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Internet-based Tax Filling

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Abstract: E-Government is the use of information and communications technology in the internal processes of government and the delivery of government products and services to citizen and business. It is the organization transformation of the public sector using the technology to better serve the citizen and the business. The main motive is to make government more efficient and citizen-oriented. One of the major transactions between the government and the citizen is the taxation. Many governments developed web sites that help citizens to find information about taxes, fill and pay their taxes. However, not many citizens prefer this electronic interaction with the government.

This paper analyzes the factors that affect the citizen willingness to use the tax web site. We develop an evaluation framework with important factors that affect the use of tax web sites by the citizens. We examine how the characteristics of the tax web site interact with both the service and the client to influence the efficient delivery of services. Finally, to make more understandable the evaluation and to bring about some interesting results, we evaluate the Greek tax web site and make suggestions on how it would be improved.

1. Introduction

Internet is the technology that has revolutionized business more than any other. The major activities through Internet are web browsing and e-mailing. After being accustomed with the use of the Internet, people and organizations realize that the Internet is a very useful tool to accomplish many other tasks. In the last decade, the Internet has been used by organizations to enhance business processes, reduce costs and deliver better services. Businesses increased their efficiency using Internet. The public sector cannot stand aside of these evolutions. Requirements for the 21st century governments, stated as "good governance", demand for democratic, responsive, efficient, participative, inclusive and transparent policy-making. Internet-based technologies not only modify the habitual functions of public agencies, but also introduce irreversible changes to the fundamental relations between government agencies and public [1].

E-government is the use of information and communication technologies by government. It is not simply providing information to the citizen; it is rather the transformation of the public sector using technology to better serve the citizen [2]. For a successful "citizen-centred" transformation, it is important to fully understand the environment, the citizens, the strategies, the options and the solutions [3]. E-government is about a lot more than online services. It is obvious that Internet is changing the way citizens interact with their government. By allowing a citizen to access information and services from the bureaucracy, the Internet is shifting power from public institutions to the citizen. Citizen needs and preferences should drive the transformational change in government [4]. It is more about satisfying citizen expectations, transforming government, and changing the way government and citizens interact. A citizen or a business must be able to find laws and regulations that pertain to them, access helpful compliance assistance tools, or register their business, or get a license or permit online, even more pay their taxes online.

One of the major transactions between the citizen and the government is the taxation. Tax sites are web sites that help citizens to find information for taxes and to realise their taxes' obligations through the Internet. In this paper we will focus on this e-government service. Web sites for taxes give the opportunity to citizens to learn more about and arrange online their financial obligations to the state. They also minimize citizen's waste time and money due to the bureaucracy. In order to design and develop a successful tax site, critical factors should be identified. Previous work [5] developed models to evaluate e-government sites. Also, the E-Qual tool has been modified to evaluate e-government web-sites [6]. Generally, the transition to tax filling through a web site must follow 4 phases [7]. The first phase is Web presence. In this phase citizens can find basic information on a web site. The second phase is Interaction. In this phase citizens can access online critical information, download forms, and contact by email. The third phase is Transaction. In this phase citizens can complete entire transactions or processes online. Finally, the fourth phase is Transformation. In this phase the delivery of government services and potentially the operation of government itself are redefined. Information, service delivery and government processes are integrated across traditional boundary lines. Information and services are increasingly customised to the particular needs of individuals and businesses. The identity of individual agencies matters less to people as information and services are accessed through a single point of contact on the web.

This paper develops a framework for evaluating tax sites from the tax payer's point of view. It examines how the characteristics of the tax site interact with both the service and the client to influence the efficient delivery of services. It also suggests how a tax site should be designed. The next section 3 describes critical factors for successful tax site. Section 3 presents the evaluation results of the Greek tax site. Finally, section 4 concludes on the evaluation and suggests areas for improvements.

2. Tax Site Evaluation Framework (TSEF)

We develop the TSEF, an evaluation framework for tax sites across 4 categories: (a) Tax parameters, (b) Technical, (c) Usability and (d) Social (Diagram).

