’ type of knowledge, the framework can help explaining how and why things happen in a particular real-life situation (Gregor, 2006), as was illustrated in relation to the interpretive case study presented in this thesis. The goal of theory for explaining, and hence also the
framework presented in this thesis, is not to make predictions about the future, or to suggest testable propositions. Consequently, this type of theory is typically the result of hermeneutic approaches and interpretive field studies (Gregor, 2006), and therefore corresponds well with the aim and approach adopted in this thesis. The types of knowledge contributions made in this thesis are further discussed in section 12.2.2 below.

**The principle of dialogical reasoning**

According to the principle of dialogical reasoning, the researcher must make her/his pre-understanding and intellectual basis of the research as transparent as possible, both for the reader and the researcher herself (Klein and Myers, 1999). To uncover what is internalized and taken for granted is not easy. I have tried to be as precise as possible when describing my background, the motivations for the design of the study, choices of theories applied, and similar issues, throughout the thesis, in particular in chapter 2 when describing the research approach and process. For example, I have previously acknowledged that my own experiences of working at a university may have influenced the interpretations in several ways. As stated in chapter 7, it is possible that my previous experience has influenced the interpretations in a negative way; blocking the meaning of particularities of the accounts given by some participants. Even if that were the case, I believe that my experience has mainly been advantageous as it has served me with inside information on the activities and organizational structure of the university setting. I am confident that this experience has helped me in understanding the circumstances of the Anonymous Exams case study.

This particular principle also refers to the researcher’s approach to the text, emphasizing that the researcher engages in a dialogue with the text at hand (Johansson, 1999; Ödman, 2007). This feature of the principle overlaps with features of the fundamental principle of the hermeneutic circle (Alvesson & Sköldberg, 2000) and was addressed above.

**The principle of multiple interpretations**

In accordance with the principle of multiple interpretations (Klein and Myers, 1999), I have tried to be open to various interpretations; both in the case study material and in my interpretations of these accounts. In the analysis I have openly discussed these interpretations. In fact, the topic of this thesis allows for nothing else. Investigating stakeholders in relation to something means that interpretations from different angles must be done in order to understand the various stakeholders. Shifting from one perspective to another has been very educational, and has tried my ability to be emphatic (Johansson, 1999; Ödman, 2007) with the people with whom I have interacted in the case study.

**The principle of suspicion**

The principle of suspicion is similar to the previous principle discussed, but concerns the revealing of distortions and different forms of bias in the narratives collected from the participants (Klein and Myers, 1999). This principle has not been actively applied in this
work. It is nonetheless present in the sense that when there have been obvious distortions in the empirical material, these have been addressed. I have not, however, deliberately searched for such distortions or bias, as the critical interpretive researcher is likely to do (Ödman, 2007).

12.2.2. Knowledge contributions and other considerations

At very core of any research endeavor there is a will and intention to contribute with new knowledge. The knowledge contribution can take on different forms, but hopefully it fills some gap in the general understanding of a given phenomenon. The knowledge types\(^2\) addressed in the introduction of this thesis were categorized as descriptive, explanatory, prescriptive, critical and normative (Goldkuhl, 2011).

The thesis was organized in four different parts. The first parts introduced the content and scope of this thesis and gave an overview of the research approach adopted. The second part of the thesis presented the theoretical foundation of the thesis. The aim of that part was to contribute with a theoretically founded account of public e-services, stakeholder identification and characterization, and stakeholder involvement. These chapters hence contain descriptive and explanatory knowledge on these phenomena. Based on the theoretical chapters (chapters 3-5), a provisional version of the framework was generated, contributing with prescriptive knowledge on how to analyze stakeholders in relation to public e-services. In the third section of the thesis, knowledge contributions concerning how to identify and characterize stakeholders in relation to a public e-service are made. By using the provisional conceptual framework as a way of structuring and understanding the empirical case study, I have contributed with descriptive, explanatory, prescriptive, and critical knowledge on how stakeholders in public e-service development can be understood and described. In chapter 10, in which the findings from the analysis using the provisional framework were concluded in the shape of lessons learned, some normative statements regarding how to understand stakeholders in public e-service development were presented. Note that the framework is not particularly normative in itself, but that it can be used for normative purposes. The normative statements presented in this thesis are not innovative, but still relevant for public e-service development (see discussion in section 10.4).

In the last section of the thesis, the refined version of the Public e-Service Stakeholder Framework was presented. The PeSS Framework makes up the main knowledge contribution of the thesis. By structuring concepts and models concerning public e-services, stakeholder identification, stakeholder characterization and stakeholder involvement, a descriptive and explanatory meta-model of how to determine who matters for public e-service development and implementation is presented. In addition, the step-by-step manner of the framework implies prescriptive knowledge contributions on how to conduct stakeholder analyses.

\(^2\) See chapter 1, section 1.4, for definitions of these knowledge types.
As discussed in the previous chapter, some parts of the framework work better than others. Two distinct weaknesses of the framework concern (1) the identification of stakeholders with informal power, and (2) the capturing of stakeholder relationships. The aim of the framework was to enable both of these activities, but in the application of the framework on Anonymous Exams I was only partly successful in those respects. In both cases, there was not enough support in the framework to perform that type of assessment, and I had not generated the kind of empirical data needed for such an analysis. The cause for this problem can be traced back to the research design. In the initial phases of the thesis work, the theoretical and empirical work was carried out in parallel; later, when the data collection for the interpretive case study was concluded, the theoretical work continued. The importance of capturing stakeholder relationships and informal power structures was something I discovered late in the process, when the data collection was over. An advantage with interpretive case studies is that the researcher can revisit3 the case if additional information is needed for the analysis (Myers, 2009). I have contacted the participants in the Anonymous Exams case study a few times after the official data collection was concluded when I needed to clarify or validate accounts in the empirical data. Unfortunately, assessing informal power structures and stakeholder relationships are not analyses that can be made on retrospective or secondary data; data for such analyses should have been generated from the very beginning. A necessary future step in refining the framework therefore includes further development of components in the framework that can prepare, enable, and facilitate such analyses.

I believe that the work presented in this thesis constitutes a great leap forward in understanding how to investigate individuals, groups, and organizations that can affect, or be affected by, the development and implementation of a public e-service. Hence, this thesis contributes to the literature on e-government and public e-services. It also contributes to our understanding of how to analyze how and why some stakeholders should be actively involved in the development of public e-services, hence contributing to the literature on citizen/user involvement. The knowledge presented here is however mostly of a descriptive, explanatory, and prescriptive character. There is still some work left before the framework can be perceived as to contribute with normative or prospective knowledge (Goldkuhl, 2011), referring to knowledge that can help to proactively foresee probable outcomes of different actions and designs.

12.3. Future research

The framework has proven to be a valuable tool for identifying and characterizing public e-service stakeholders. My curiosity and interest in understanding this phenomenon is however not exhausted. In this section, some suggestions on future work on this topic are presented. First, each of the three themes addressed in the Public e-Service Stakeholder framework is addressed; focusing on public e-services, stakeholders, and stakeholder

3 Here, I refer to when the researcher contacts participants in the case study after the official data collection period is over, or conducts another round of data generation.
involvement. Then, some general ideas for future research based on the work presented in this thesis are presented.

Concerning the first theme of the PeSS framework, the characteristics of public e-services can be further explored. I see a possibility of creating a typology of public e-services that extend beyond the typologies based on interactivity, e.g., a typology that includes the issue and consequences of voluntary and compulsory use. Based on such a typology it would be interesting to investigate if some general conclusions can be drawn concerning if certain ‘types’ of public e-services are related to certain ‘types’ of stakeholders. It would also be interesting to investigate if some types of public e-services are more sensitive to the need of stakeholder involvement than others.

Turning to the stakeholder part of the PeSS framework, there are some unresolved issues regarding the stakeholder concept as presented in this thesis. In the PeSS framework, there is still some work to do regarding finding ways to identify stakeholders with informal power, and to better capture and illustrate stakeholder relationships. A topic for future research could therefore be to further investigate informal structures and relationships between stakeholders and how these influence the development and implementation of public e-services. Furthermore, the question of what the various stakeholder entities (individual, group, organization) entail and imply in relation to a public e-service was not sufficiently addressed in this thesis. In relation to this issue, it would be fruitful to investigate whether there are general implications that can be drawn from these three entities in terms of stakeholder characterization and salience.

The stakeholder involvement part of the PeSS framework, is open to extensive work for the researcher particularly interested in this field. Considering the broad focus of this thesis, it was not possible for me to delve into detailed discussions on various schools and traditions regarding user involvement in IS development. Instead, a general overview of the user involvement research field was presented and a set of overall attributes for describing and assessing stakeholder involvement were extracted for the PeSS framework. In the future, the stakeholder involvement step of the PeSS framework could be specialized to promote a certain user involvement tradition. In relation to the purposes of this thesis, I see that it would be fruitful to investigate stakeholder involvement from a legal and ethical perspective. When it is necessary to involve stakeholders in public e-service development from a legal perspective? When is it suitable (or not) to involve stakeholders in public e-service development from an ethical perspective? In relation to this theme, it would be interesting to investigate the potential conflict between stakeholders’ rights and obligations to be involved in public e-service development. On the methodological level, it would also be interesting to investigate the issue of stakeholder representation; e.g., to investigate how to identify suitable representatives for stakeholder involvement.
Concerning the PeSS framework in general, in this thesis the framework was generated by an intricate interplay between theoretical and empirical work. This means that the framework, by necessity, is true to the case from which it was generated. When the framework was applied retrospectively on the case study in order to investigate the research questions posed in the thesis, only minor alterations had to be made to the framework. In order to reach further understanding on public e-service stakeholders, a step forward would be to apply the framework on additional case studies involving public e-services to see if the framework transfers well to other studies of similar kind. Considering the complexity of the phenomena in focus, it is likely that additional applications of the framework will result in further modifications of the specifics of the framework. An aspiration of applying the framework on additional case studies would be to allow the framework to evolve into a tool that not only has descriptive value, but contains prospective knowledge (Goldkuhl, 2011) and can work as a proactive guide for how to identify and deal with stakeholders in public e-service development. Apart from testing the PeSS framework on other interpretive case studies, I would very much like to test the utility of the framework in real-time development projects of public e-services, in cooperation with practitioners facing the issues discussed in this thesis. It is likely that the complexity of the framework can discourage practitioners from using it in its current shape, and it would therefore be very interesting and fruitful to test and discuss the framework in cooperation with practitioners in order to find a ‘packaging’ of the framework that could work outside academia. In relation to this, it is possible that the PeSS framework would benefit from further operationalization of the various steps of the framework.

