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DEVELOPING PUBLIC E-SERVICES FOR SEVERAL STAKEHOLDERS – A MULTIFACETED VIEW OF THE NEEDS FOR AN E-SERVICE

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Abstract

This paper discusses how several stakeholders in a public e-service development project consider a future e-service and expected changes in administrative processes and working routines. Our findings indicate a much more multifaceted view than the common win-win situation, with increased quality for citizens and increased efficiency for agencies, which is rhetorically put forth as an effect of public e-service implementation. We have studied a development project resulting in an e-service for handling student anonymity when marking written exams in higher education. In this case we have identified five distinct stakeholder groups related to this e-service; students, teachers, course administrators, exam guards, and the university at an agency level. All of them having certain expectations and fears about the new situation. By presenting this diversity in opinions we add further understanding to the notion of e-services as being more or less beneficial for certain stakeholders.

Keywords: Public e-services, e-government, stakeholders

1 INTRODUCTION

Public e-services demand secure information handling in order to build and maintain citizens' confidence in public administration and in the long run also in democracy. We often see this issue being discussed in technological terms; e.g., how to develop secure IT solutions and how to handle integrity in public e-services (e.g., Argyrakis et al., 2003). In this paper we discuss how different actors apprehend an e-service under development, focusing on their perceived need for this e-service. An e-service, as well as any kind of service, is by definition intended to serve someone. The International Standardization Organization (ISO9004-2:1991, pp. 4) defines a service as "*Supplier activities at the interface with a customer and the results of all supplier activities to meet customer needs*". In the context of public e-services this means that an e-service should fulfill the needs of the citizens that are supposed to use the e-service. This is in accordance with Kelly et al. (2002) who identify services as meeting someone's relatively enduring need for something.

In many e-government studies there is a focus on the roles of a government agency officer and a citizen who interact through, e.g., an Internet-based public e-service. These two roles are often taken for granted; the agency offers a communication medium to citizens who act as private persons towards the agency. In this paper, we use empirical findings from a case study in order to illustrate that this one-to-one relationship between government and citizen can be too simplified in order to explain the use of public e-services. Instead, we agree with Tranmüller and Wimmer (2000) who state that e-government involves many different stakeholder groups that need to be considered when developing e-services. In the present case we study the development of a public e-service for handling student anonymity during written exams at a Swedish university. The e-service is offered by the university, which has the agency role in this case. The e-service has several distinct user groups, both users working at the agency (teachers, administrators, and exam guards) and users acting in the role of citizens (students). This diversity in user roles implies that users of a public e-service are not a homogenous group. Instead, we argue that the stakeholder concept (e.g., Freeman, 1984), often used when describing and analysing private firms, can be fruitful to use in the e-government context as well.

The research question we focus on in this paper is how we can illustrate and understand different stakeholders' perceptions of the public e-service during the development process. The perceptions can be expressed as anything from positive expectations to fears. We use empirical examples from the studied e-service development project in order to illustrate how stakeholder groups differ in their perceptions and consequently also in their feelings of relevance and need related to the e-service. By presenting this diversity in opinions we add further understanding to the notion of e-services as being more or less beneficial for certain stakeholders. By adopting a multifaceted perspective on stakeholders, public e-service development can be analyzed and understood in a way that takes several stakeholder groups' needs into account. The purpose of the paper is thus to explore the effects of using the stakeholder concept when analyzing the development process of a public e-service. Our approach is supported by a study of Flak and Nordheim (2006) which indicates that few e-government studies so far have explicitly addressed the stakeholder complexity and its inherent challenges. However, we believe that the complexity is a potential strength in the development process that, handled in a constructive way, can result in more comprehensive and successful final e-services.

After this introduction, the paper is organized in the following way: In Section Two we discuss the theoretical concept of stakeholders in e-government. The research design is reported in Section Three. The empirical findings from our case study are presented in Section Four. In Section Five the findings are discussed. The paper is concluded in Section Six, in which we also make some statements about the need for further research efforts in this area.