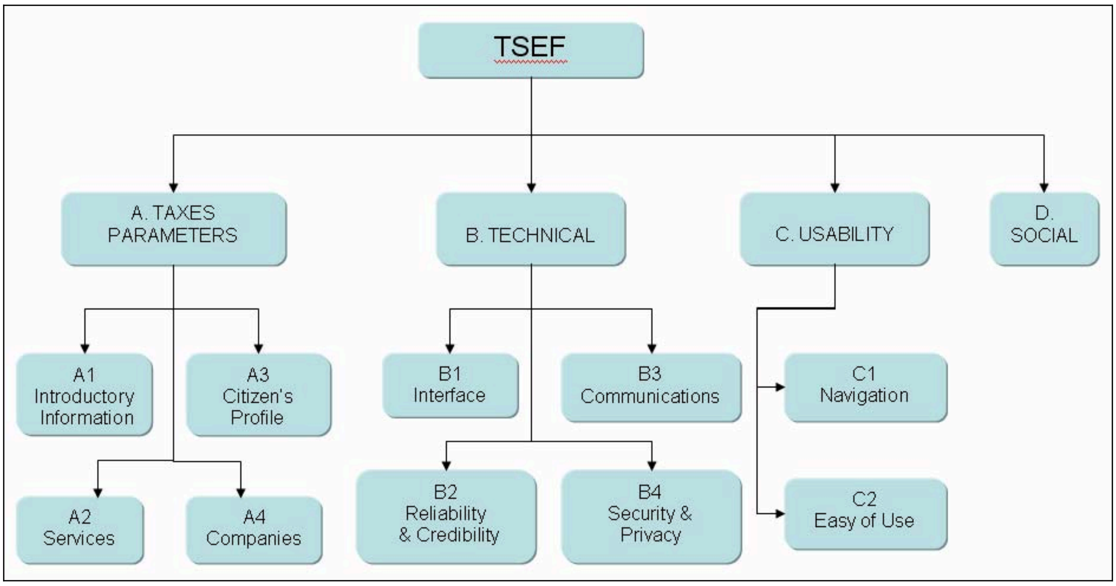

Diagram. Tax Site Evaluation Framework.

The *Tax parameters* category examines factors related to the needs of a citizen or a company. It consists of four subcategories: 1) Introductory Information, 2) Services, 3) Citizen's Profile, and 4) Companies. In the first three subcategories we evaluate the tax site efficiency with respect to the citizen needs. A citizen needs a lot of information and services and easy way to find them. A tax site is better if it has all the services that a citizen might need, and it would be great if a citizen could find all the information he wants about a tax fast and easy. So, a tax site must provide a tax classification facility and a profile's creation tool. A profile helps the citizen to find faster the information that he is looking for. Regarding Companies, we examine the tax site with respect to the services that they offer to companies. As we know, the needs of a company are more complicated compared to the needs of a citizen.

The *Technical* category examines factors related to the technical aspects of the tax site. It consists of four subcategories: 1) Interface and Content, 2) Reliability and Credibility, 3) Communications and Interaction, and 4) Security and Privacy. In the Interface, we examine whether the colours, the backgrounds, the graphics and the content are well designed and whether the users are pleased with them. In the Reliability and Credibility, we assess the credibility of the tax site. The information about taxes as well as the tax filling should be valid, accurate and current. It is also useful to explain the rewards and the services from registration. In the Communications and Interaction, we examine the various ways that a user can communicate and interact with the tax site. The tax site would support e-mail, auto reply, sms, newsletter, telephone, fax, etc. It will be useful to keep on discussion forums, chat rooms, alerts for news, deadlines, notification about applications status, etc. In the Security and Privacy, we assess the capability of the tax site to secure the user's transactions and stored data from unauthorized access. Privacy and confidentiality of the user's profile and personal data should also be guaranteed.

