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Karin Axelsson and Ulf Melin

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Citizen Participation and Involvement in eGovernment Projects – An Emergent Framework

Karin Axelsson[1], Ulf Melin[1]

[1] Department of Management and Engineering, Linköping university, SE-581 83 Linköping, Sweden
{karin.axelsson, ulf.melin}@liu.se

Abstract. This paper reports from an action research project where focus groups have been used as an approach for taking citizens' requirements into account during public e-service development projects. In the paper we use theories from the area of user participation in the information systems (IS) discipline in order to discuss and enhance the specific aspects of citizen participation and involvement in the eGovernment context. The main purpose of this paper is to enrich the eGovernment field in general, and to facilitate the citizen perspective in eGovernment development projects in particular, by using notions from the user participation tradition in the IS discipline. Our empirical findings from performing focus groups are discussed and compared to well-known user participation theories from the IS discipline. This results in an emergent framework for better understanding of citizen participation and involvement in the eGovernment context. The emergent framework consists of a set of questions that can be used in order to put an increased focus on the citizen perspective in future eGovernment development projects.

Keywords: eGovernment, IS development, user participation, citizen participation, citizen involvement, focus group.

1 Introduction

This paper explores how focus groups can be used as an approach for taking citizens' requirements into account during public e-service development. This is made in order to develop e-services that are usable, understandable, and accountable and to make sure that there are incentives and benefits present to use the e-services from a citizen perspective. In the paper we use user participation theories from the information systems (IS) discipline in order to discuss the particular aspects of citizen participation and involvement in the eGovernment context. In IS research there has been a long tradition of focusing on user participation during systems development, not at least in Scandinavia [e.g., 5; 15].

During the short life-time of eGovernment until today (2008), a government perspective has often overshadowed a citizen perspective. eGovernment projects have also focused mainly on technical characteristics [27] and authority productivity, but rather little on citizens' needs [1]. The citizen perspective has often been forgotten or

hidden away in the design and implementation of eGovernment solutions so far [8]. In the same time, there is an increasing body of research claiming that the citizen perspective needs to be strengthened in order to develop successful eGovernment [25] in a holistic sense.

The main purpose of this paper is to enrich the eGovernment field in general, and to facilitate the citizen perspective in eGovernment development projects in particular, by using notions from the user participation tradition in the IS discipline. This is done by analyzing and discussing how focus groups have been used in an action research project, as an approach for strengthening the citizen perspective. In this paper the findings from the performed focus groups are not in focus per se. Instead the findings are put in relation to well-known user participation theories from the IS discipline. The analysis results in an emergent framework for better understanding of citizen participation and involvement in the eGovernment context. The emergent framework consists of a set of questions that can be posed in order to put an increased focus on the citizen perspective in future eGovernment development projects. This is done in order to reach holistic solutions.

The paper has the following disposition; after this introduction previous studies on user participation within the IS discipline are discussed and related to the citizen perspective in eGovernment. In the next section, the action research project and the organization of the focus groups, which serve as our empirical context, are described. Thereafter the focus group experiences are discussed and related to user participation theories in our emergent framework for better understanding of citizen participation and involvement in the eGovernment context. In the concluding section of the paper, we summarize our contribution and formulate some ideas for further research.

2 Viewing the Citizen Perspective through the Lens of User Participation

In this section previous studies on user participation from the IS discipline are discussed and related to the citizen perspective in eGovernment. This is done in order to identify if and how user participation theories can help us to emphasize the citizen perspective in eGovernment.

2.1 User Participation within the IS Discipline

Among Scandinavian IS researchers there has been a strong emphasize on user participation during IS development for several decades [6]. User participation has been seen as a means to increase working life democracy and has in many situations been regarded as the one and only way to develop information systems. As a specific school of user participation within the IS discipline, participatory design (PD) has been put forth [26]. PD has a distinct focus on political effects of systems design and is much oriented towards changes in distribution of workplace power due to introduction of IS [16]. Besides this political focus, PD also emphasizes user participation as such, as well as methods and techniques to support participation

(ibid.). In this paper, though, we discuss user participation in the IS discipline without delimiting the discussion to a certain school, as, e.g., PD, cooperative design [13], or user-centered design [22]. We do not deal with the political effects and the distribution of power in this paper.