2 STAKEHOLDERS IN E-GOVERNMENT

We use the stakeholder concept in order to discuss different user groups and other actor groups related to the studied public e-service. The stakeholder concept was used by Freeman (1984) in his seminal work with the definition of “*any group or individual who can affect or is affected by the achievement of the organization’s objectives*” (ibid., p. 46). The stakeholder concept was originally introduced and used in the context of a private firm. There are, however, several scholars who have discussed how the stakeholder concept can be applied to public contexts as well (e.g., Scholl, 2001; Pardo and Scholl, 2002; Chan et al., 2003; Flak and Rose, 2005; Flak and Nordheim, 2006). Scholl (2001) presents a literature review on how the stakeholder concept has been transferred from the private to the public context and used in e-government settings. He distinguishes both benefits and limitations, but concludes that even though the stakeholder theory originates from the private sector the stakeholder concept can be beneficial to use in e-government settings as well (ibid.). By dividing the actor roles into several stakeholders the understanding of citizen and government relations will broaden. Flak and Rose (2005) agree that stakeholder theory can be valuable to use in the e-government field, but they also argue that the stakeholder theory lacks theorization of the relationship between technology and stakeholders, which is important in order to understand e-government.

Mitchell et al. (1997) argue that a stakeholder possesses one or several of the attributes power, legitimacy and urgency. In their study, Mitchell et al. (ibid.) develop a typology of: 1) stakeholders who have power to influence the firm, 2) the legitimacy of the stakeholder’s relationship with the firm, and 3) urgency of the stakeholder’s claim on the firm. These three attributes are intertwined. Mitchell et al. (ibid., pp. 869-870) argue that “*power gains authority through legitimacy, and it gains exercise through urgency [...] legitimacy gains rights through power and voice through urgency*”. In an e-government context the attributes of stakeholders’ power, legitimacy, and urgency are also present. Chan et al. (2003) discuss how stakeholder theory can be used in order to manage stakeholder relations in e-government projects. They identify a lack of literature within the e-government field concerning strategic management of stakeholder relations, even though several scholars highlight this as an important issue to handle in order to reach success in e-government projects. This is also in line with Flak et al. (2003) who call for more research on how stakeholder theory can be adapted to the e-government field. This is taken a step further by Flak and Rose (2005) who propose a research agenda on stakeholder theory in e-government research, where for example issues such as external and internal stakeholders’ legitimacy as well as government agencies’ ethical duty to respect different stakeholders’ interests are put forth.

We do not intend to apply the entire stakeholder theory in the paper. Instead, we will explore the explanatory force of the stakeholder concept as such, by discussing and comparing the different stakeholders’ perceptions in our case. We follow Freeman’s (1984) definition above, and define a stakeholder as a person or group of persons who can affect or is affected by the public e-service and its surrounding processes. By discussing empirical findings related to different stakeholders the objective is that the analysis should become more comprehensive. This should help us view the studied phenomenon more critically, e.g., by contrasting different stakeholders’ experiences. Flak and Rose (2005) argue that applying stakeholder theory in e-government research could increase a critical stance.

Democracy depends in part on the trust in public institutions (Lauer, 2004). Therefore trust is an essential issue also in e-government research – an issue that can be related to and incorporated into the discussion and understanding of stakeholders. Several studies have explored the role of trust in the e-commerce area and the exploration in the area of e-government has just begun (Bélanger and Carter, 2008). Following Bélanger and Carter’s (ibid., p. 166) reasoning on the concept (based on Rotter, 1971) trust is defined as “*an expectancy that the promise of an individual or group can be relied upon*”. Social learning theory (ibid.) is the point of departure for the definition, which suggests that experiences of promised negative or positive reinforcements vary for different individuals and between different stakeholders. As a result, people develop expectancies that such reinforcements will occur when promised by other people. Komito (2005) claims that trust rarely is given unconditionally,

especially to governments composed of unknown and unaccountable individuals. Instead trust is earned. Trust has to be earned based on actual interactions that citizens have with particular agencies.