Identifying stakeholders in relation to public e-services is merely an instance of a greater problem; identifying stakeholders in relation to any information system. Another direction for the work presented here is therefore to expand the scope of the framework to identify stakeholders in relation to other information systems than public e-services. I have been encouraged by people with long time experience of IS development to expand the scope of the framework previously, but wanted to start out ‘small’ by focusing on one type of information system in this thesis. I believe that the overall logic of the framework is quite useful in its current shape, but that the specifics of the framework would have to be modified for such an expansion. Future work could therefore include making up several versions of the framework that are tailored for different kinds of information systems.

I believe that the framework can be seen as made up by components that are exchangeable with other equivalent components as long as the logic and the internal cohesion of the framework is preserved. As I see it, the PeSS framework lays the foundation for analyses of all sorts of issues related to public e-services and the people involved in the development, implementation, and use of these e-services; the possibilities for modifications and application areas of the Public e-Service Stakeholder framework are limited only by our imagination and interests.
REFERENCES AND APPENDICES


References


References


References


The literature on stakeholder theory is extensive and encompasses research from several different research fields and traditions. In order to use stakeholder theory in a meaningful and cumulative fashion, a literature review focusing on e-government research utilizing stakeholder theory was conducted. By doing so, this thesis aims to achieve further knowledge and maturity to the use of stakeholder theory in e-government research.

The starting points of the review were two publications on the applicability of stakeholder theory to e-government research; Rose and Flak (2005), and Scholl (2001). Using these two publications as hubs, a forward and backward search was made (Webster and Watson, 2002) in order to find other related articles. I wanted to identify a “trail” of articles that were interrelated and build on each other’s work; therefore I focused on finding publications cited by several authors. The search resulted in a list of 20 interrelated articles (presented in the table below). These 20 articles are to be considered as the core literature of this section on stakeholders.

<table>
<thead>
<tr>
<th>Reference (short)</th>
<th>Source</th>
<th>Methodological approach and Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeman, 1984</td>
<td>Book: Strategic Management</td>
<td>Theoretical discussion on the need for managers to adopt a stakeholder perspective on the firm. Provides empirical examples.</td>
</tr>
<tr>
<td>Blair and Whitehead, 1988</td>
<td>Journal article: Hospital &amp; Health Services Administration</td>
<td>Theoretical discussion on how to identify and manage stakeholders in a hospital environment.</td>
</tr>
<tr>
<td>Bretschneider, 1990</td>
<td>Journal article: Public Administration Review</td>
<td>An empirical study illustrating differences between management information systems in public and private organizations.</td>
</tr>
<tr>
<td>Savage et al., 1991</td>
<td>Journal article: Academy of Management Executive.</td>
<td>Theoretical discussion on how to assess and manage organizational stakeholders. Empirical examples from a private firm.</td>
</tr>
<tr>
<td>Mitchell et al., 1997</td>
<td>Journal article: Academy of Management Review</td>
<td>Theoretical discussion on stakeholder salience introducing stakeholder attributes (power, legitimacy, and urgency).</td>
</tr>
<tr>
<td>Jones &amp; Wicks, 1999</td>
<td>Journal article: Academy of Management</td>
<td>Theoretical discussion on stakeholder theory as being divided into a social science approach and a normative</td>
</tr>
<tr>
<td>Year</td>
<td>Authors</td>
<td>Type</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>1999</td>
<td>Frooman</td>
<td>Journal article</td>
</tr>
<tr>
<td>2001</td>
<td>Hendry</td>
<td>Journal article</td>
</tr>
<tr>
<td>2002</td>
<td>Boyne</td>
<td>Journal article</td>
</tr>
<tr>
<td>2004</td>
<td>Scholl</td>
<td>Journal article</td>
</tr>
<tr>
<td>2005</td>
<td>Flak and Rose</td>
<td>Journal article</td>
</tr>
<tr>
<td>2006</td>
<td>Flak and Nordheim</td>
<td>Conference paper</td>
</tr>
</tbody>
</table>

In order to get a fuller view on the relationships of the publications in the table above, a sociogram was conducted using software called Ucinet (Borgatti, Everett & Freeman, 2002). The sociogram is presented in the figure below and illustrates the relationships between the chosen publications. In the sociogram, the publications are organized in relation to both time and discipline. The starting point of the sociogram is Freeman (1984), presented in the upper left corner. The arrows represent citations. The publications with the most citations are Freeman (1984), Mitchell, et al. (1997) and Donaldson and Preston (1995). These are all representatives of management research and discuss stakeholders in the private sector. The first publication on stakeholders in the public sector in this sample is Tennert and Schroeder (1999). The most cited work, however, is Scholl (2001), who explicitly applies stakeholder theory to e-government.
research. Building on Scholl (2001), there is a set of publications by Norwegian researchers (Flak & Rose, 2005; and onwards) and Rowley (2011) on the right side of the sociogram. These are presented in chronological order (from left to right). In the lower left corners, two somewhat different but important, publications are presented; Blair and Whitehad (1988) who have developed a matrix for assessing stakeholders in a hospital context, and Kamal et al. (2011) who apply stakeholder theory in the e-government domain, but independently from the other e-government researchers in the sociogram. The two publications from public administration research in the upper right corner (i.e., Bretschneider, 1990; Boyne, 2002) deal with differences between public and private organizations and are important publications for understanding the characteristics of the e-government field.

The review was systematically conducted but does not claim to illustrate the complete picture of the field. The aim of the analysis was to identify a path on which others had already started walking. This inevitably means that other, alternative, paths are left undiscovered. For the purposes of this thesis, the ability to illustrate that the work is cumulative weighed higher than completeness.
The interrelationship between publications used for understanding stakeholders in e-government.
APPENDIX B: INTERVIEW OVERVIEW AND QUESTIONS GUIDING THE INTERVIEWS

All interviews started with an introduction of the aim of the interview and research project. Informed consent was obtained from all interviewed participants. The interviews were semi-structured; the questions presented below are only the general questions that were prepared before the interviews.

**Chronological overview of the interviews**

<table>
<thead>
<tr>
<th>Datum</th>
<th>Activity (identity of interviewee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-04-21</td>
<td>Individual interview with course administrator (#1)</td>
</tr>
<tr>
<td>2008-04-21</td>
<td>Individual interview with course administrator (#2)</td>
</tr>
<tr>
<td>2008-04-24</td>
<td>Group interview with three students working at the student unions (#3, #4, #5)</td>
</tr>
<tr>
<td>2008-04-25</td>
<td>Individual interview with a teacher (#6)</td>
</tr>
<tr>
<td>2008-04-29</td>
<td>Individual interview with an examination supervisor (#7)</td>
</tr>
<tr>
<td>2008-04-29</td>
<td>Individual interview with an examination supervisor (#8)</td>
</tr>
<tr>
<td>2008-05-06</td>
<td>Group interview with three course administrators working at a student office (#9, #10, #11)</td>
</tr>
<tr>
<td>2008-05-19</td>
<td>Group interview with seven members of the reference group.</td>
</tr>
<tr>
<td>2008-06-18</td>
<td>Group interview with two teachers (#12, #13)</td>
</tr>
<tr>
<td>2009-09-24</td>
<td>Individual interview with the project chief of the AE-project group (#14)</td>
</tr>
<tr>
<td>2009-09-25</td>
<td>Group interview the system maintenance representatives in the AE-project group (#15, #16)</td>
</tr>
<tr>
<td>2009-10-07</td>
<td>Individual interview with the project leader of the AE-project group (#17)</td>
</tr>
<tr>
<td>2009-11-03</td>
<td>Individual interview with the system developer in the AE-project group (#18)</td>
</tr>
<tr>
<td>2010-02-10</td>
<td>Individual interview with the examination supervisor representative in the AE-project group (#19)</td>
</tr>
<tr>
<td>2010-03-05</td>
<td>Interview with a teacher (#20) (this person was also part of interview nr 8 above)</td>
</tr>
<tr>
<td>2010-03-24</td>
<td>Meeting with the course administrators at the largest university department</td>
</tr>
<tr>
<td>2010-03-19</td>
<td>Interview with a student working at one of the student unions (#21)</td>
</tr>
<tr>
<td>2010-06-14</td>
<td>Interview with a teacher (#12; same as in interview nr.9 above)</td>
</tr>
</tbody>
</table>
## Questions guiding the interviews