Although this huge interest in participation in the IS discipline, there have also been many studies questioning the effects of user participation regarding, e.g., system success [18]. Cavaye [7] reports on an extensive review of studies showing both positive and negative relationships between user participation and success.

Mumford [21] is a pioneer in the field of user participation in IS development. She distinguishes between three types of user participation; which imply varying user influence on the outcome; consultative (i.e., user needs influence design decisions made by the design team), representative (i.e., affected user groups are represented in the design team), and consensus (i.e., all users are involved through communication and consultation). Cavaye [7] describes six attributes of user participation which can be used as dimensions with various values in order to characterise user participation. The attributes and possible values are (ibid.); type of participation (all users or representatives), degree of participation (level of responsibility for the participants), content of participation (involvement in different design aspects), extent of participation (variation in scope in different phases of the development process), formality of participation (formal or informal organisation of participation activities), and influence of participation (effect of participation on the development effort). The framework of Cavaye (ibid.) has later been used and further developed by Lynch and Gregor [18] who add the attribute depth of participation. The depth attribute can be indicated by three factors; the stages of the development process where users are involved, the frequency of interactions with users, and whether the users have any voice in the development process (ibid.)

2.2 The Conceptual Difference between User Participation and Involvement

Hartwick and Barki [14] argue that we need to separate between the concepts of user participation and user involvement, in order to increase our possibilities to reach full system success when developing information systems. Thus, they suggest that these concepts must be treated as different issues instead of being used as synonyms. This implies that they define user participation as "the behaviours and activities that users or their representatives perform in the system development process" (ibid. p 441). User involvement is referred to as a psychological state which is defined as "the extent to which a person believes that a system possesses two characteristics, importance and personal relevance" (ibid. p 442).

In their literature review of relationships between user participation and system success, Lynch and Gregor [18] find a strong positive relationship between user involvement (feelings of involvement) and implementation success, but only a moderate relationship between user participation (participative activities) and success. These findings are interesting and potentially beneficial to relate to the eGovernment field. When discussing citizen benefits of public e-services we have argued that citizens should participate in the development process in order for the developers to identify their needs and demands and, thus, develop e-services that suits user needs.

On the other hand, citizen participation is much more complex to accomplish to a broad extent compared to user participation in internal IS development projects (which might be difficult enough to reach in many cases). In this paper we report from a project where we have used focus groups as a means to reach citizens, but of course this has only facilitated contact with an extremely small amount of the future, potential users of the web portal.

This makes us believe that the conceptual division between participation and involvement might be extra important within the eGovernment context. There exists a large potential within the area of facilitating citizen participation in eGovernment development projects, by, e.g., organizing focus groups, cooperating with citizen organizations, and using citizen questionnaires. At the same time, we have a responsibility to increase citizen involvement in these development processes and especially in the outcome of these processes. The citizen involvement regarding a specific eGovernment solution could, according to Hartwick's and Barki's [14] argumentation, be related to two attributes; the citizen's notion of importance and personal relevance. Another way to express this is to say that citizen involvement in eGovernment is tightly coupled with the citizen attitude towards, e.g., a specific public e-service. Does the citizen feel that the e-service covers an important issue and is it relevant for him or her to use this e-service? If we can find approaches and/or methods to prioritize and develop public e-services that meet these two demands, we would probably have good possibilities to increase the citizen involvement in eGovernment.

2.3 The Citizen Perspective within eGovernment

As mentioned in the introduction above, a majority of eGovernment studies have so far taken a government perspective. Fewer studies discuss eGovernment from a citizen perspective, or from both perspectives. At the same time, there are researchers highlighting the importance of widening the research scope in order to comprise problems that belong to the citizen perspective as well [e.g., 1; 25]. It is also important to understand that even if there are studies discussing user participation in an eGovernment context, user participation does not necessary imply that citizens are acting in the project. Følstad et al. [10], e.g., refer to agency employees when discussing user participation. Oostveen and van den Besselaar [23] report on a study where participation took place by letting social researchers function as an intermediary between citizens and designers, i.e., by performing telephone interviews.