When we develop public e-services there is a risk that we put citizens' trust in the e-service in the hands of the IT vendors (Lauer, 2004). On the other hand, taking different stakeholders into account during the development of new public e-services can increase the levels of trust and even solidarity and democracy. This means that there would be long-term benefits for civil society and also for, e.g., political participation (Komito, 2005). E-government has the potential to improve government transparency, responsiveness, and accountability, but will only be adopted if citizens deem them trustworthy (Bélanger and Carter, 2008). Trust as a concept has several different and interlinked dimensions, which we will only touch upon in this paper. One can for example discuss social trust, trust in administration and trust in technology. We use this division of trust in the paper in order to understand needs, opinions, etc. from different stakeholders. Bélanger and Carter (2008) provide a model where they divide trust into institution-based trust (e.g., trust in the Internet, such as secure data transmission, as an essential part of e-government) and trust in the government agency providing the e-service (which will highlight aspects such as organization and knowledge in the agency). Labels such as trust of the Internet and trust of the government are also present (*ibid.*). We label the two dimensions of trust as trust in administration (organization) and trust in technology when we analyze our empirical data.

RESEARCH DESIGN

In order to gain further understanding of how public e-services affect citizen and authority relations, we are conducting a research project in which we are analysing several public e-services from the perspective of trust, organization, and knowledge. The project is based on cooperation between researchers from the fields of information systems and public administration. The project aims to increase our joint understanding of how public e-services can be developed so that users (citizens as well as governmental users) have confidence in and competencies to handle these e-services, in a personal as well as an organizational context. Such e-services should also create democratic legitimacy and efficiency in the society.

2.1 The Case Study

In order to answer the question how we can illustrate and understand different stakeholders' perceptions of public e-services during the development process, we analyze data from the first case study in the research project, which was performed at a Swedish university during the spring of 2008. The e-service under development is an e-service for handling student anonymity when marking written exams. At this university, 100.000 written exams are administered each year which makes this an extensive process. The e-service consists of several components; one part handling the information transfer from a student administrative IT system to a mobile palm solution that is used on site during the exam events, a web-based interface where students sign up for the exam and another web-based interface that the teachers and administrators use when reporting the results. The studied e-service comprises all these components and is, thus, used by several user groups during the exam process. The studied e-service differs from some public Internet e-services in the sense that it is closely integrated with the back-office IT system. We study all components in this paper.

The origin of the initiative to develop an e-service was student demands for a higher legal security in the marking process of written exams. Students argued that the teachers cannot be totally fair in their marks as long as they know who the student is. Students were afraid that some of them could be "punished" with a lower grade if they had been critical towards the teacher or that some of them would receive a higher grade than appropriate because the teacher liked them. Thus, the student demand for anonymity is in line with a general strive for equal opportunities in higher education; i.e., no one should be discriminated because of his or her sex, age, sexual orientation, ethnicity, religion or other faith, disability or social background. The student demand for anonymity was articulated through the students' union and resulted in a strategic decision made by the university's vice-chancellor that an e-

service should be developed to guarantee student anonymity during the marking process of all written exams. A project group was formed consisting of a project leader, systems developers, technical personnel, representatives of the exam guards and central examination administrators. A reference group was also organized consisting of representatives of the teachers, the students' union, and exam guards from all faculties. This implies that all identified stakeholders were represented in these two groups; students, teachers, course administrators, exam guards, and the university (represented by the project leader, systems developers, and technical personnel).

During the case study the authors followed the development project (the project group and the reference group) in their project activities. Data was generated in several different ways. One of the authors observed six project meetings and notes from these observations were taken. During the last project meeting respondent validation (Silverman, 2000) of the findings was accomplished. Data was also collected by observations of three information meetings open for university employees and in one systems training activity for exam guards. 14 representatives from all stakeholder groups have been interviewed during the case study; the project leader (1), course administrators (2), teachers (3), students (3), exam guards (2), and administrators at the students' office (3). The interviews lasted for 30-60 minutes and were recorded. A focus group was also performed together with parts of the reference group (7 persons). This focus group meeting (approximately two hours) focused on the role of the reference group in the development project. Besides these data generation methods, project documentation as well as e-mails sent from university employees to the project group were also analyzed. Altogether this case study design (Yin, 1989) has resulted in rich empirical material focusing on the development project from several perspectives. The empirical data is of a qualitative nature and has been analyzed with an interpretive approach (e.g., Walsham, 2006). Of course, there are weaknesses in the chosen methods, for example that the presence of a researcher might influence the project meetings or that the choice of interview respondents could be biased. These are weaknesses of qualitative research approaches that always have to be considered. We argue, though, that our method and researcher triangulation (Miles and Huberman, 1994) is a way to confront and confine these weaknesses.