The *Usability* category examines factors related to the easiness and friendliness of using the tax site. It consists of two subcategories: 1) Navigation, and 2) Easy of Use. In the Navigation, we examine if the tax site offers all the necessary tools as a search engine, a site map, a help button in order to enable fast and easy navigation and orientation. In the Easy of Use, we examine the easiness of using the tax site. We assess its speed, its registrations' facilities, the absence of broken or under construction links, the easiness to access specific tax categories, and the easiness of using the menu.

Finally, the *Social* category examines factors related to the accessibility, multilingualism and other social parameters.

3. Evaluation Results

In this section, we evaluate TAXISnet, the Greek tax site. First, we evaluate it in every category of the TSEF. Then, we give the overall evaluation picture. The highest score in each subcategory is 1000 points. The weight of each category in the total score is different. So, the weight of Tax parameters is 40%, the weight of Technical is 25%, the weight of Usability is 25% and the weight of Social is 10%.

Regarding the *Tax parameters* category, TAXISnet does not satisfy the user's needs. We can find some information about taxes but it is very difficult to find information about the existing tax laws and the changes that have been made. There is a shortage of services in order to help citizens to fill in their tax returns. Furthermore, a user can not create a profile in order to customize the site to his needs. Finally, the companies could complete theirs tax returns but they must face the problems that we mentioned above. Figure 1 shows the scores for the Introductory Information, Services, Citizen's Profile, and Companies.

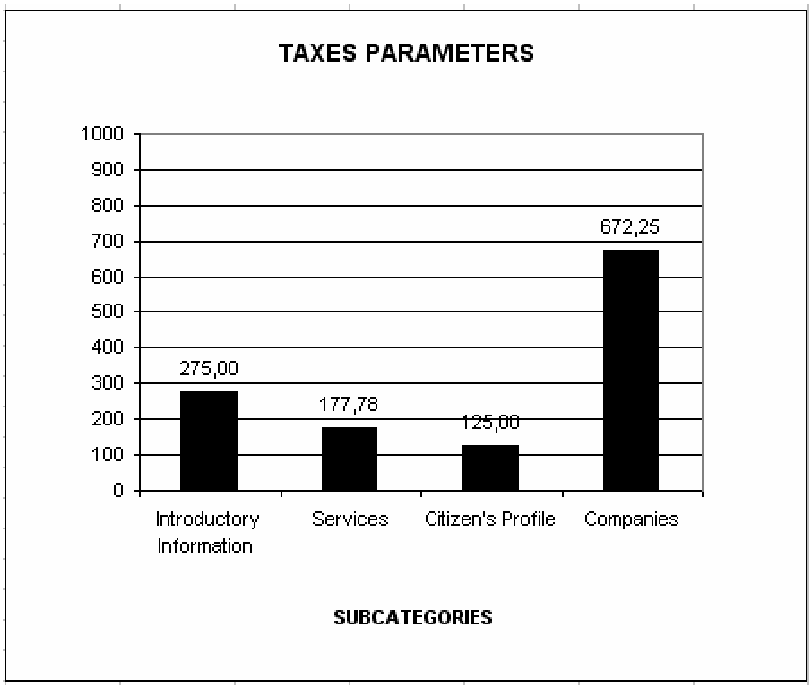

Figure 1. Scores for the Tax Parameters category for the TAXISnet.

Regarding the *Technical* category, we examine the efficiency of the TAXISnet with respect to the technical parameters. TAXISnet achieves a good score and the users are satisfied. Its interface is simple and useful. Also, its reliability and security score high. Of course, there are opportunities for improvement especially regarding its reliability. Its information should be renewed more often. Regarding its security, we can ascertain that every page is secured. However, the real problem in this category is the communication and interaction. Citizen can not find an easy and direct way to communicate with the services. Although e-mail communication exists, the users have no other communication options. Figure 2 shows the scores for the Interface, Reliability & Credibility, Communications & Interaction, and Security & Privacy.

