

Integrated e-Services in Public Sector

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Abstract— The use of Internet is increasing in all areas. It is still noteworthy that development of electronic services in public sector has not been as rapid as in the area of e-business. From citizens point of view it would be important to allow access to services and public decision making through the Internet. Electronic services have significant potential, but they may also transform structures in public organizations. Here, we look at the development of electronic services in public sector organizations. In the public sector these services are called e-Services when they are made accessible to the users through Internet. The development of e-Services face a number of challenges – it is not an easy to realize the potential of technology. Could experiences from e-business development be used in public sector? The potential benefits are almost identical, however in public sector there are administrative and departmental barriers that need to be crossed in order to create value to the user of electronic services.

Keywords- e-Services; Internet; development; public sector; e-business

I. INTRODUCTION

Internet makes it possible to provide services in a new way, making it possible to create added value to the user. At the same time organizations may re-organize and streamline their processes. The idea in services that are built on top of Internet is anywhere, anytime – but is this the case in services provided by public sector?

In private sector information technology, Internet-based applications and technologies are used widely in e-business applications. In the public sector electronic services are referred to as e-Services, which relate to services that public organizations provide. The term e-Services is further defined as interactive, content-centered services are accessed through the Internet [19], [20].

It has been noted that public sector needs to move from paper to electronic correspondence, and from this toward a self-service model where citizens can get the answers and make transactions through the Internet [1]. However, in public sector the goal is not only to move forms and services provided by different departments to Internet, it is more a question of developing one-stop government solutions [13], [8].

A. Goals and structure of the paper

In this paper, we look at development of electronic services to users of public information systems. The focus is on the challenges facing development of electronic services in public sector organizations face. It is an environment

which calls for cooperation of various departments and functions, and interaction between service providers, experts and other stakeholders. The question of interest is what makes providing electronic services in public sector so different from development of e-business applications in private companies. Another goal is to better understand why some development projects in the area of electronic services are successful and others fail.

II. ELECTRONIC SERVICES IN PRIVATE SECTOR

The development of electronic services in public sector organizations has been relatively slow [9], [16]. This is interesting, because it seems clear that also public sector would benefit from electronic access to services [27]. It is not surprising that there is pressure and an increasing demand for development of e-Services in public sector. Let us look closer at development of e-business applications provided by companies in order to better understand the existing potential.

Internet is changing the way products and services can be marketed, delivered and purchased. With e-business small- and medium sized companies can compete globally. From the business owners perspective there are several targets when moving activities to the Internet, serving customers on a 24 / 7 –basis and global reach are the most significant issues that prompt the development of e-business applications [20].

The most significant benefits of e-business are connected to transactions and communication [6]. Internet lowers transaction-related costs for both buyers and sellers. Companies can change prices on-line when raw-material costs change, for example. At the same time buyers have access to up-to-date prices directly from their terminals – most online shoppers use comparison-shopping engines [17]. Through Internet we may as consumers gather background information on competing products and services, compare and purchase things without the need to leave home – safe and easy.

In Internet, the concept of service is inextricably linked to e-business applications and the types of services there are in e-business environment [23]. Here, self service is typical; users have learned to help themselves in finding information and buying products. In e-business it is common that customers who make the reservations over the Internet, for example, receive a rebate or discount coupons that they can use when shopping again in the future. The goal is to develop lock-in, and push the customers to using services that are available on the Internet. The customers can do e-

shopping whenever it best suits them, they don't need to wait on phone, for example. At the same time self-service frees staff from answering customer calls to more productive work. The question here is that why could not public sector organizations use similar techniques in order to promote e-Services and "locking" citizens.

One of the key drivers in e-business is that Internet makes it possible to increase company's efficiency and effectiveness [20]. Internet allows restructuring of processes which results better profitability - these are important issues for all companies, and are motivators for development in the public sector as well. Even though goals, ethics and values may slightly differ business-like performance measurement and orientation has been evolving in public sector organizations as well [18], [24].

III. ELECTRONIC SERVICES IN PUBLIC SECTOR

There is an almost infinite potential in development of electronic services in the public sector. Typically, services that are provided through the Internet are connected to sharing information. Public sector services are mostly connected to information – and Internet is a very efficient way to gather and share it. We argue here that developers of public sector e-Services should do more than they have done so far. Let us look at the situation in Finland.