<table>
<thead>
<tr>
<th>Pre-implementation phase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Questions for course administrators, examination supervisors, and teachers</strong></td>
</tr>
<tr>
<td>• What does your current work procedures concerning written exams look like?</td>
</tr>
<tr>
<td>• What do you know about the upcoming introduction of anonymity for students during written examination?</td>
</tr>
<tr>
<td>• Have you received information about Anonymous Exams? If yes, how?</td>
</tr>
<tr>
<td>• Do you expect that your work situation will be affected by the introduction of anonymity? If yes, how?</td>
</tr>
<tr>
<td><strong>Questions for the student unions</strong></td>
</tr>
<tr>
<td>• Why did the student unions demand for student anonymity during written examination? Who were the actors behind the demand, and when was it first voiced? What were the arguments?</td>
</tr>
<tr>
<td>• What were the reactions from the university on the student unions’ campaign?</td>
</tr>
<tr>
<td>• What do you expect from the implementation of Anonymous Exams?</td>
</tr>
<tr>
<td>• What do students in general think about anonymity?</td>
</tr>
<tr>
<td><strong>Group interview with the reference group</strong></td>
</tr>
<tr>
<td>• Questions regarding Anonymous Exams; What are your thoughts on Anonymous Exams to this point? What are your expectations, fears and reflections concerning Anonymous Exams? What challenges do you see?</td>
</tr>
<tr>
<td>• Questions regarding the reference group; How was the group put together? Organization and function of the group?</td>
</tr>
<tr>
<td>• Questions regarding the relationship between the AE-project group and the reference group; How transparent is the activities of the AE-project group and the reference group? How have the suggestions given by the reference group been received by the AE-project group?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post implementation phase</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Themes for interviews with AE-project group members</strong></td>
</tr>
<tr>
<td>• What is your current role in relation to Anonymous Exams (AE)?</td>
</tr>
<tr>
<td>• How do you experience the work with AE in retrospect? What aspects are you most content with? What were the challenges? What are the lessons learned?</td>
</tr>
<tr>
<td>• Expected versus unexpected problems and consequences of the project?</td>
</tr>
<tr>
<td>• What is the future of AE?</td>
</tr>
<tr>
<td>+ Questions tailored in relation to each respondent’s responsibilities in the project.</td>
</tr>
<tr>
<td><strong>Questions for the teachers</strong></td>
</tr>
<tr>
<td>• What are your views on Anonymous Exams?</td>
</tr>
<tr>
<td>• What are your views on how the AE-project was handled and how the anonymity was implemented?</td>
</tr>
<tr>
<td>• What consequences has Anonymous Exams resulted in for you and your colleagues?</td>
</tr>
<tr>
<td>• What are your experiences of working with the Exam Marking System?</td>
</tr>
<tr>
<td><strong>Questions for course administrators at group meeting</strong></td>
</tr>
<tr>
<td>• What are the consequences of Anonymous Exams? Positive and/or negative?</td>
</tr>
<tr>
<td>• Has the work situation changed at the student offices?</td>
</tr>
<tr>
<td>• How does the Exam Marking System work? And who uses it (teachers/course administrators)?</td>
</tr>
<tr>
<td><strong>Questions for the student union</strong></td>
</tr>
<tr>
<td>• What are your views on Anonymous Exams?</td>
</tr>
<tr>
<td>• What are the consequences of Anonymous Exams? Have you seen differences in behaviors? How have the students reacted?</td>
</tr>
<tr>
<td>• What is the future of Anonymous Exams?</td>
</tr>
</tbody>
</table>
Frågeformulär – Anonyma Tentor

Observera att dina svar kommer att hanteras anonymt. Vi har numrerat ditt frågeformulär för uppföljningssyften – ditt namn kommer inte att presenteras i några forskningsrapporter eller artiklar.

Observe that your answers will be treated anonymously. We have numbered your questionnaire in order to be able to follow up on your reply – your name will not be presented in research reports or articles.

1. Vilken beskrivning passar bäst in på din arbetsroll:
Which role corresponds best with your work tasks?

   - Salsvakt (regular supervisor)
   - Jourvakt (supervisor with on-call responsibilities)

Annat, ange här (other):

2. Hur länge har du arbetat åt tentamensavdelningen?
How long have you worked for Exam Services?

3. Hur ofta arbetar du åt tentamensavdelningen?
How often do you work forExam Services?

Describe how you experience your work as an examination supervisor, using a few short sentences.

5. Beskriv hur du upplever arbetet med handdatorerna (PDA:erna) med några korta meningar.
Describe how you experience the work using the PDAs, using a few short sentences.

Below you will find a number of statements – how well do these statements correspond with you and your work situation? Check the alternative that best corresponds with your situation.

Exempel:

<table>
<thead>
<tr>
<th>Stämmer inte alls</th>
<th>Stämmer inte särskilt bra</th>
<th>Stämmer delvis/delvis inte</th>
<th>Stämmer ganska bra</th>
<th>Stämmer precis</th>
<th>Vet ej</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Totally disagrees – Does not correspond particularly well – Partly corresponds – Corresponds pretty well – Totally corresponds - I don’t know

A. Handdatorerna är lätt att använda

The PDAs are easy to use.

B. Det är svårt att läsa texten på handdatorerna

It is difficult to read the text on the PDAs.

C. Insläppet av studenter går smidigt eftersom vi kan skanna deras StudentID-kort vid entrén

The entrance procedures are running smooth because we can scan the students Identity Cards at the entrance.

D. Jag känner mig bekväm med att använda handdatorerna

I feel comfortable using the PDAs.
E. Jag upplever att jag fått tillräcklig utbildning rörande handhavandet av handdatorerna

*I experience that I have received enough education/training regarding how to use the PDAs.*

<table>
<thead>
<tr>
<th>Stämmer inte alls</th>
<th>Stämmer inte särskilt bra</th>
<th>Stämmer delvis/delvis inte</th>
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F. Jag upplever att hanteringen av studenternas tentamina är rättssäker

*I perceive the administration of the students’ examinations as legally certain.*

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<th>Stämmer inte alls</th>
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G. Det händer att det blir problem när jag använder handdatorerna

*It happens that problems occur when I use the PDAs.*

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<th>Stämmer inte alls</th>
<th>Stämmer inte särskilt bra</th>
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H. Jag vet vad som förväntas av mig under ett arbetspass

*I know what is expected of me during a work shift.*

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<th>Stämmer inte alls</th>
<th>Stämmer inte särskilt bra</th>
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I. Jag upplever att mina arbetsgivare vid tentamensavdelningen är öppna för nya idéer och arbetssätt

*I perceive my employers at the Exam Services as open to new ideas and ways of working.*

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<th>Stämmer inte alls</th>
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J. Det var lätt att lära sig hantera handdatorerna

*It was easy to learn how to handle the PDAs.*

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<th>Stämmer inte alls</th>
<th>Stämmer inte särskilt bra</th>
<th>Stämmer delvis/delvis inte</th>
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</table>
K. Det är stressigt under arbetspassen  
*It is stressful during the work shifts.*  

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<thead>
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<th>Stämmer inte</th>
<th>Stämmer inte särskilt bra</th>
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L. Jag upplever att studenterna känner till regelverket och arbetsproceduren för tentamen  
*I believe that the students are knowledgeable about the regulations and work procedures concerning the examination.*  

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<tr>
<th>Stämmer inte</th>
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M. Jag trivs med mitt arbete som tentamensvakt  
*I enjoy my work as an examination supervisor.*  

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<th>Stämmer inte</th>
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N. Vi har en väl fungerande process för tentamenshantering  
*We have a well-functioning process for examination administration.*  

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<tr>
<th>Stämmer inte</th>
<th>Stämmer inte särskilt bra</th>
<th>Stämmer delvis/delvis inte</th>
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O. Jag vet vad jag ska göra om handdatorerna inte fungerar  
*I know what to do if the PDAs do not work.*  

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<tr>
<th>Stämmer inte</th>
<th>Stämmer inte särskilt bra</th>
<th>Stämmer delvis/delvis inte</th>
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</table>

7(a) Vilka problem har du stött på i ditt arbete som tentamensvakt (exempelvis situationer där något inte gått som det var tänkt)?  
*What problems have you encountered in your work as an examination supervisor (e.g. situations in which something unexpected has happened)?*  

(b) Hur kom du tillrätta med dessa problem?  
*How did you solve these problems?*
(c) Vilka problem anser du skulle kunna uppstå i ditt arbete som tentamensvakt (men har ännu ej förekommit)?
What problems do you think could happen in your work as an examination supervisor (but has not yet occurred)?

The following questions concern the current work situation in comparison to how the work as an examination supervisor was organized prior to Anonymous Exams. These questions only concern those who began working for Exam Services during the spring of 2008, or earlier.

OBSERVE: If you started working for Exam Services during the autumn of 2008, or later, skip to question 15.

8. På vilket sätt har dina arbetsuppgifter som tentamensvakt förändrats sedan Anonyma Tentor infördes?
In what ways have your work as an examination supervisor changed since the introduction of Anonymous Exams?

9. Anser du att kraven på din kompetens har förändrats sedan Anonyma Tentor infördes?
Do you think that the demands put on your competence have changed since the introduction of Anonymous Exams?

   Nej (No) □
   Ja (Yes) □

   Om ja, på vilket sätt? (If yes, in what ways?)

10. Anser du att din arbetsbörda har förändrats sedan Anonyma Tentor infördes?
Do you believe that your workload has changed since the introduction of Anonymous Exams?

   Nej □
   Ja □

   Om ja, på vilket sätt?
11. Anser du att införandet av Anonyma Tentor har lett till att du fått ökat ansvar?
Do you believe that the introduction of Anonymous Exams has led to that your responsibilities have increased?

Nej □
Ja □

Om ja, motivera ditt svar:

12. Anser du att införandet av handdatorerna har lett till att arbetet går smidigare än tidigare?
Do you believe that the introduction of the PDAs has led to that work runs smoother than they did previously?

Ja □
Nej □

Motivera ditt svar:

13. Har du sett någon förändring i studenternas beteende sedan införandet av Anonyma Tentor?
Have you seen any change in the students’ behaviors since the introduction of Anonymous Exams?

Nej □
Ja □

Om ja, på vilket sätt?

14. Vilka fördelar, respektive nackdelar, ser du med Anonyma Tentor?
What do you perceive as the ‘pros’ and ‘cons’ of Anonymous Exams?

Fördelar:

Nackdelar:

15. Om det finns något mer som du vill tillägga till dina svar eller något annat som du tycker att vi bör känna till angående ditt arbete som tentamensvakt får du mycket gärna skriva några rader här:
If there is something that you would like to add to your replies or something else that you believe that we should know about your work as an examination supervisor, please add some lines below.
APPENDIX D: WORD LIST SUPPORTING THE DESCRIPTION OF ANONYMOUS EXAMS

Anonymous Exams = the new work procedures and technical components that enables students to be anonymous during the marking/grading process of written examinations (the result from the AE-project’s work).