There is, however, some recent research focusing on the need for public administrations to understand the needs and interests of the ones who are supposed to be helped by the agency (i.e., the citizens) [25]. This is especially valid for agencies which adopt some kind of eGovernment solution. In such cases, the eGovernment development project teams need to consider the users of the resulting system in the same way as in any IS development, according to the discussion above. This line of research often uses the metaphor of customer orientation [ibid.; 17] to explain the need for increasing the citizen perspective, in line with a New Public Management paradigm. Goldkuhl [11] asks, e.g., what it means to serve a citizen through an e-service and highlights a lack of client orientation when designing public e-services.

Apart from the studies mentioned above, so far there seem to be rather few studies that take their point of departure from the citizen perspective when discussing eGovernment. Reddick [24] distinguishes between studies from the supplier side (the agency) and studies from the demand side (the citizens). He concludes that there are very few studies to find which emphasize eGovernment issues from the demand side perspective (ibid.).

As a result from this review of user participation literature within the IS discipline and the identified lack of a citizen perspective in many eGovernment studies, we argue that the citizen perspective needs to be strengthened in order to reach holistic solutions and processes. One way of handling this "gap" is by transferring notions from user participation theories to the still emerging eGovernment field. Anthopoulos et al. [1] state that if an eGovernment solution should be considered as a success, the most important thing is that citizens are served and satisfied. Otherwise they will return to other, traditional channels for their government interaction, and the expected benefits for agencies will not be met. This can be related to the idea formulated above, that citizen involvement in eGovernment is depending on the citizens' attitude towards the IT based interaction between government and citizen. Fischer [9], who has focused much on citizen participation outside the field of eGovernment, states that citizen participation is complicated and needs to be carefully planned in advance in order to be successful. We need, thus, to develop further understanding of how we can provide opportunities for citizens to both actively participate and be involved in eGovernment development work.

3   The eGovernment Development Project

The research project that we refer to in this paper concerns inter-organizational e-service development in the public sector in Sweden. The aim of the project was to develop (1) a web portal where e-services and information concerning the driving license process should be easily accessible for citizens, and (2) one-stop government e-services for driving license matters. In this paper the development initiative of the web portal is focused (c.f., www.korkortsportalen.se). The main motive for the portal development was that responsibility for driving license issues in Sweden is divided between several government agencies. It is, thus, difficult for citizens to find information and get in contact with the correct agency when having driving license errands. In order to solve these problems, a web portal was developed. The portal covers several important aspects within the driving license area; it provides citizens with right information and access to e-services, and it serves as a bridge between the involved responsible government agencies and organizations. The portal is, thus, a so called real one-stop eGovernment solution [12].

As in many eGovernment initiatives, the purpose of this project was originally formulated as a dual goal of increasing citizen benefits and increasing agency internal efficiency (e.g., concerning driving license errands in the internal processes of the agencies). An important aim was that the results from the project should have a distinct service focus of an inter-organizational nature, in order to decrease the unclear responsibility division between authorities that citizens might experience and

suffer from. One important research aim of the project was to develop a method for development of inter-organizational e-services in the public sector and contribute to the theoretical knowledge on e-service development. The results reported here are important parts of this contribution.

3.1   Action Research

The research project was, as mentioned above, an action research (AR) project with the purpose of both developing and evaluating e-services. AR is a qualitative research approach that is often used within the IS discipline [4]. To solve practical problems, issues and concerns and at the same time develop scientific knowledge is the core of AR, also characterizing the present project. Another important characteristic in AR is the intention to develop a comprehensive view of the social systems that are studied. Social systems are usually in transition or change when studied and intervened. The intervention means that researchers observe and participate in the studied phenomena [3]. Several issues and challenges in practicing AR in an eGovernment context are reported in literature [19]. The empirical findings presented in this paper have been generated during our participation in the present development project. The findings have then been theoretically grounded and analyzed.