A. Case Study: Finland

There is a clear need to develop electronic services in public sector, in municipalities and cities. This is the case in Finnish cities and municipalities which were studied in December 2009 [26]. In this study, altogether 304 key persons from 191 cities and municipalities answered the questionnaire (about 3/4 of all cities and municipalities in Finland). Geographically the answers cover 62 % of the total inhabitants of Finland, and so the results reveal the national situation in the area of electronic services.

In Finland, it is expected that electronic services will bring added value in the public organization in management and increase efficiency in internal processes, and in specific in core processes [26]. Persons who answered believe that there will be more multi-channeled solutions, and integrated services that cross internal organizational borders. Furthermore, it is expected that the burden of administrative work will decrease because of streamlined processes and electronic services. From the citizens perspective electronic services are expected to allow better access to public services. It is likely that the number of available services will increase as the demand is rising. On the other hand, citizens are expected to use access and use electronic services so that investments made in the development make sense.

The current situation in the area of electronic services could be better [26]. It has been noted that there are relatively few e-Services; they are not integrated across administrative offices or even between departments within one single office. There is no common interface, citizen's login or similar standards at the moment in Finland. Clearly, there is work to be done here.

B. Better integration and services needed

Public administration is full of administrative jargon and official pseudonyms, which are likely to be transferred to web when they have been digitized. The whole structure of the web-sites is based on different agencies, departments and units (stovepipe-structure) rather than integrated portals [1]. In addition, the sites are often relatively unfriendly and there are no comprehensive search-engines that would make it easier to find information from the site, for example. It is often noticed that people send lot of email to public administration. This is because it is easier to ask than try to figure out what agency to contact and how to proceed. In this way poorly designed Internet site can easily increase the burden of the staff in public sector organizations when the amount of incoming email queries go up. This should indicate that existing service through the Internet needs to be developed.

Electronic services should be integrated, enhance self-service and trust so that users see the added value of electronic services. Technologically, users should be able to complete most of their transactions online. Here easy-to-use, robust and trustworthy services are needed so that more users start using e-Services in public sector.

Electronic services need to be developed around user needs. Transferring existing papers, files and information from different agencies into web, and placing some hyperlinks between them is not enough. As Löfstedt [25] noted “..it is about reinventing the way in which governments interact with citizens, governmental agencies, businesses, employees, and other stakeholders.”

IV. CHALLENGES IN DEVELOPMENT

Usually, the development involves cooperation of several people. Especially in development of electronic services like one-stop government services there is a need to combine resources and expertise from different sources. This means that people from various functions, units and locations are brought together, and also outside expertise is needed. Hence, development can be seen as a partnership.

The definition of partnership ranges from working relationships to active transactions and collaboration between organizations. Different types of joint ventures, subcontracting, alliances and acquisitions are included in partnership arrangements. In a partnership actors learn to know each other in the long run. Often relationships are relatively intensive and even personal. In business relationships competence and goodwill are needed for trust to develop [4]. The important issue here is that partnerships are based on commitment to cooperation. In this context the term partnerships includes inter-organizational cooperation – which is needed in development of e-Services [13].

In the public sector, initiatives where services cross departmental boundaries organizational cooperation are a challenge. In most projects there are often external organizations, IT expertise and special skills that are needed.

Cooperation of several partners, units and stakeholders can become a barrier for projects that involve several organizations. Development is often faced with the fact that stakeholders act too independently, because projects tend to be poorly coordinated [12].

The lack of alignment between organizational goals is put forward as a major factor in the set of organizational and managerial challenges. Furthermore, the size of project and the diversity of users and different organizations involved make the development work more demanding. Dawes and Pardo [5] also address the existence of multiple and partially conflicting goals in public sector projects involving several stakeholders. In inter-organizational projects there is a built-in delay as a result of inadequate organizational cooperation [13]. They (ibid.) identify six areas which cause failures and delays in development of electronic services. The first key area is lack of organizational cooperation. The second key area is missing legal regulations and the third is that necessary pre-conditions in regard to technology are not met. The fourth key area is human factors, skills and resources. The last obstacles (or first) in development are result of inadequate funding and political support.