The AE-project = the project (limited in time) assigned to design and implement Anonymous Exams.

The Anonymous Exams case study = the case study conducted by the author in order to follow the development of Anonymous Exams.

AID = Anonymous identity number issued for each student, for each examination event.

The Exam Administration System = an Internet-based system for administrating examination events. Used by examination supervisors. Installed on the PDAs. Also referring to a support system called AE-PDA:

- **PDA** = Personal Digital Assistants used by the examination supervisors for administrating written examinations.
- **AE-PDA** = Support system that exchanges data with the PDAs used by the examination supervisors. Connected to the ERS database.

The Exam Registration System (ERS) = an Internet-based system for administrating exams and PDAs. Used by course administrators.

The Exam Marking System = an Internet-based system for generating Grading Protocols for each exam based on information supplied by the ERS database:

- **Grading Protocol** = a Internet-based protocol in which the AIDs for all attending students that handed in an exam at the given examination are listed. Used by teachers and/or course administrators, who register the results and grades for each AID.

The Ladok system = The national system for study administration within higher education in Sweden, handling information about students’ study results. Each university has access to this system through a local system. Course administrators with a special Ladok access can use this system.

The Student Portal = an Internet-based system for handling student services, e.g. registering for exams. Used by students through secure log-in.
APPENDIX E: STAKEHOLDER CHARACTERIZATIONS, PHASE I

Stakeholder characteristics tables

In this section, all tables of stakeholder characteristics discussed in chapter 8 are presented. According to the provisional framework, the potential stakeholders’ salience should be assessed by investigating the following issues:

1. How the stakeholder is affecting/affected by the public e-service.
2. The stakeholder’s formal role and responsibilities in relation to the public e-service (indicators of power and legitimacy). (Implied by name, ‘classification’, and description of the stakeholder)
3. The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of the public e-service (indicators of urgency).
4. The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).
5. The stakeholder’s potential for threatening or cooperating with the achievement of the public e-service’s objectives.

When stakeholder involvement issues are relevant;

6. If the stakeholder refers to a group or organization, are all individuals in the stakeholder group/organization involved, or are representatives of the group/organization chosen for involvement?
   a. If representatives, who are chosen and on what grounds?
7. How is the involvement of the stakeholder organized, and to what degree is the stakeholder involved?
   • Informative – stakeholders provide and/or receive information
   • Consultative – stakeholders comment on a predefined service or range of facilities; may involve temporary membership of e.g., focus or reference group.
   • Participative – stakeholders influence the decision-making process relating to the whole system; may include temporary or permanent membership of decision-making group.
8. What content of the public e-service development/implementation is the stakeholder asked to contribute to?
9. How frequent are the interactions between project management and the involved stakeholder?
10. Is the stakeholder involvement formal or informal in its character?
11. Is the input given by the involved stakeholder taken into account in the development/implementation of the public e-service? If yes, to what extent? What seems to be the consequences of the involvement of the stakeholder?

For each stakeholder discussed in section 8.3.3., a table containing answers to these questions is presented. There is a table for each of the following stakeholders; the AE-project owner; the AE-project leader; the system developer; the system maintenance representatives; the examination supervisor representative; the teacher representative in the reference group; the reference group; the examination supervisors; the student unions; teachers; and course administrators.
<table>
<thead>
<tr>
<th><strong>The AE-project owner</strong></th>
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<tbody>
<tr>
<td><strong>Classified as:</strong></td>
<td>Project team: Sponsor, (management)</td>
</tr>
<tr>
<td><strong>How the stakeholder is affecting/affected by Anonymous Exams.</strong></td>
<td>The AE-project owner affects how Anonymous Exams is financed, and influences the project in many ways as part of the owner role in the project.</td>
</tr>
<tr>
<td><strong>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams</strong> (indicators of urgency).</td>
<td>The AE-project owner had a very active role in the project before it was started, organizing two attempts to initiate similar projects before the AE-project was started. When the AE-project was up and running the project owner did not have enough time to manage the project.</td>
</tr>
<tr>
<td><strong>The stakeholder’s relationships with other stakeholders</strong> (indicator of power and legitimacy).</td>
<td>In the role as sponsor of the AE-project, the project owner was the person with formal and budgetary responsibility of the AE-project. Although failing to be present during many project activities, the project owner was the highest ranked manager of the project group.</td>
</tr>
<tr>
<td><strong>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</strong></td>
<td>Although the project owner had the formal and budgetary responsibility for the AE-project, this stakeholder did not have enough time to spend on the project. This lead to frustration for the other members of the AE-project group, who needed a manager that could actively assist them in their work. They saw the project owner’s absence from the project as a potential threat to their success. Based on demands from the other AE-project group members, the project owner was supplemented by a project leader.</td>
</tr>
<tr>
<td><strong>Assess the stakeholder’s salience:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Indicators of power:</strong></td>
<td>Formal responsibility of the project. Responsible for the financing of the project.</td>
</tr>
<tr>
<td><strong>Indicators of legitimacy:</strong></td>
<td>Formal responsibility of the project. Responsible for the financing of the project.</td>
</tr>
<tr>
<td><strong>Indicators of urgency:</strong></td>
<td>Although responsible for the project in its totality, he did not seem fully committed to the project. The other group members complained that the project owner was not visible, nor active, in the project to the extent needed. On these grounds, the project owner’s feeling of urgency concerning Anonymous Exams can be questioned.</td>
</tr>
<tr>
<td><strong>Stakeholder salience type:</strong></td>
<td>DEFINITE stakeholder. The project owner is however not as engaged as the other group members; in relation to the other AE-group members, the project owner is therefore categorized as bordering to the DOMINANT category (i.e. not feeling the same level of urgency connected to Anonymous Exams as the other group members).</td>
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### The AE-project leader

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<tr>
<th><strong>Classified as:</strong></th>
<th>Project team; Champion (management)</th>
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<tr>
<td><strong>How the stakeholder is affecting/affected by Anonymous Exams.</strong></td>
<td>This stakeholder is in charge of the operations of the AE-project, meaning that this stakeholder affects Anonymous Exams to the highest extent possible.</td>
</tr>
<tr>
<td><strong>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</strong></td>
<td>The AE-project leader is very positive to Anonymous Exams and expects it to create several benefits at the university, such as unbiased examination of students, standardized processes and marketing advantages for the university towards students and competitors.</td>
</tr>
<tr>
<td><strong>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</strong></td>
<td>Being the operator of the AE-project, leading the everyday work of the project, this stakeholder had a core position in the AE-project. The project leader had personal contact with all involved in the project. In addition, the project leader had personal contact with many people in the organization getting in touch with the AE-project with questions concerning Anonymous Exams.</td>
</tr>
<tr>
<td><strong>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</strong></td>
<td>Highly cooperative, but the project leader’s limited experience of similar project could be perceived as a potential threat to the success of Anonymous Exams. However, the enthusiasm and commitment to Anonymous Exams shown by this person seems to have compensated those weaknesses more than enough.</td>
</tr>
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</table>

#### Assess the stakeholder’s salience:

| **Indicators of power:** | Indicators of **power**: Formal power in the role of being in charge of the operations of the AE-project. However no budgetary responsibility. |
| **Indicators of legitimacy:** | Indicators of **legitimacy**: Being in charge of the operations of the AE-project also means that the project leader is seen as holding legitimate claims concerning Anonymous Exams. High level of legitimacy, both in own eyes, and in others’. |
| **Indicators of urgency:** | Indicators of **urgency**: This is the project leader’s first mission as a project leader; is eager to be successful. |

**Stakeholder salience type:** DEFINITE stakeholder.
## The System Developer

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<th><strong>Classified as:</strong></th>
<th>Project team; Supplier, Operator; Champion (management; service provider)</th>
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<tr>
<td><strong>How the stakeholder is affecting/affected by Anonymous Exams.</strong></td>
<td>Since the system developer is the one who is in charge of building the technical solution enabling Anonymous Exams, this stakeholder is the person with most possibility to affect the technical outcomes of Anonymous Exams.</td>
</tr>
<tr>
<td><strong>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</strong></td>
<td>Very positive to Anonymous Exams and expects it to create several benefits at the university, such as unbiased examination of students, standardized processes and marketing advantages for the university towards students and competitors.</td>
</tr>
<tr>
<td><strong>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</strong></td>
<td>The system developer is the only person in the project with the technical know-how needed to develop the systems required to support the anonymity of students. The system developer gave the impression of being an independent, but highly involved, person. The system developer participated in most of the activities observed in the case study, which testifies of a person who is interested in interacting with and learning from others. Another example of this behavior is that the system developer developed the PDAs in close cooperation with the examination supervisor representative in the AE-project group.</td>
</tr>
<tr>
<td><strong>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</strong></td>
<td>Considering that this stakeholder is the only person in the project who has the competence needed for developing the e-service and other technical components of Anonymous Exams, the other stakeholders are dependent on this stakeholder. The system developer also reported that s/he had limited experience of working with systems as complex as Anonymous Exams. If the system developer had not been as engaged as s/he is, this person could have posed a substantial threat to the success of Anonymous Exams. However, this stakeholder is highly cooperative and committed to Anonymous Exams.</td>
</tr>
</tbody>
</table>

### Assess the stakeholder’s salience:

- **Indicators of power:**
  - Formal power to influence the design of Anonymous Exams.
  - Considerable ability to influence the outcome of the project through actions in the project, being the only person with technical know-how.

- **Indicators of legitimacy:**
  - As part of the AE-project group, the system developer is seen to have legitimate claims on Anonymous Exams, both by her/himself and by others.

- **Indicators of urgency:**
  - By being responsible for the technical solution, the system developer sees Anonymous Exams as urgent.