Three Swedish agencies were involved in the project besides the researchers; Sweden's County Administrations (SCoA), which organizes the 21 county admini-strative boards of Sweden, the County Administrative Board of Stockholm and the Swedish Road Administration (SRoA). The portal development project was hosted and led by SRoA, but all organizations were represented in the project. The e-services and the web portal development initiatives were established prior to the AR project. The e-service development project initially started without any explicit strategy for user participation. The citizen perspective, and the potential of citizen involvement, seemed to be more or less forgotten in the planned project activities. Instead, the development of the e-services for driving license matters and the web portal started in a group of internal representatives from the SCoA and SRoA together with external IS development consultants. The outcome from the development project was not at first anchored in any citizen requirements or explicitly expressed problem outside the government agencies. The driving license issues were chosen as targets for the public e-service project because these issues were supposed to be rather uncomplicated to develop e-services for. The development group was mainly focused on how the e-services would influence the internal procedures and routines at the agencies. The exter-nal consultants were left with rather free choices regarding how the e-services should be developed and designed. User requirements were mostly "guessed" (supposed) by the agency officers according to their prior experiences from direct citizen contacts.

When the research project started to follow the development project, the researchers posed questions about the citizen perspective, citizen involvement, and how the user requirements were supposed to be generated during the e-service deve-lopment process. As a way of handling the situation, and in order to facilitate citizen participation in the development process, we proposed that focus groups should be ar-ranged in order to discuss how young people think about the planned web portal and the e-services. Information gathered from these discussions was meant to complement

the information and experiences from the agency officers in the project, in order to consider if their assumptions about the citizens requirements were valid or not.

3.2 Organizing Focus Groups

Focus groups were used in the research project as an approach to gather citizens' opinions, attitudes, apprehensions, and needs regarding the web-based driving license portal during the development process. Two focus groups were arranged by the project group, where the participants either had a driving license or were potential drivers (i.e., persons without a license today who thought they were going to take a driving license in the future). When we gathered participants to our two focus groups, age was the main factor of selection. We decided to have one group of university students (who were more likely to have a driving license) and one group of high school students. Main reasons for gathering young persons were that they represent an important target group of the web portal and that they possibly would have their own driving license process in close memory or in near future.

The two focus groups were gathered so that they consisted of seven respectively five participants. Each group was led by two moderators. The main assignment was to discuss early (low-fidelity) prototypes of the web portal regarding information, e-services, and user interface. One of the groups consisted of seven university students (table 1). The assumed outcome from this group was thoughts about information structure and presentation of information. Public e-services were discussed in general and the e-service for application of provisional driving license in particular. Six of the seven students had a driving license, which was a conscious choice since Morgan [20] argues that the participants' background should be as homogenous as possible, when organizing focus groups. The gender diversity as well as the educational diversity were, however, deliberate since the low amount of focus groups demanded a wider range of different experiences and viewpoints within each group. Unfortunately, all individuals in the second focus group had the same educational background, which means that we did not reach the diversity we aimed for in this aspect.

Table 1. Focus group participants

Focus group no.	Gender	Age	Education	Driving license
1	Man	32	Information systems	Yes
1	Man	27	Information systems	Yes
1	Man	26	Machine engineering	Yes
1	Man	25	Political science	Yes
1	Woman	26	Economics/business administration	Yes
1	Woman	26	Economics/business administration.	Yes
1	Woman	24	Information systems	No
2	Man	18	Natural science	Yes
2	Man	18	Natural science	Yes
2	Man	18	Natural science	No
2	Man	18	Natural science	No
2	Woman	18	Natural science	No

The second focus group (table 1) consisted of high school students (in their second year) who were also pupils at a driving school. The reason for choosing pupils from a driving school was that we wanted to find participants who were likely to take a driving license in the future. Two of the participants in this group had already got their driving license when the focus group meeting was performed. The purpose of this group was mainly to discuss issues regarding the phases before and during the driver education. The main reason for the distorted gender division (eight men and four women) was, unfortunately, accessibility. It would have been preferable to reach equality regarding gender, educational background and driving license possession, but we could not accomplish this because it was difficult to find volunteers to engage in these groups. For further discussions about pros and cons of focus groups, cf. Axelsson and Melin [2].