There are several motives for choosing the present case. First of all the development process was about to start when we got in contact with the university, which implied that we were able to follow the process from the start. We also have the possibility to return to the case for evaluations later on. The university also showed great interest and engagement in the research project which gave us valuable access to the case and opportunities to make a critical analysis of the situation. There is also a novelty interest concerning this kind of e-service since this seems to be the first one in Sweden with a direct link to the national IT system handling all information about students' passed courses and exams (called the Ladok-system). There is a recent trend in Sweden to develop solutions for guaranteeing student anonymity in written exams, so other universities will probably follow this attempt.

2.2 The Process of Anonymous Written Exams

In this section we give a summarised description of the process of anonymous written exams. This includes both the e-service and the administrative routines surrounding the e-service. 1) A couple of times a year each course administrator registers all planned written exams within his or her responsibility area for next term in an IT system called TAL. 2) Based on the information in the TAL-system, a special unit at the university called the Examination Service books rooms and hires exam guards for the planned examinations. 3) Prior to the examination the student signs up for the event in a special (already existing) student web portal. An anonymous ID (called AID) is then created in the TAL-system. The AID is only valid for the specific student at this specific examination, and it is not accessible for the student at this moment. 4) Just before the examination starts, the exam guard downloads information about all students who have signed up for the present examination from the TAL-system to his or her palm. 5) The student gets his or her student identity card scanned in the exam guard's palm and a list of all present students is created. 6) Then the exam guard gives the AID to each student. The student must write this AID instead of name and social security number on each page he or she completes during the exam. 7) When the student leaves the examination room he or she

gets the student identity card scanned once again. 8) When the examination is finished the exam guard transfers the information in the palm to the TAL-system. 9) Within 24 hours the teacher can create a web-based marking protocol based on this information. 10) When the teacher has completed the marking process he or she or a course administrator will register the grades for each AID in the e-service (which in turn transfers the data to the Ladok-system). 11) Finally, the teacher can print a list of the results where the students' names are visible; i.e., once the written exam is marked and the results have been transferred to the Ladok-system by the e-service the identity of the student is revealed.

3 DIFFERENT STAKEHOLDERS' EXPECTATIONS

We have identified five stakeholder groups in the studied case; students, teachers, course administrators, exam guards, and the university. In reference to the traditional view on e-government, the university represents the government agency in the case description below; i.e., the university management as well as project management. Each group expresses their particular expectations regarding the e-service under development. Below we present expectations and fears of each stakeholder group.

3.1 Students

The origin of this public e-service was students' fear of not being treated in a fair way by the teachers when written exams are marked. Students claimed that they sometimes felt they were punished (by being given lower grades) if they expressed a critical attitude towards the course or the teacher. The students said that they would find it easier to criticize a teacher during a course if they felt that there was no risk for being punished during the examination. The students also stressed fairness as an important feature. It was not just the risk of being marked lower than expected that was seen as a problem, but also to get a higher mark than deserved. The students also saw a risk of being discriminated based on ethnicity or sex. The students we interviewed stated that the e-service, which ensures anonymity during examination, would increase their feeling of being secure from that kind of discrimination. In the interviews they emphasized the importance of perceived security. They made an important distinction between actual and perceived security by saying that maybe the marking process is actually done in a fair way already, but you must also *perceive* it as legally trustworthy. The e-service was seen as a means to perceive security in the process. The only fear the students mentioned regarding the e-service was that the timetable would not be met and doubts about whether the e-service would function as expected from the beginning. Altogether this stakeholder group was predominantly positive towards the e-service and the re-designed examination process.