**Stakeholder salience type:** DEFINITE stakeholder
### The system maintenance representatives

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<tr>
<th>Classified as:</th>
<th>Project team; Champions (management; service provider)</th>
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<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>Being part of the AE-project group, these two persons have extensive possibilities to affect how Anonymous Exams is designed.</td>
</tr>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Very positive to Anonymous Exams and expect it to create several benefits at the university, such as unbiased examination of students, standardized processes and marketing advantages for the university towards students and competitors.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>These two persons have very close relationships with many course administrators using the systems they usually maintain at the university. In the AE-project, they seemed to activate their contact network when promoting Anonymous Exams.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>Highly cooperative.</td>
</tr>
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</table>

#### Assess the stakeholder’s salience:

**Indicators of power:**
Formal power to influence the design of Anonymous Exams. Considerable ability to influence the outcome of the project through their actions in the project.

**Indicators of legitimacy:**
As part of the AE-project group, they are seen to have legitimate claims on Anonymous Exams, both by themselves and by others.

**Indicators of urgency:**
Considerable feeling of urgency, being highly committed to the project and wanting it to succeed.

**Stakeholder salience type:**
DEFINITE stakeholder
The examination supervisor representative

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<tr>
<th>Classified as:</th>
<th>Project team; Champion (management; service provider)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>Being part of the AE-project group, this stakeholder had extensive possibilities to affect how Anonymous Exams was designed. Extensive prior experience of similar projects also makes this stakeholder particularly influential in the AE-project.</td>
</tr>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Positive towards the project, expects it to result in positive consequences for the examination supervisors.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>In the role as an examination supervisor, this person does not have much authority. Examination supervisors are employed by the hour and are seen as a marginal group within the university. As a person, however, this stakeholder is very experienced. In combination with being determined and persuasive, this person seems to be looked at as an influential person amongst examination supervisors (and in the AE-project).</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>Highly cooperative.</td>
</tr>
</tbody>
</table>

Assess the stakeholder’s salience:

| Indicators of power: | Formal power to influence the design of Anonymous Exams through the role in the project. Considerable ability to influence the outcome of the project through actions in the project. Prior experience of similar projects makes this stakeholder particularly influential. |
| Indicators of legitimacy: | As part of the AE-project group, this stakeholder is seen as having legitimate claims on Anonymous Exams, both by self and by others. Also in the role as an examination supervisor, this stakeholder holds legitimate claims on Anonymous Exams. |
| Indicators of urgency: | Anonymous Exams is highly urgent for this stakeholder as it will have considerable effects on the future work of this person. |

→→ Stakeholder salience type: DEFINITE stakeholder

Alternative interpretation, regarding involvement: In contrast to the other members of the AE-project group, this stakeholder was not working in a position in which membership of centrally steered project groups can be expected. In fact, this person was asked to be a member of the AE-project group in order to represent the examination supervisors and defend their interests in the development of Anonymous Exams. This stakeholder’s membership of the project group can therefore be understood as the highest degree of stakeholder involvement, participative involvement, in which the involved stakeholder is granted membership and decision rights in the project management.
### The teacher representative in the reference group

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Client; Operator; Champion (engaged user)</th>
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<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>This teacher is working at a department with up to several hundreds of students attending each examination. For this teacher, Anonymous Exams will result in a tool that will make administration of the examination much easier.</td>
</tr>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>This stakeholder is very positive towards Anonymous Exams and the integration of all technical systems enabling the anonymity, but does not care particularly for the anonymity as such. For this teacher, anonymity is not a concern since the students attending this teacher’s examinations are too many to know individually; meaning that they already are anonymous.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>This teacher represents a group of teachers that have tried to affect the university management for an extended time to introduce some kind of technical system to facilitate the examination process. Their request was not taken into account until Anonymous Exams was initiated.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).</td>
<td>This stakeholder is cooperative and promotes Anonymous Exams in attempts to secure the development of the Exam Marking System.</td>
</tr>
</tbody>
</table>

#### Assess the stakeholder’s salience:

**Indicators of power:** Limited power to influence the outcome, other than through argumentation. The participation in the reference group however, makes this stakeholder a much more powerful person than implied by the role as a teacher.

**Indicators of legitimacy:** Considered to hold legitimate claims on Anonymous Exams as a future user of the Exam Marking System.

**Indicators of urgency:** Anonymous Exams is highly urgent for this stakeholder as it provides the opportunity for this teacher to affect the project in order to get the technical solution that s/he (with colleagues) has asked for since a long time back.

**Stakeholder salience type:** DEPENDENT stakeholder, bordering to being a DEFINITE stakeholder.

#### Assess and describe if and how the stakeholder has been involved in the development/implementation:

**Was the stakeholder involved?** Yes, involved in the reference group, based on own initiative.

**Type of involvement:** Representative involvement (representing ‘teachers’).

**Degree of involvement:** Informative and Consultative

**Content of involvement:** Asked to comment on suggestions on solutions presented by the AE-project group. Were also asked to give feedback to the AE-project group on any issues they wished to present. This teacher also made sure to push own (and colleagues’) ideas onto the AE-project.

**Frequency of involvement:** I do not have information about how many reference group meetings these representatives participated in.

**Formality of involvement:** Formal

**Influence of involvement:** Difficult to tell. It seems as the teacher representative’s contribution has been taken into consideration by the AE-project group, especially by the system developer.
### The reference group

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Other (service providers; engaged users)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>The reference group is able to affect the outcome of Anonymous Exams, as they are asked to comment on suggestions presented by the AE-project group.</td>
</tr>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Mostly positive, see great potential in Anonymous Exams.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>Close relationship with the AE-project group. As individuals, the members of this group also have close relationships with their co-workers at their respective departments, for which they promote Anonymous Exams and collect input for the AE-project.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).</td>
<td>This group is cooperative and tries to promote Anonymous Exams in their organizations.</td>
</tr>
</tbody>
</table>

#### Assess the stakeholder’s salience:

<table>
<thead>
<tr>
<th>Indicators of power:</th>
<th>Limited power to influence the actual outcome of Anonymous Exams, predominantly by argumentation with members of the AE-project group.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of legitimacy:</td>
<td>Considered to have legitimate claims on Anonymous Exams.</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
<td>As a result of being the reference group for the AE-project group, this stakeholder group seems to possess a feeling of urgency related to Anonymous Exams.</td>
</tr>
</tbody>
</table>

**Stakeholder salience type:** DEPENDENT stakeholder

**Assess and describe if and how the stakeholder has been involved in the development/implementation:**

<table>
<thead>
<tr>
<th>Was the stakeholder involved?</th>
<th>Yes. The sole purpose of this group is to be involved in the AE-project. The group members appear to be positive towards their work in the reference group and the response from the AE-project group.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of involvement:</td>
<td>Representative involvement (representing different groups of employees at the universities, and their respective departments).</td>
</tr>
<tr>
<td>Degree of involvement:</td>
<td>Informative and Consultative</td>
</tr>
<tr>
<td>Content of involvement:</td>
<td>Asked to comment on suggestions on solutions presented by the AE-project group. Were also asked to give feedback to the AE-project group on any issues they wished to present.</td>
</tr>
<tr>
<td>Frequency of involvement:</td>
<td>I do not have information about how many reference group meetings were organized as part of the AE-project.</td>
</tr>
<tr>
<td>Formality of involvement:</td>
<td>Formal</td>
</tr>
<tr>
<td>Influence of involvement:</td>
<td>Contribution taken into consideration by the AE-project group.</td>
</tr>
</tbody>
</table>
### The examination supervisors

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Clients; Operators (user; service providers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>The examination supervisors’ work will be affected by Anonymous Exams in its totality.</td>
</tr>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Cautiously optimistic, this stakeholder group sees potential in Anonymous Exams. There is however rumors that some of the individuals belonging to this group will quit if the technology is too hard to learn how to use.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>Examination supervisors are usually a marginalized group at the university. In relation to Anonymous Exams, however, they have a close relationship with the AE-project group through their connections with the examination supervisor representative in the AE-project group, and via their representatives in the reference group.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>This group is predominantly cooperative, but tries to affect Anonymous Exams in their favor. Simultaneously, this group is seen as a potential threat to the success of Anonymous Exams by others. The AE-project group (and some of the individuals in this group) expresses fears that some of the examination supervisors will experience difficulties learning the new system. There are even rumors that some will quit their jobs after Anonymous Exams is implemented.</td>
</tr>
</tbody>
</table>

**Assess the stakeholder’s salience:**

<table>
<thead>
<tr>
<th>Indicators of power:</th>
<th>Moderate power to influence the actual outcome of Anonymous Exams, both formally (through systems testing) and informally (through their connections to the AE-project group).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of legitimacy:</td>
<td>Considered to have legitimate claims on Anonymous Exams.</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
<td>Considering that Anonymous Exams will change their work considerably, this stakeholder group experiences a high level of urgency in relation to Anonymous Exams.</td>
</tr>
</tbody>
</table>

**Stakeholder salience type:** **DEPENDENT stakeholder**, bordering to **DEFINITE stakeholder**.

**Assess and describe if and how the stakeholder has been involved in the development/implementation:**

<table>
<thead>
<tr>
<th>Was the stakeholder involved?</th>
<th>This stakeholder group has been indirectly involved throughout the project through their connections with the AE-project group. Directly, they have received systems training during which they were allowed to affect the design of the PDA.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of involvement:</td>
<td>All individuals in this stakeholder group were somehow involved.</td>
</tr>
<tr>
<td>Degree of involvement:</td>
<td><strong>Informative</strong> and <strong>Consultative</strong></td>
</tr>
<tr>
<td>Content of involvement:</td>
<td>Asked to test and comment on the PDAs prior to implementation. They were also allowed to affect the work procedures during the examination day.</td>
</tr>
<tr>
<td>Frequency of involvement:</td>
<td><em>I do not have information about how often they participated in meetings organized as part of the AE-project.</em></td>
</tr>
<tr>
<td>Formality of involvement:</td>
<td>Informal and formal</td>
</tr>
<tr>
<td>Influence of involvement:</td>
<td>Input seemed to be taken seriously by the AE-project group.</td>
</tr>
</tbody>
</table>
The student unions