3.3   Performing Focus Groups

Below we present five phases that constitute our focus group performance; (1) introduction, (2) brainstorming, (3) discussion from two user scenarios and a prioritisation of the importance of discussed information and e-services, (4) concept based discussion, and (5) prototype evaluation. The focus groups were initiated by the moderators who introduced the e-service development project aims, gave an overview of the driving license field in general, and the purpose of the focus group. The moderators also described the steps in the process of taking a driving license, in order for everybody to better understand how a web portal might be used in these cases.

After this introduction to the focus group, a brainstorming activity was performed, where the concepts of driving license and electronic identification (which is a necessity for citizen identification in order to use the e-services) were in focus. In the third phase of the focus group, the participants were asked questions in order to discuss information and e-services on the future portal, regarding, for example, search alternatives and service content. Two main scenarios were used in this discussion; (1) a citizen who already has a driving license and (2) a citizen who is in the actual process of getting a license. The results from this discussion were then prioritised by the participants regarding the importance of the proposed information content or e-service. This part of the data generation was made by asking the participants to answer a questionnaire where the importance of proposed information content and e-services should be ranged. Examples of mentioned information content and e-services are; approval terms for the provisional driving license (a permission that everyone who wish to take a driving license in Sweden has to apply for), the driving license process step by step, and rules for private driving supervisors (e.g., parents). The fourth phase of the focus group implied a discussion of how ten driving license concepts were understood by the participants. Discussed concepts were those which the moderators thought could possibly be misunderstood by citizens using the portal because of their complex nature. Examples of discussed concepts are; provisional driving license, knowledge test, driving test, and risk education. The result showed that most of the discussed concepts were hard to understand and the definitions proposed by the participants were more or less incorrect.

The focus group were concluded by an evaluation of a low-fidelity prototype that had been developed in the project. The participants were asked to focus on information content, information presentation, structure, search alternatives, and navigation logic. The discussions resulted in many comments on the proposed structure and layout. The participants found parts of the content to be irrelevant and missed other information. They had comments on chosen icons and names on bottoms as well as on what actions that were possible to perform on the portal. An important suggestion to improve the use of the portal was to add a personalized e-service called "My driving license" (c.f., the "My Pages" concept), where the citizen could login and follow all information regarding his or her driving license process.

As described above the focus groups consisted of five phases. All together these phases generated a sufficient set of information that was considered as essential for the future direction of the e-service development project. Some findings showed that the e-service development project group had made appropriate assumptions regarding the citizen requirements, while other findings from the focus groups came as a surprise to the project team. A common aspect of these more unexpected findings were that they represented the attitudes of young persons. An eighteen years old person who has lived his or her entire teenager life as a frequent user of Internet, chatting with friends on MSN, using the mobile telephone not only for talking but also to take photos, send SMS, and listen to music, and so on, have certain expectations regarding a government agency's web portal. Their high experiences in these kinds of communication media enable them to take some issues for granted and requesting and prioritising other functions than a more inexperienced user might do. Some participants did, for example, mention that they are used to do everything on Internet and that they become irritated when some things are impossible to handle through this medium. All participants also had very high expectations about what this kind of web portal would contain, even when the moderators were asking about a minimum level.

In the end of the development project, we performed further focus groups in order to evaluate the first version of the launched web portal. These focus groups are not explicitly reported on in this paper, though.