3.2 Teachers

Some interviewed teachers did agree with the students' opinion that this e-service could result in increased legal security – not only for the students, but also for themselves. With the e-service the examination process will become traceable and some of the interviewed teachers saw the traceability as a protection against future discrimination charges. On the other hand, they also expressed a fear to be forced into a certain pedagogical frame if technology (the e-service) was allowed to govern the examination process. The 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. Another opinion was that this e-service could be seen as a sign of mistrust from the university. The teachers who stated this felt that their competence as fair examiners was questioned by introducing this e-service. One teacher went as far as stating that he would stop giving written exams in his courses due to this re-designed procedure. He objected to the idea that student anonymity would be of any good. Instead, he argued that he could only do a fair examination if he knew who the student was, e.g., in order to observe improvements in cases when a student failed the examination several times. The interviewed teachers were also afraid that this re-designed process would increase their workload and result in technical errors that would lead to chaotic situations and decreased legal justice. On the other hand, we also interviewed teachers who did not see student anonymity as an important issue, but

were positive towards the e-service as a tool for more efficient handling of the examination process (particularly for examinations with a large number of students).

3.3 Course Administrators

The course administrators that we interviewed were the ones with least understanding of the reasons behind the decision to develop the e-service. They stated that there had not been any problems concerning the marking process of written exams. They defended the integrity of “their” teachers as being fair examiners that did not discriminate any students. The administrators did not understand why the examination process could not continue as before. This group had not heard anything about the demands for student anonymity from the students’ union. Depending on how the examination process was performed at the course administrator’s department prior to the e-service development, they expected either an increased or a decreased workload due to the e-service. Administrators who thought that the teachers at their department would not learn how to use the web-based interface for result reporting expected their workload to increase, as they assumed that they would have to do this task instead. At the departments with a huge amount of written exams (e.g., the department of mathematics) the administrators were afraid that the automated routine for result reporting would lead to redundancy among administrators. They feared that this in worst case could lead to unemployment. Administrators who work at the students’ office are responsible for handing out the exams to the students after the marking is done. This group of administrators expected the process to become more stressful as the re-designed process will result in another way of sorting the written exams at the students’ office. The sorting will be based on dates and codes instead of names. This fear made this group of administrators very negative towards the e-service and the changed routines.

3.4 Exam Guards

The exam guards are a stakeholder group that is contracted by the university and temporarily hired for each examination. This group mainly consists of retired women who want to earn some extra money by working a few hours each month. Their responsibility is to supervise the students during the examination event in order to prevent cheating or the use of prohibited aid. It is this stakeholder group that faces the largest changes in their working process due to the e-service. Their work today is totally paper-based and the re-designed process implies that they will use a palm as their main working device. This group expressed fears that they will not be able to learn the new process and how to use the new technology. The degree of IT maturity is low in this group although it differs across individuals. The exam guards were afraid that the re-designed process will lead to increased time pressure during the examination, as the registration of each student in the palm will take some time. Their greatest fear concerned how they are supposed to solve technical problems that might occur, when they are alone in the classroom with a lot of students eager to start their examination. They were not sure what kind of help they can get and from whom. The exam guards also mentioned a positive expectation as they hope to be able to influence the examination process when the e-service is implemented. For example, they hope that the re-designed process will make it easier for them to refuse students who lack a valid student identity card to take part in the examination. These students are not allowed to do the examination, but now they are often difficult to reject when they are begging to participate. In the future process the student identity card must be scanned in the palm in order to get the AID, which means that no students can be permitted to participate if they lack this card.

3.5 The University

The e-service development was initiated by a vice-chancellor decision made after severe pressure from the students’ union. The main motive for the development project, articulated by the university, was to achieve increased legal examination security for students and teachers. Students should not risk to be favoured or discriminated and teachers should not risk to be accused of discrimination. Another expectation that the university has articulated is that the examination process will be more

standardized thanks to the e-service. Today, the administrative process regarding written exams differs between departments. There are, e.g., many special solutions to get yet another opportunity to pass the exam, to get bonus points, etc. This implies that the regulations surrounding examination are not totally comparable across the university. Such differences are negative, according to the university, and should be removed. There is also some prestige in fulfilling this project expressed by university representatives. It seems as if this university will be the first one in Sweden to develop a solution with automatic information transfer to the national Ladok-system. The fact that the university can assure student anonymity in written exams is seen as a strong argument in the marketing of this university's courses and educations. Obviously, the university is eager to launch this e-service as quick as possible in order to achieve a so called first mover advantage.