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Champions (decision makers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>This stakeholder group initiated Anonymous Exams by putting pressure (through various campaigns) on the vice-chancellor to allow students to be anonymous during the grading of written exams, leading to the vice-chancellor decision.</td>
</tr>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Very positive towards Anonymous Exams. Expect to perceive the examination process as more secure and unbiased.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>In their capacity as student unions, they have been elected by students to speak for their interests in relation to the rest of the university, especially in relation to the university management.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>Potential threat in the sense that if Anonymous Exams is not implemented properly, the student unions are likely to start some campaign against the university management.</td>
</tr>
</tbody>
</table>

Assess the stakeholder’s salience:

<table>
<thead>
<tr>
<th>Indicators of power:</th>
<th>Limited power to influence the actual outcome of Anonymous Exams.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of legitimacy:</td>
<td>Considered to have legitimate claims on Anonymous Exams in their capacity of being the initiators.</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
<td>Anonymous Exams is highly urgent for the student unions as it will result in an improvement for their members. In addition, it can work as an illustration of how they can influence the university management through their campaigns.</td>
</tr>
</tbody>
</table>

Stakeholder salience type: DEPENDENT stakeholder

Assess and describe if and how the stakeholder has been involved in the development/implementation:

<table>
<thead>
<tr>
<th>Was the stakeholder involved?</th>
<th>During this phase, the student unions have had representatives in the AE-project’s reference group.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of involvement:</td>
<td>Representative involvement (representing ‘students’).</td>
</tr>
<tr>
<td>Degree of involvement:</td>
<td>Informative and Consultative</td>
</tr>
<tr>
<td>Content of involvement:</td>
<td>Asked to comment on suggestions on solutions presented by the AE-project group. Were also asked to give feedback to the AE-project group on any issues they wished to present.</td>
</tr>
<tr>
<td>Frequency of involvement:</td>
<td>I do not have information about how many reference group meetings these representatives participated in.</td>
</tr>
<tr>
<td>Formality of involvement:</td>
<td>Formal</td>
</tr>
<tr>
<td>Influence of involvement:</td>
<td>Contributions taken into consideration by AE-project group.</td>
</tr>
</tbody>
</table>
## Teachers

### Classified as:

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classified as:</td>
</tr>
</tbody>
</table>

### How the stakeholder is affecting/affected by Anonymous Exams.

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
</tr>
</tbody>
</table>

### The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
</tr>
</tbody>
</table>

### The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
</tr>
</tbody>
</table>

### The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
</tr>
</tbody>
</table>

### Assess the stakeholder’s salience:

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of power:</td>
</tr>
<tr>
<td>Indicators of legitimacy:</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
</tr>
</tbody>
</table>

### Stakeholder salience type:

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stakeholder salience type:</td>
</tr>
</tbody>
</table>

### Assess and describe if and how the stakeholder has been involved in the development/implementation:

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the stakeholder involved?</td>
</tr>
<tr>
<td>Type of involvement:</td>
</tr>
<tr>
<td>Degree of involvement:</td>
</tr>
<tr>
<td>Content of involvement:</td>
</tr>
<tr>
<td>Frequency of involvement:</td>
</tr>
<tr>
<td>Formality of involvement:</td>
</tr>
<tr>
<td>Influence of involvement:</td>
</tr>
</tbody>
</table>
## Course administrators

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Clients; Operators (users; service providers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>Anonymous Exams will involve a standardized examination process, including administrative procedures. The new process is expected to affect course administrators in one of three ways; 1) increased workload; 2) decreased workload, and possible redundancy; and 3) not at all.</td>
</tr>
<tr>
<td>The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>This is the stakeholder with most negative attitudes towards Anonymous Exams. There was even little understanding of why Anonymous Exams is implemented.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>Course administrators have little formal power and a rather low hierarchical position at the university. Nevertheless, teachers and course administrators have a very close relationship in which they are both dependent on each other’s work, meaning that the course administrators posit a certain level of informal power over the examination process.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>This group is not seen as a potential threat to the success of Anonymous Exams by the AE-project group, nor by themselves, but is not particularly cooperative either.</td>
</tr>
</tbody>
</table>

### Assess the stakeholder’s salience:

- **Indicators of power:** Little power to influence the outcome, other than through argumentation with other, definite, stakeholders.
- **Indicators of legitimacy:** Many individuals in this stakeholder group probably considered that they hold fairly legitimate claims on Anonymous Exams as a potential future user of the Exam Marking System and in their work handing out exams at the student offices. When inspecting this stakeholder from the perspectives of other stakeholders, such as the AE-project group, it seems as if these claims were seen as being less legitimate by the other stakeholders.
- **Indicators of urgency:** Anonymous Exams is urgent for most individuals in this stakeholder group as it will affect their work in one way or another.

**Stakeholder salience type:** **DEPENDENT stakeholder.**

As a group, this label is a compromise, considering the different views amongst course administrators in the case study, some groupings of course administrators within the university can even be classified as DEMANDING as their claims are not always considered legitimate by other stakeholders (the AE-project group).

### Assess and describe if and how the stakeholder has been involved in the development/implementation:

- **Was the stakeholder involved?** All course administrators at the three faculties affected by Anonymous Exams were invited to several information meetings. They also received emails concerning Anonymous Exams in which they were urged to send comments and feedback to the AE-project leader. The AE-project leader also addressed Anonymous Exams in the role as a service provider, when taking part of meetings in which course administrators were participating.
- **Type of involvement:** Failed attempt at involvement of all individuals, resulting in representative involvement.
- **Degree of involvement:** Informative
- **Content of involvement:** Work procedures concerning the administration of exams and asked to supply input on the design of the Exam Marking System.
- **Frequency of involvement:** *I do not have information about how many meetings these representatives were invited to and participated in.*
- **Formality of involvement:** Formal and informal
- **Influence of involvement:** Some contributions were ignored; others were taken into consideration by the AE-project group.
APPENDIX F: STAKEHOLDER CHARACTERIZATIONS, PHASE II

Stakeholder characteristics tables

In this section, all tables of stakeholder characteristics discussed in chapter 9 are presented. According to the provisional framework, the potential stakeholders’ salience should be assessed by investigating the following issues;

1. How the stakeholder is affecting/affected by the public e-service.
2. The stakeholder’s formal role and responsibilities in relation to the public e-service (indicators of power and legitimacy). (Implied by name, ‘classification’, and description of the stakeholder)
3. The stakeholder’s expectations of, attitudes toward, and perceived need and benefit of the public e-service (indicators of urgency). NOTE: In this phase, ‘expectations’ is exchanged with ‘experiences’.
4. The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).
5. The stakeholder’s potential for threatening or cooperating with the achievement of the public e-service’s objectives.

When stakeholder involvement issues are relevant;

6. If the stakeholder refers to a group or organization, are all individuals in the stakeholder group/organization involved, or are representatives of the group/organization chosen for involvement?
   a. If representatives, who are chosen and on what grounds?
7. How is the involvement of the stakeholder organized, and to what degree is the stakeholder involved?
   - Informative – stakeholders provide and/or receive information
   - Consultative – stakeholders comment on a predefined service or range of facilities; may involve temporary membership of e.g., focus or reference group.
   - Participative – stakeholders influence the decision-making process relating to the whole system; may include temporary or permanent membership of decision-making group.
8. What content of the public e-service development/implementation is the stakeholder asked to contribute to?
9. How frequent are the interactions between project management and the involved stakeholder?
10. Is the stakeholder involvement formal or informal in its character?
11. Is the input given by the involved stakeholder taken into account in the development/implementation of the public e-service? If yes, to what extent? What seems to be the consequences of the involvement of the stakeholder?

For each stakeholder discussed in section 9.3.2., a table containing answers to these questions is presented. There is a table for each of the following stakeholders; the AE-project owner; the AE-project leader; the system developer; the system maintenance representatives; the examination supervisor representative; the teacher representative in the reference group; the reference group; the examination supervisors; the student unions; teachers; and course administrators.
### AE-project owner

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Project team: Sponsor, (management)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>The AE-project owner affects how Anonymous Exams is financed, and influences the project in many ways as part of the owner role in the project.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>The AE-project owner had an active role in the project during this phase, interacting with employees during the implementation of Anonymous Exams and participating in evaluation meetings. The project owner was positive and content with the outcome of Anonymous Exams.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>In the characteristic of being the sponsor of the AE-project, the project owner was the person with formal and budgetary responsibility of the AE-project.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>Cooperative</td>
</tr>
</tbody>
</table>

**Assess the stakeholder’s salience:**

<table>
<thead>
<tr>
<th>Indicators of power:</th>
<th>Formal responsibility of the project. Responsible for the financing of the project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of legitimacy:</td>
<td>Formal responsibility of the project. Responsible for the financing of the project.</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
<td>Formal responsibility of the project. Responsible for the financing of the project.</td>
</tr>
</tbody>
</table>

**Stakeholder salience type:** DEFINITE stakeholder
### The AE-project leader

**Classified as:**  Project team; Champion (management)

**How the stakeholder is affecting/affected by Anonymous Exams.**  This stakeholder is in charge of the operations of the implementation of Anonymous Exams, meaning that this person affects Anonymous Exams to the highest extent possible.

**The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).**  The AE-project leader is very positive to Anonymous Exams and expects it to create several benefits at the university, such as unbiased examination of students, standardized processes and marketing advantages for the university towards students and competitors. This stakeholder was very content with the design of Anonymous Exams but thought that the project might have been more successful had it been organized differently.

**The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).**  Being the operator of the AE-project, leading the everyday work of the project, this stakeholder had a core position in the AE-project. The project leader had personal contact with all involved in the project. In addition, this person had personal contact with many people in the organization getting in touch with the AE-project with questions concerning Anonymous Exams.