Figure 1. Barriers in development of electronic services

Gil-García and Pardo [7] found that challenges to various e-government initiatives are cross disciplinary and may be grouped into five categories: (1) information and data, (2) IT, (3) organizational and managerial, (4) legal and regulatory, and (5) institutional and environmental. Information and data (first category) covers the capturing, management, use, dissemination, and sharing of information. In this category the developers also need to address data quality and data accuracy as well as dynamic, changing information needs. Information technology (second category) refers to issues like technological incompatibility and complexity, security, usability, technical skills and experience, and technological

newness which all present challenges for development and use of services. Organizational and managerial issues (third category) are the main challenges to information systems development [7]. It is clear that laws and regulations must be taken into account when developing electronic services (fourth category). The institutional and environmental challenges (last category) are result of the institutional framework in which public organizations. The framework also includes the existing policy environment.

V. FOCUSING ON SERVICES

We have looked at development of electronic services and the challenges that this involves. The focus has been on services in the public sector, and they have been mapped against commercial e-business services. In this context interplay of several units, functions and organizations is needed – especially if the provided services are sophisticated, and providing users one-stop government e-Services [1], [2], [25].

The development of electronic services - or information technology in general - requires connecting technologies and applications in order to provide solutions for users. There is a variety of underlying information infrastructures, applications and services that may be owned, maintained or developed by organizations from private or public sector [2], [22]. Similarly, development of e-Services is a combination of expertise and effort from people in the organization and from external environment.

The types of electronic services vary greatly in public sector. It is natural to expect that services are integrated into processes and information systems of the organization that provides them. However, in public sector organizations it is common that departments and units provide services to citizens rather independently. Departments have different processes and information systems, which are not connected. In many cases information is stored in separate databases. This may be enough when services are oriented to information delivery between the public administration and the citizens. For example, providing downloadable documents and forms is simply offering documents in electronic format and making them accessible through the Internet.

Over time more services are developed, more features are added to existing services, and more enhanced, transactional services are developed [23], [1], [3]. This is challenging as when services become more sophisticated the overall complexity increases. It has been noted that moving to services that are transactional is a big step [10]. Transactional services require connectivity, information in other systems and data-bases needs to be accessed, combined and updated from users' interface through the web. This is challenging from the information systems viewpoint as the situation calls for connecting originally separate systems which may be based on different software and database structures.

Cooperation is a challenge for management of the development of electronic services. It is not uncommon that managers find themselves making decisions about

technology for which they are unprepared or even ill-equipped [7]. Successful development of electronic services calls also for top management commitment, linkage to business, technical alignment, knowledgeable personnel and involvement of users [28].

The success of electronic services depends on whether users find them valuable and start using them. In e-business solutions it has been found that sites need to be both easy to use and add value to the user, these are key attributes that increase the use of services [11], [14], [15]. The added value lies in properties as “time-saving”, “range of options” and “ease of use” [23]. The web sites should also provide enjoyable experiences; these kinds of sites will probably be visited also in the future [21].

VI. CONCLUSION

There is an almost infinite potential in development of electronic services in the public sector. Typically, services that are provided through the Internet are connected to sharing information. Public sector services are mostly connected to information – and Internet is a very efficient way to gather and share it. Technologically, users should be able to complete most of their transactions online. Here easy-to-use, robust and trustworthy services are needed so that more users start using e-Services in public sector. As long as there are citizens that do not use electronic services organizations must to provide services electronically and as a traditional service – the result is increased costs instead of cost savings [22].

The developers of e-Services need to better understand users of public services. Clearly, the citizens should not have to surf the Internet and try to find different services that are spread all over. Better integrated, portal-type sites would make it possible to find relevant information effortlessly. This involves integration of services that are generated in separate offices, departments and units [1], [2]. For example, too often agencies provide information only from their “own” services and activities. Instead, information should be widely available so that users would not have to guess or know what other related information and services there are so that users could better have their problems solved. Services should also include information, advice and links that are not provided by the agency itself. There is a need “...to approach the Web with a philosophy of helping users solve problems, not merely delivering their same old services through new medium” [1].

It is very important to look at services from user’s perspective – whether they are connected to e-business or public services. When compared to e-business applications there are several shortcomings in e-Services [27]. The most obvious is that services should be presented in an integrated way so that they are easy to find, understand and use. Sites should also be trustworthy which increases the use of services. Services could enhance self-service which reduces the workload in the public administration, and may be seen positive from the user perspective. Citizens may have their application filled anytime, anywhere; for example, it is an added value of electronic services. If services are based on

existing departments, administrative procedures and processes it may not be able to provide added value to the user. There is a need to do things differently, cross boundaries and redesign processes when designing e-Services. The work of developing and rebuilding government for the digital age is just beginning [1].

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