4 DISCUSSION

4.1 Identified Stakeholders' Perceptions of the E-service

When comparing the expressed expectations from the identified stakeholder groups in the previous section, we find many differences in how our respondents view the future e-service and the changed examination process. In table 1, below, we summarise the main characteristics of each stakeholder group. Our findings obviously indicate differences regarding the stakeholders' general impression of the development project. We also find differences regarding the stakeholders' need for the e-service; i.e., whether the e-service corresponds to any expressed problem or not. The stakeholders have had differing influence on the development process and they will also be object for more or less evident changes in their working routines related to the examination process. Finally, we see differences concerning the expressed expectations and fears depending on stakeholder group.

Table 1 Stakeholder groups' main perceptions in relation to the e-service

Stakeholder group	General impression	Need for the e-service	Influence on e-service development	Affected by process changes	Expressed feelings
Students	Positive	Demand for student anonymity	Initiated the development, representatives in the reference group	To some extent, but no critical changes	Improved situation, perceived security
Teachers	Negative, neutral or positive	No expressed need	Representatives in the reference group	Some changes, expect increased workload and technical problems	Questioned competence, a sign of mistrust, decreased freedom of action, improved efficiency and legal justice
Administrators	Very negative	No expressed need	Representatives in the project and reference groups	Changes that can lead to either increased workload or redundancy	Defend teachers' competence, unnecessary system change
Exam guards	Negative or positive	No expressed need	Representatives in the project and reference groups	Severe changes due to introduction of IT	Increased need of technical competence, improved authority towards students
The university	Very positive	Prestige, marketing argument, standardization, answer to students' demand	Manages the e-service development (in-house) and owns the development project	Positive standardization of processes, improved legal justice	Focus on rules, standardization and student recruitment – not on internal stakeholders

University representatives in the project group express difficulties regarding how to inform about the project, the future e-service and the process changes. They have arranged several open meetings for all university employees in order to inform and discuss this, but very few people have participated. At many departments there has been a widespread reluctance and skepticism towards the project. Based on our empirical findings there are several conceivable reasons for this situation. First of all, there have been prior attempts to develop an e-service for student anonymity which have failed due to technical problems. There is, thus, a history of failure that dilutes the present project and works as a breeding ground for mistrust among employees. The fact that three major stakeholder groups; i.e., teachers, administrators and exam guards, do not experience any problem that the e-service is supposed to solve is another important factor. Changes that do not correspond to an experienced problem

seem to be harder to accept. In this case, the lack of problem understanding must be focused and discussed in order to gain acceptance among these stakeholder groups. This is especially important since these stakeholder groups expect rather extensive changes in their working routines. Some of these expectations are valid, but others are exaggerated by rumors and lack of information. Since this project is performed in a large public organization (the university has several thousands of employees) the different stakeholder groups are only represented by a few persons in the project group and the reference group. These representatives have been successful to a varying degree in fulfilling their anchoring and informing responsibilities. Most teachers, administrators and exam guards have not been involved or informed about the project before the e-service was to be launched.

When focusing on the positive and negative feelings towards the e-service and the re-designed process that our respondents express, we discover some interesting patterns. The students, who as a group have been the one demanding student anonymity from the very beginning, express mostly positive expectations. They stress that the e-service will result in increased trust in a fair examination process. They distinguish between actual and perceived security; i.e., the examination process might be trustworthy even today but, as long as they do not perceive it to be a hundred percent reliable, they do not trust it. This division between the concepts of actual and perceived is discussed by Oscarson (2007) in relation to information systems security. His conclusion confirms our finding as he states that a high level of *actual* information systems security is not enough if an actor does not *perceive* it to be high as well (ibid.). It is also worth noticing that the students discuss increased trust in the process. On the other hand, the students we interviewed seemed to take rather little notice of possible technical problems that the implementation of the e-service could result in. Thus, they seem to rely on technology from the beginning.