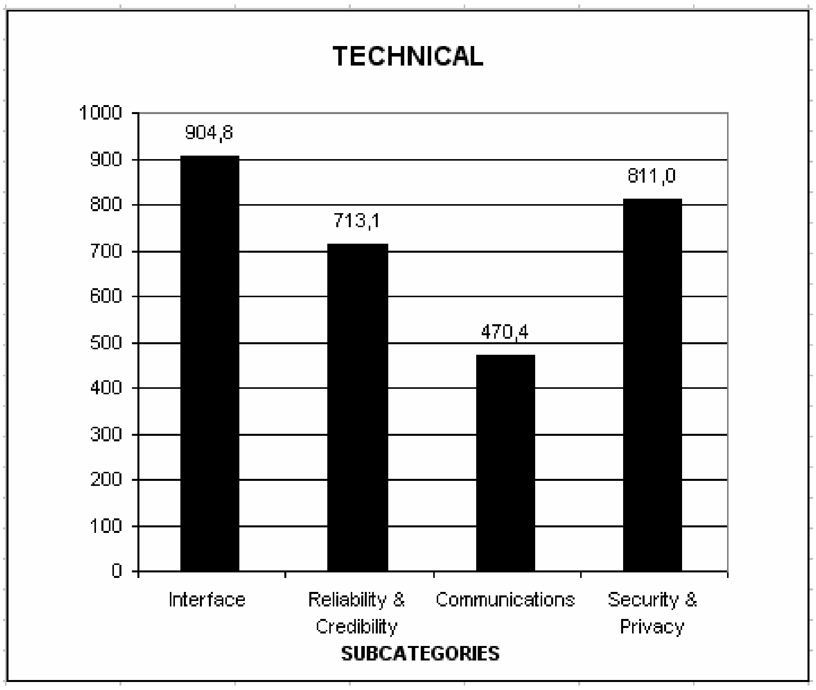

Figure 2. Scores for the Technical category for the TAXISnet.

Regarding the *Usability* category, we examine the TAXISnet easiness of use and navigation. It is a bit difficult to navigate it, since its central page is entangled with the central page of General Secretariat for Information Systems - a department of Ministry of Economics and Finance. So, the user can not understand which the central page is and where he must go. In addition, some links are under construction. Moreover, there is not a search engine or a site map. TAXISnet needs more work in this category also. Figure 3 shows the scores for the Navigation, and Easy of Use.

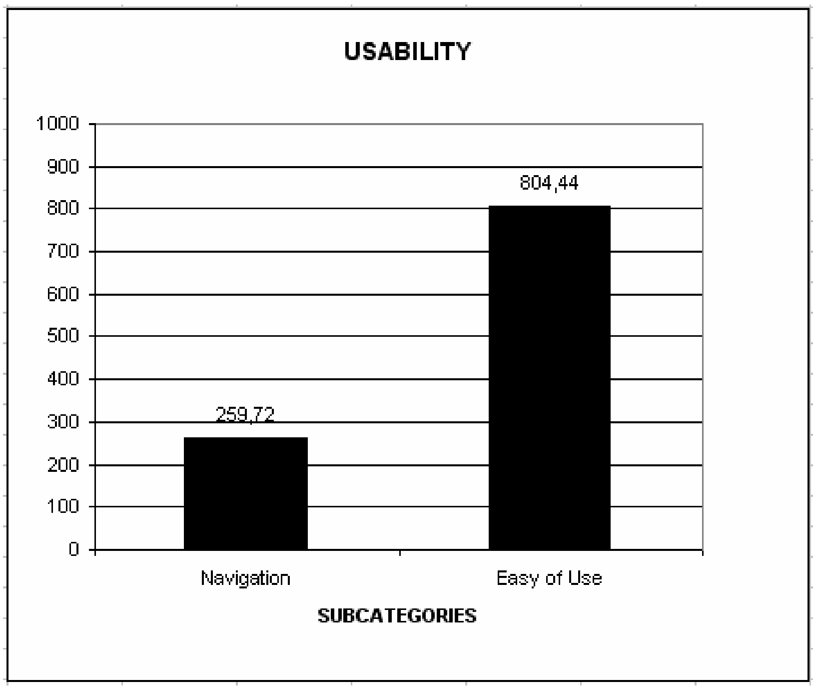

Figure 3. Scores for the Usability category for the TAXISnet.