**The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.**  Highly cooperative, but the project leader’s limited experience of similar project could be perceived as a potential threat to the success of Anonymous Exams. However, the enthusiasm and commitment to Anonymous Exams shown by this person seems to have compensated those weaknesses more than enough.

**Assess the stakeholder’s salience:**

**Indicators of power:**  Formal power in the role of being in charge of the operations of the AE-project. However no budgetary responsibility.

**Indicators of legitimacy:**  Being in charge of the operations of the AE-project also means that the project leader is seen as holding legitimate claims concerning Anonymous Exams. High level of legitimacy, both in own eyes, and in others’.

**Indicators of urgency:**  This is the project leader’s first mission as a project leader and s/he is eager to be successful.

**Stakeholder salience type:**  DEFINITE stakeholder.

**Other available information for consideration:**  Sometime during the implementation of Anonymous Exams, the project leader went away on an extended leave from work. This was only briefly mentioned during the interviews and does not seem to have affected the success of the implementation in any significant way.
### The system developer

**Classified as:** Project team; Supplier, Operator; Champion (management; service provider)

**How the stakeholder is affecting/affected by Anonymous Exams:**
Since this stakeholder is the one who is in charge of building the technical solution enabling Anonymous Exams, the system developer is very much affected by Anonymous Exams. This is also the person with most possibility to affect the technical outcomes of Anonymous Exams.

**The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency):**
Very positive to Anonymous Exams and considers it to have created several benefits for the university, such as unbiased examination of students, improved work situation for the examination supervisors, and a standardized and transparent examination process.

**The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy):**
The system developer is the only person in the project with the technical know-how needed to develop the systems required to support the anonymity of students. The system developer gave the impression of being an independent, but highly involved, person. This person participated in most of the activities observed in the case study, which testifies of a person who is interested in interacting with and learning from others. Another example of this behavior is that the system developer developed the PDAs in close cooperation with the examination supervisor representative in the AE-project group.

**The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives:**
Considering that this stakeholder is the only person in the project who has the competence needed for developing the e-services and other technical components of Anonymous Exams, the other stakeholders are dependent on this stakeholder. The system developer had limited experience of similar project and little time to develop the e-services. If the system developer had not been as engaged as s/he was, the system developer could have posed a substantial threat to the success of Anonymous Exams. However, this stakeholder is highly cooperative and committed to Anonymous Exams.

**Assess the stakeholder’s salience:**

<table>
<thead>
<tr>
<th>Indicators of power:</th>
<th>Formal power to influence the design of Anonymous Exams. Considerable ability to influence the outcome of the project through actions in the project, being the only person with technical know-how.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of legitimacy:</td>
<td>As part of the AE-project group, this stakeholder is seen to have legitimate claims on Anonymous Exams, both by self and by others.</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
<td>Being responsible for the technical solution the system developer also sees Anonymous Exams as urgent.</td>
</tr>
</tbody>
</table>

**Stakeholder salience type:** DEFINITE stakeholder
### The system maintenance representative (1)

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Project team; Operator, Champions (management; service provider)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>Being part of the AE-project group, this stakeholder had extensive possibilities to affect how Anonymous Exams was implemented.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Very positive to Anonymous Exams and the fact that it works the way they had planned.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>This stakeholder had very close relationships with many course administrators using the systems as this person also worked with system maintenance of systems used by the course administrators. This stakeholder also had contact with teachers. In the AE-project, this person seemed to activate personal contact network when promoting Anonymous Exams. This stakeholder also seemed to act as a contact person for many in the organization; employees contacted this person when they had questions or problems regarding Anonymous Exams.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>Highly cooperative.</td>
</tr>
</tbody>
</table>

#### Assess the stakeholder’s salience:

<table>
<thead>
<tr>
<th>Indicators of power:</th>
<th>Formal power to influence the implementation of Anonymous Exams. Considerable ability to influence the outcome of the project through their actions in the project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of legitimacy:</td>
<td>As part of the AE-project group, this stakeholder was seen to have legitimate claims on Anonymous Exams.</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
<td>Considerable feeling of urgency, being highly committed to the project and wanting it to succeed.</td>
</tr>
<tr>
<td>Stakeholder salience type:</td>
<td>DEFINITE stakeholder</td>
</tr>
</tbody>
</table>
### The system maintenance representative (2)

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Project team; (management)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>Being part of the AE-project group, this stakeholder had extensive possibilities to affect how Anonymous Exams was implemented.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Very positive to Anonymous Exams and the fact that it works the way they had planned.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>This stakeholder had close relationships with many employees in the organization. In the AE-project, this person seemed to activate personal contact network when promoting Anonymous Exams.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives.</td>
<td>Highly cooperative.</td>
</tr>
</tbody>
</table>

#### Assess the stakeholder’s salience:

**Indicators of power:**
- Formal power to influence the design of Anonymous Exams.
- Considerable ability to influence the outcome of the project through their actions in the project.

**Indicators of legitimacy:**
- As part of the AE-project group, they are seen to have legitimate claims on Anonymous Exams, both by themselves and by others.

**Indicators of urgency:**
- Considerable feeling of urgency, being highly committed to the project and wanting it to succeed.

**Stakeholder salience type:** DEFINITE stakeholder
## The examination supervisor representative

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Project team; Champion (management; service provider)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>Being part of the AE-project group, this stakeholder had extensive possibilities to affect how Anonymous Exams was implemented. During the implementation phase this stakeholder functioned as the person responsible for educating the examination supervisors on how to use the system. Extensive prior experience of similar projects also made this stakeholder particularly influential in the AE-project.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Positive towards the project, this stakeholder believes that Anonymous Exams has resulted in a new and improved work situation for the examination supervisors. This person also thinks that the new ways of administrating written examinations has improved the situation for the students.</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>In the role as an examination supervisor, this stakeholder does not have much authority. Examination supervisors are employed by the hour and are seen as a marginal group within the university. As a person, however, this stakeholder is very experienced. In combination with being determined and persuasive, this person seems to be looked at as an influential person amongst examination supervisors (and in the AE-project). This person is tightly related to the examination supervisors and function as their spokesperson.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams' objectives.</td>
<td>Highly cooperative.</td>
</tr>
</tbody>
</table>

### Assess the stakeholder’s salience:

#### Indicators of power:
Formal power to influence the design of Anonymous Exams through the role in the project. Considerable ability to influence the outcome of the project through actions in the project. Prior experience of similar projects makes this stakeholder particularly influential.

#### Indicators of legitimacy:
As part of the AE-project group, this stakeholder is seen to have legitimate claims on Anonymous Exams, both by self and by others. Also in the role as an examination supervisor, this stakeholder holds legitimate claims on Anonymous Exams.

#### Indicators of urgency:
Anonymous Exams is highly urgent for this stakeholder as it affects this person’s work considerably.

### Stakeholder salience type:
DEFINITE stakeholder

### Stakeholder involvement:
As stated in relation to the previous phase, this stakeholder was not working in a position in which membership of centrally steered project groups can be expected (in contrast to the other members of the AE-project group). In fact, this person was asked to be a member of the AE-project group in order to represent the examination supervisors and defend their interests in the development of Anonymous Exams. This stakeholder’s membership of the project group can therefore be understood as the highest degree of stakeholder involvement, participative involvement, in which the involved stakeholder is granted membership and decision rights in the project management.

### Other available information for consideration:
After the implementation of Anonymous Exams, the examination supervisor representative not only functioned as the person educating other examination supervisors on how to use the system, this person also functioned as the technical support for examination supervisors during the examination days.
<table>
<thead>
<tr>
<th><strong>The examination supervisors</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classified as:</strong></td>
<td>Clients; Operators (user; service providers)</td>
</tr>
<tr>
<td><strong>How the stakeholder is affecting/affected by Anonymous Exams.</strong></td>
<td>The examination supervisors are affected by Anonymous Exams to the highest extent possible.</td>
</tr>
<tr>
<td><strong>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</strong></td>
<td>The examination supervisors are very positive towards Anonymous Exams as their work situation is improved by the implementation of the Examination Administration System.</td>
</tr>
<tr>
<td><strong>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</strong></td>
<td>Examination supervisors are usually a marginalized group at the university. In relation to Anonymous Exams, however, they have a close relationship with the AE-project group through their connections with the examination supervisor representative in the AE-project group.</td>
</tr>
<tr>
<td><strong>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).</strong></td>
<td>This group is cooperative, but tries to affect Anonymous Exams in their favor.</td>
</tr>
</tbody>
</table>

**Assess the stakeholder’s salience:**

| **Indicators of power:** | Moderate power to influence the actual outcome of Anonymous Exams, both formally (through systems testing) and informally (through their connections to the AE-project group). |
| **Indicators of legitimacy:** | Considered to have legitimate claims on Anonymous Exams. |
| **Indicators of urgency:** | Considering that Anonymous Exams will change their work considerably, this stakeholder group experiences a high level of urgency in relation to Anonymous Exams. |

**Stakeholder salience type:** DEPENDANT stakeholder, bordering to DEFINITE stakeholder.

**Assess and describe if and how the stakeholder has been involved in the development/implementation:**

| **Was the stakeholder involved?** | This stakeholder group has been indirectly involved throughout the project through their connections with the AE-project group. Directly, they have received systems training during which they were allowed to affect the design of the PDA. |
| **Type of involvement:** | All examination supervisors were involved to some extent. |
| **Degree of involvement:** | Informative and Consultative |
| **Content of involvement:** | Asked to test and comment on the PDAs during the implementation of Anonymous Exams. They were also allowed to affect the work procedures during the examination day. |
| **Frequency of involvement:** | *I do not have information about how often they participated in meetings organized as part of the AE-project.* |
| **Formality of involvement:** | Formal and informal |
| **Influence of involvement:** | Input seemed to be taken seriously by the AE-project group. |
Appendix F: Stakeholder Characterizations, phase II

<table>
<thead>
<tr>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classified as:</td>
</tr>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).</td>
</tr>
</tbody>
</table>

Assess the stakeholder’s salience:

| Indicators of power: | Little power to influence the outcome of Anonymous Exams other than through argumentation with the definite stakeholders. |
| Indicators of legitimacy: | Considered to hold legitimate claims on Anonymous Exams as future users of the Exam Marking System. |
| Indicators of urgency: | Some teachers see Anonymous Exams as something urgent, but most teachers do not seem to have a feeling of urgency related to Anonymous Exams. |

Stakeholder salience type: DEPENDENT stakeholder.