On the other hand, the three stakeholder groups which are most negative towards the e-service and process changes (teachers, administrators, and exam guards) all seem to be mistrusting the technology and their own competence in relation to handling the technology (i.e., the e-service in the mobile device as well as the Internet-based part of the e-service). The exam guards express this feeling most distinctly, which of course is natural in relation to this group's characteristics (consisting of many retired women with little prior IT experience). The administrators fear that the technology will change the conditions for their work in a dramatic way. Either it will result in much more work to do, since the teachers will delegate new tasks to their administrator, or it will make some administrators superfluous since the process will be much more effective. Both these scenarios might come true, depending on how the departments handle the examination process today. This is a result of the standardization that the university intends to create through the e-service. This kind of uncertainty about future effects of organizational changes is inevitable in many cases and do cause worry among employees. Facts and information are, thus, always better than rumours and guessing during change processes.

Another serious finding is the statement from some teachers that they regard the e-service as a sign of mistrust in their competence as examiners. The administrators also defend the teachers' competence and underpin this feeling of mistrust in competence. There seems to be a mix of general reluctance towards changes – “*we have always examined without student anonymity and I don't see the need for this to change now*”, fear to deteriorate pedagogical ideas in the courses leading to decreased quality – “*I don't want to get forced into any pedagogical frame that does not fit my course*”, and a feeling that the university wants to decrease teachers' freedom of action – “*don't they have trust in me as a fair examiner anymore?*”. What we see here are signs of changes in competence needs in different stakeholder groups. The exam guards must learn how to handle the mobile device, and the teachers and the administrators must learn to interact with the Internet-based interface. Some tasks will be conducted by another group than before, some new tasks will occur and others will disappear.

When focusing on feelings expressed by representatives for the university at an agency level, it is obvious that these experiences are mainly directed towards external issues. The main aim for developing the e-service was fulfilling the students' demand for anonymity. The process changes necessary in order to develop the e-service also serve the purpose of reaching a more standardized

examination process at the university level. Standardization is seen as a means to assure legal justice and high quality in the examination process. Another hope put forth is that the e-service and the re-designed examination process will lead to a good reputation among presumptive students, which will be positive for future student recruitment. All together, it is obvious that the university focuses on external issues related to the e-service development, but seems to have underestimated some internal issues such as different user groups' experiences and fears.

Our findings provide a good example of how an aim of increased standardization, accomplished through adjustment in processes as well as formalization of actions performed through an e-service, has effects on different stakeholders' perceptions and expectations. Students experience increased confidence in a fair marking process and therefore trust for the administration (i.e. the university). Internal user groups experience mistrust in technology, in their competence and in their employer's appreciation of their achievements. The university management experiences increased possibilities to fulfill the rules of legal justice and hope for competition advantages.

4.2 Stakeholders in Public E-services

By dividing our respondents into several distinct stakeholder groups it becomes apparent that there are differences between these groups' apprehensions of the e-service under development. We find that stakeholders can possess diverse characteristics in relation to each other and the studied e-service. If we adopt the concepts of urgency, power, and legitimacy, introduced by Mitchell et al. (1997), on our case we get the following picture: *The students* raised a demand for student anonymity – this demand was urgent and as it was supported by the students' union it was also powerful. *The university* decided to meet this demand by initiating the e-service development project – the university obviously has the power and legitimacy to do this. Since other universities were about to start similar projects this was also seen as an urgent project to initiate. *The teachers* did not experience any urgency regarding this matter and they felt their power as examiners being somewhat weakened by student anonymity as their legitimacy as fair decision-makers could be questioned. *The administrators* had similar characteristics as the teachers (low power, urgency and legitimacy), but they also feared more serious effects such as redundancy or increased workload. *The exam guards* did not express any notions of high urgency related to the e-service, but some exam guards mentioned that the e-service and the process might strengthen their authority towards students. The e-service might, thus, give them the power to refuse students without valid student identity cards to do the exam. The exam guards had rather low legitimacy in the examination process since they are only hired for a certain examination event and easy to replace. Without using the full explanation power of Mitchell's et al. (ibid.) typology, it is obvious that the concepts of power, legitimacy and urgency can be fruitful to apply to e-government cases as well.