Regarding the *Social* category, TAXISnet has many weaknesses. There is not support for people with special needs, for immigrants, for foreigners, etc. All users should be able to use it without any discrimination. For example, persons with eye problems can not access it. A text-to-speech translation facility and a zooming function would help them. Also, there are many economic immigrants who live, work and pay taxes in Greece. Most of them do not speak Greek. So, TAXISnet should support other languages. At least a dictionary and an automatic translation engine should be provided.

4. Conclusions

In this paper, we have presented TSEF, a framework for evaluating tax sites from the tax payer's point of view. We classify the evaluation criteria into four major categories: (a) Taxes parameters, (b) Technical, (c) Usability, and (d) Social. Furthermore, we divide each category into subcategories. So, the Taxes parameters category consists of the following subcategories: 1) Information, 2) Service, 3) Profile's creation, and 4) Companies' taxations. The Technical category consists of the following subcategories: 1) Interface, 2) Reliability & Credibility, 3) Communications & Interaction, and 4) Security & Privacy. The Usability category consists of the following subcategories: 1) Navigation, and 2) Easy of Use. Each category weights differently in the total score.

After evaluating TAXISnet, we remark that its does not satisfy the tax payer's needs regarding the Tax parameters and the Social categories. Things are better in the Technical and Usability categories. The results are summarized in the Figure 4. Finally, the total score from the 4 categories is 453.8 (maximum: 1000). This score shows that TAXISnet needs improvement

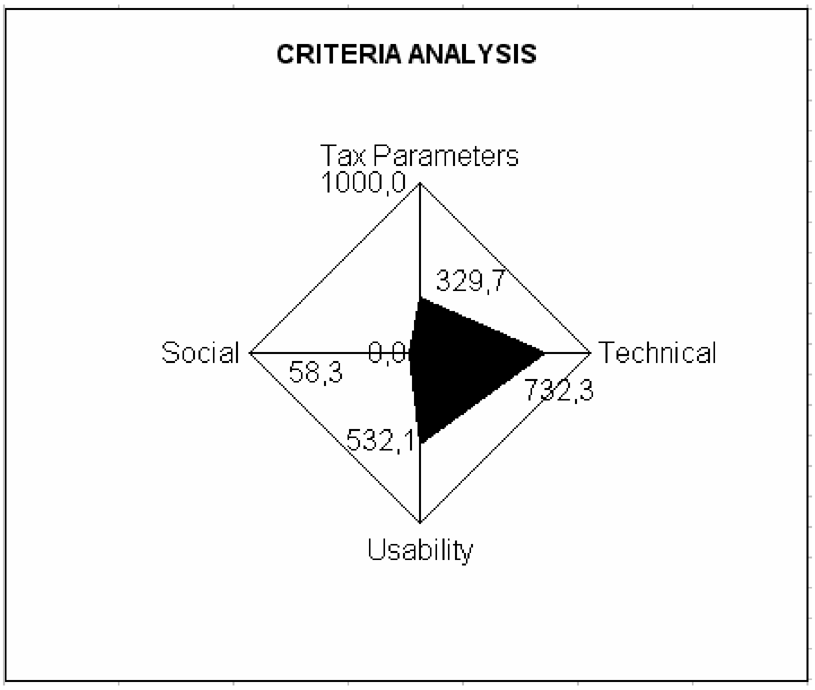

Figure 4. Overall evaluation of the TAXISnet.

The transition to Internet-based tax filling offers many opportunities but also major challenges. Well-designed and smoothly functioning Web sites can be strong platforms for delivering a wide range of tax services electronically. We developed the Tax Site Evaluation Framework (TSEF) that may help in the design and development of such tax sites.

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