Assess and describe if and how the stakeholder has been involved in the development/implementation:

| Was the stakeholder involved? | All teachers at the three faculties affected by Anonymous Exams were invited to information meetings concerning the Exam Marking System during the implementation of Anonymous Exams. It is not obvious from the empirical data what these meetings covered and how many teachers participated in these meetings. A year after the implementation, all teachers were invited to evaluation meetings during which they were asked to give feedback on the Exam Marking System. Only a handful of teachers participated at these meetings. |
| Type of involvement: | Failed attempt at involving all teachers (in informative activities), resulting in representative involvement of teachers. |
| Degree of involvement: | Informative |
| Content of involvement: | The teachers were mainly asked to comment and give feedback on the Exam Marking System. |
| Frequency of involvement: | I do not have information about the exact number of meetings the teachers were invited to. Likewise, I have not managed to find out how many teachers participated in these activities. |
| Formality of involvement: | Formal |
| Influence of involvement: | Contributions taken into consideration by the AE-project group. |
### The teacher representative in the reference group

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Other (engaged user); As a teacher: Client; Operator(user)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>This teacher is working at a department with up to 1000 student attending each examination. For this teacher, the Exam Marking System has made the work reporting the students’ results on the examination easier.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>This stakeholder is positive towards the e-services and thinks that it has improved work considerably.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>This teacher was part of the reference group and has had personal contact with several members of the AE-project group. After the closure of the reference group, this teacher still knows whom to contact to affect Anonymous Exams.</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).</td>
<td>This stakeholder is cooperative but has an obvious agenda by which this person tries to affect the design of Anonymous Exams (especially the Exam Marking System).</td>
</tr>
</tbody>
</table>

**Assess the stakeholder’s salience:**

| Indicators of power: | Limited power to influence the outcome, other than through argumentation (this stakeholder seems to be successful in her/his argumentation). |
| Indicators of legitimacy: | Considered to hold legitimate claims on Anonymous Exams as a user of the Exam Marking System (and perhaps through the former membership of the reference group). |
| Indicators of urgency: | Anonymous Exams is highly urgent for this stakeholder as it provides tools that facilitate work. |
| Stakeholder salience type: | DEPENDANT stakeholder. |

**Assess and describe if and how the stakeholder has been involved in the development/implementation:**

| Was the stakeholder involved? | Not formally involved during this phase, but seems to have affected the design of the Exam Marking System through direct contact with members of the AE-project group. |
| Type of involvement: | This stakeholder can be understood as a representative for ‘teachers’ as a general group. |
| Degree of involvement: | Informative |
| Content of involvement: | Contacted the AE-project group with comments and suggestions on the design of the Exam Marking System. |
| Frequency of involvement: | I do not have information about how many reference group meetings these representatives participated in. |
| Formality of involvement: | Informal |
| Influence of involvement: | Contributions were taken seriously by the AE-project group, especially by the system developer. |
## Course administrators

### Classified as:
Clients; Operators (users; service providers)

### How the stakeholder is affecting/affected by Anonymous Exams.
Anonymous Exams, especially the Exam Marking System, has meant that some course administrators’ work has improved, whereas others’ has become stressful. For those whose work has become more stressful, the source of the stress is that teachers do not use the system, making the course administrators to use it. For the personnel at the student office, work has become more stressful since the students do not know their AIDs when they come to collect their exams, leading to confusion and extra work at the student office.

### The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).
This is the stakeholder with most negative attitudes towards Anonymous Exams; only few seem to benefit from Anonymous Exams. Those who benefit from the Exam Marking System, however, are very positive.

### The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).
Course administrators have little formal power and a rather low hierarchical position at the university. Nevertheless, teachers and course administrators have a very close relationship in which they are both dependent on each other’s work, meaning that the course administrators posit a certain level of informal power over the examination process. The course administrators seem to not to be taken seriously by the AE-project group.

### The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).
There is disagreement within this group on whether or not the course administrators should use the Exam Marking System or not. Those course administrators who generate excel-files from the e-service and e-mail these files back and forth (to one or several teachers) add an extra step and an unnecessary element of risk to the process.

### Assess the stakeholder’s salience:

#### Indicators of power:
Little power to influence the outcome, other than through argumentation with other, definite, stakeholders.

#### Indicators of legitimacy:
Many individuals in this stakeholder group probably considered that they hold fairly legitimate claims on Anonymous Exams as a potential future user of the Exam Marking System and in their work handing out exams at the student offices. When inspecting this stakeholder from the perspectives of other stakeholders, such as the AE-project group, it seems as if these claims were seen as being less legitimate by the other stakeholders. Even within the group, there are people who do not see course administrators as legitimate users of the Exam Marking System.

#### Indicators of urgency:
Anonymous Exams is urgent for those individuals in this stakeholder group who are using the Exam Marking System.

### Stakeholder salience type:
DEMANDING stakeholder.

### Assess and describe if and how the stakeholder has been involved in the development/implementation:

#### Was the stakeholder involved?
The course administrators working with the Ladok system were invited to meetings discussing the Ladok-specific components of Anonymous Exams (minor change in comparison to their previous work). The course administrators in general were invited to information meetings concerning the Exam Marking System during the implementation of Anonymous Exams. It is not obvious from the empirical data what these meetings covered and how many course administrators participated in these meetings. A year after the implementation, all course administrators were invited to evaluation meetings during which they were asked to give feedback on the Exam Marking System. Only a handful of course administrators participated at these meetings.
<table>
<thead>
<tr>
<th>Type of involvement:</th>
<th>Failed attempt at involvement of all course administrators (in informative activities), resulting in representative involvement of course administrators.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of involvement:</td>
<td>Informative</td>
</tr>
<tr>
<td>Content of involvement:</td>
<td>The course administrators were mainly asked to comment and give feedback on the Exam Marking System.</td>
</tr>
<tr>
<td>Frequency of involvement:</td>
<td>I do not have information about how many meetings these representatives were invited to and participated in.</td>
</tr>
<tr>
<td>Formality of involvement:</td>
<td>Formal and informal</td>
</tr>
<tr>
<td>Influence of involvement:</td>
<td>Some contributions ignored, other taken into consideration by the AE-project group.</td>
</tr>
</tbody>
</table>

### The students

<table>
<thead>
<tr>
<th>Classified as:</th>
<th>Clients; Operators (users)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How the stakeholder is affecting/affected by Anonymous Exams.</td>
<td>The students are affected mainly during the day of examination, by the implementation of new procedures for examination and by not being able to use their names and social security numbers as means for identification. Anonymous Exams also affect the students when collecting their marked and graded exams, as they need to remember, or retrieve, their AIDs for each exam.</td>
</tr>
<tr>
<td>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</td>
<td>Few students seemed to notice Anonymous Exams, but were very positive towards the Student Portal and the new examination procedures during the examination day (when asked in a questionnaire regarding examination).</td>
</tr>
<tr>
<td>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</td>
<td>The students have very little say in the process and weak relationships to other stakeholders; they need to be organized in order to have a voice (e.g., through the student unions or other student groups at the university).</td>
</tr>
<tr>
<td>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).</td>
<td>The students are a potential threat if they decide to start by-passing the anonymity for some reason.</td>
</tr>
</tbody>
</table>

Assess the stakeholder’s salience:

<table>
<thead>
<tr>
<th>Indicators of power:</th>
<th>Limited power to influence the design of Anonymous Exams at this time.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators of legitimacy:</td>
<td>Considered to have legitimate claims on Anonymous Exams in their capacity of being the main clients.</td>
</tr>
<tr>
<td>Indicators of urgency:</td>
<td>Anonymous Exams is not urgent for the ‘regular’ student.</td>
</tr>
<tr>
<td>Stakeholder salience type:</td>
<td>DISCRETIONARY stakeholder</td>
</tr>
</tbody>
</table>

Assess and describe if and how the stakeholder has been involved in the development/implementation:

<p>| Was the stakeholder involved? | There was no involvement of ‘regular’ students during this phase. Most students did not seem to notice Anonymous Exams. |</p>
<table>
<thead>
<tr>
<th>The student unions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classified as:</strong></td>
</tr>
<tr>
<td><strong>How the stakeholder is affecting/affected by Anonymous Exams.</strong></td>
</tr>
<tr>
<td><strong>The stakeholder’s experiences of, attitudes toward, and perceived need and benefit of Anonymous Exams (indicators of urgency).</strong></td>
</tr>
<tr>
<td><strong>The stakeholder’s relationships with other stakeholders (indicator of power and legitimacy).</strong></td>
</tr>
<tr>
<td><strong>The stakeholder’s potential for threatening or cooperating with the achievement of the Anonymous Exams’ objectives (indicator of potential need for stakeholder involvement/management).</strong></td>
</tr>
<tr>
<td><strong>Assess the stakeholder’s salience:</strong></td>
</tr>
<tr>
<td><strong>Indicators of power:</strong></td>
</tr>
<tr>
<td><strong>Indicators of legitimacy:</strong></td>
</tr>
<tr>
<td><strong>Indicators of urgency:</strong></td>
</tr>
<tr>
<td><strong>Stakeholder salience type:</strong></td>
</tr>
</tbody>
</table>

**Assess and describe if and how the stakeholder has been involved in the development/implementation:**

**Was the stakeholder involved?**
During this phase, the student unions were not involved.
Public e-Service Stakeholders