4   An Emergent Framework for Participation and Involvement

The empirical findings from using focus groups will now be compared to user participation theories, since collecting citizens' opinions and needs in focus groups might be seen as a special case of user participation in IS development projects. Such citizen participation can also, according to the theoretical discussion earlier in this paper, lead to increased citizen involvement in eGovernment issues. The result of the comparison between our empirical findings and previous studies is an emergent framework for citizen participation and involvement in eGovernment, based on Cavaye [7] and Lynch and Gregor [18]. The first of Cavaye's [7] attributes comprises Mumford's [21] types of user participation.

Below, in table 2, we apply these attributes together with the depth attribute, added by Lynch and Gregor [18], to our experiences of using focus groups in public

e-service development. We do also add an attribute about the result of participation, since we miss an aspect about the practical results of user participation among Cavaye's attributes. In order to highlight the implication of the applied attributes in the domain of public e-service development, we have formulated questions regarding each attribute. The questions can, thus, be used in order to put an increased focus on the citizen perspective in future eGovernment development projects.

Table 2. An emergent framework for citizen participation and involvement in eGovernment

User participation attributes	Citizen perspective questions	Experiences from the eGovernment development project
Type of participation	Which citizens do participate in development activities? How is citizen involvement reached?	Citizens who belong to the main target group of the e-service under development were chosen as participants. Full citizen participation can never be reach in the case of public e-services. Thus, the collective of citizens was represented by smaller groups of citizens. The type of participation can, in Mumford's [21] terms, be characterized as *consultative participation*.
Degree of participation	What are the citizens' responsibilities?	Focus groups have been used as advisory capacity. The citizens' responsibility has been to participate in discussion and share their opinions regarding discussed issues.
Content of participation	What activities are citizens participating in?	Citizens were asked to discuss different user scenarios, prioritize the importance of different e-services, discuss complex concepts within the field and evaluate a low-fidelity prototype of a web portal.
Extent of participation	In what stages of development do citizens participate? To what extent are citizens involved before, during and after the development process?	Citizens participated in the focus groups during the development project. The focus group results were used as input in the latter phases of the development project. A first prototype was developed prior to the focus groups. Further focus groups were also performed in the evaluation of the first launched version of the web portal.
Formality of participation	How is the citizen participation organized?	Citizen participation was organized in focus groups with an explicit purpose. The group meetings were planned and organized following a certain process; it started with an introduction, was guided by questions and scenarios, and ended with an evaluation.
Influence of participation	What influence do the participating citizens have on the outcome?	The focus group meetings were seen as a way to better understand the future users' needs and requirements. The focus group discussions were documented in a report which served as an important basis for later phases of the development project.
Depth of participation	How active are citizens when participating? How deeply involved are citizens in the development project?	Focus groups were performed both early in the project and during the evaluation phase. The frequency of interaction was low since each focus group only lasted for 2-3 hours and each citizen only participated in one focus group. The voices of the citizens were listened to, though, since the focus groups results were regarded as important input to the development project.
Result of participation	What did the citizen participation result in?	Complex concepts were explained at the web portal as a direct result from the focus group discussions.

5 Conclusions

In this paper we have, based on a literature study and an identified need (a "gap") in studied eGovernment development initiatives, acknowledged a need to facilitate

citizen participation and involvement in eGovernment development projects. We also claim that the eGovernment field in general would benefit from such initiatives. The emergent framework focuses user participation attributes and suggests beneficial citizen perspective questions in order to facilitate citizen participation and involvement in eGovernment development projects. As mentioned above, these dimensions of the framework are anchored both in literature and empirical studies. In the emergent framework we have exemplified our findings with experiences from the studied eGovernment development project. In this paper we have also argued that the conceptual division between participation and involvement [14] might be extra important to make within the eGovernment context, in order to develop and implement holistic and in some ways successful eGovernment applications.

Further research is needed in order to anchor the different phases used when performing focus groups in the human computer interaction (HCI) literature as well as in modern design theory and in the PD domain (e.g., the political effects of public e-service development and the distribution of power within government(s) and between the government and the citizen). The framework for citizen participation and involvement in eGovernment is an emergent one. Further studies and examination of the framework is needed and planned.

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