By conducting a stakeholder centered analysis of expectations and fears concerning the e-service under development we get a more thorough view of the process. If we had adopted the traditional, and in some sense simplified, view of a government agency and a citizen interacting through an e-service, we would have focused on the university and the students. Both these actors are positive towards the e-service and the changed examination process and focusing on them would, thus, not have given us full understanding of the complexity of the situation. A more detailed analysis divided on all identified stakeholders seems to be a suitable way to gain a broader and more critical picture of public e-service development. This finding is also supported by Scholl's (2001) study. Stakeholder analysis in combination with identifying different objects for trust (technology and organization, cf. Bélanger and Carter, 2008) is also promising in order to gain a more multifaceted view of e-services, but needs to be further elaborated on in future studies.

There is a vital difference in this studied case compared to many other public e-services. Usually a user can decide not to use a certain e-service. Government agencies cannot exclude other communication channels as they must assure that all citizens are able to interact with the agency regardless of access to a certain medium or capability of using the medium due to other circumstances. This is not the fact in the present case. The identified stakeholder groups cannot choose whether to use the e-

service or not – they have to adapt to this re-designed process and they have to use the developed IT device. The only stakeholder group that might have any potential choice is the teachers who possibly could choose to refrain from having written exams in their courses and, e.g., use other approaches, such as essays, other reports etc., in order to exam students.

5 CONCLUSIONS

This paper's main contribution is lessons learned from applying the stakeholder concept in an e-government setting. Our intention has been to illustrate and understand different stakeholders' perceptions of a public e-service during the development process. A crucial conclusion that can be drawn from this study is that an appropriate understanding of an e-service's internal and external stakeholder groups is important in order to get an adequate view of the complexity often related to the use of a public e-service. There is often a stakeholder group that is supposed to be served by the e-service (c.f. Goldkuhl, 2007), but this group cannot be the only one in focus. The e-service is developed to generate public value (Grimsley and Meehan, 2007) to citizens, but given that several stakeholder groups are related to an e-service, the sometimes complex relations between these groups must also be understood. Chan et al. (2003) show how some stakeholders are dependent on an e-service while other stakeholders are necessary for the e-service. This results in complicated stakeholder relations that need to be identified, understood and managed in a proper way. Stakeholders also differ in their power, legitimacy and urgency towards the e-service (Mitchell et al., 1997). The focus on internal stakeholders without any explicit need for the e-service (i.e., no outspoken need to be served) provided us with a more nuanced and critical understanding of the studied process. A more traditional focus on the citizen (the student) and the government agency (the university) would instead have indicated a more simplified win-win situation. This is an important lesson to learn in order to understand the effects of e-government implementations.

We have identified several, sometimes conflicting, expectations concerning the studied e-service which seem to be possible to explain by a history of previous e-service failures, no correspondence between the e-service and experienced needs among several stakeholder groups, and lack of information and involvement in the development process. A superior goal for this e-service development initiative was to create a more secure and fair marking process; i.e., to improve the legal justice surrounding written exams. Obviously, the feeling of anonymity was apprehended by the students as an important factor – their trust in the administration should increase if they know that their exam would be treated anonymously. Trust in technology (the e-service), on the other hand, was discussed by other stakeholder groups but mainly in terms of mistrust.

This study provides us with some illustrations of how e-service development can create different expectations within the stakeholder groups. The intention has been to add further understanding to the discussion of different stakeholders in e-government. Increased understanding of this complexity can help us develop public e-services that balance different stakeholders' needs in a successful way. Our intention has not been to give any statistically valid explanations of the studied phenomena. The characteristics we have found in this case (e.g., the notion of need for the e-service) have to be followed up and compared to other cases. We plan to return to the case when the e-service has been used for some time, in order to evaluate whether different stakeholder groups' expectations and fears have been realized or not. This will add a longitudinal dimension to our analysis and to further results. Another important theme for further studies is trust (in technology and organization); in the analysis above we have not highlighted trust, only used the concept as one aspect of a stakeholder analysis.

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