Fathoming the Introduction of E-Government Processes:
a Qualitative Study in Greece

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E-Government could be perceived as a driving force for the use of Information and Communication Technology in the transformation of governmental operations. From the governmental perspective it is essential that the transformed operations would be more efficient and effective. In this study using a series of interviews and thus a qualitative research methodology we further explore and draw insights on the introduction of e-Government processes in the Revenue & Customs department in Greece. We are particularly interested in the reluctance to change when changes are introduced, the tangible benefits from the changes, and most notably as if the imposed changes are perceived to be value-for-money.

Keywords: e-government, Revenue & Customs, change, benefits, investments.

Introduction

Electronic Government (hereafter called e-government) could be seen as the use of Information and Communication Technologies (ICT) through all the governmental procedures, in order to improve and to provide better services

to the public sector. The United Nations (2006) define e-government as the effective use of the internet and the World Wide Web (www), in providing better services and information to the citizens. A more analytical definition of e-government is given by Jeong (2007). Jeong (2007) mentions that e-government consists by five different digital governmental interaction models, like the C2G (between citizens and their government), G2G (between government and governments), G2C (between government and citizens), G2E (between government and employees) and G2B (between government and businesses).

In this paper we extend the research undertaken by Spirakis et al. (2014) and investigate in depth the introduction of e-government processes in the services of the Ministry of Finance and the Revenue & Customs department of an EU member-country. By using a qualitative research methodology we created a questionnaire, which is addressed only at senior executives in order to have so a better view on the effectiveness of the e-government processes.

The rest of the paper is organized as follows. Section two presents the related literature. Section three describes the research questions and the methodology. Section four presents the results while section five concludes.

Literature Review

Because of the changing technological environment, the need for a faster and reliable interconnection between governments and their citizens, has been most important than ever. Since the early 2000s, studies that investigate the changes of e-government have been increased and the literature on the introduction of e-government is rich.

Nikolopoulos et al. (2004) presents in their study the latest forecasting systems that could be used within e-government. These forecasting systems would provide better forecasting capacity in order to take so a better and more informed decision for the governmental operations within the public sector. Patelis et al. (2005) proposes in their study a decision support system for e-government in order to analyze and forecast the demand of tourism. Archer (2005) also proposes a new model of e-government. Specifically, this model is constructed in order to provide an overview for the process of planning and implementing e-government and moreover to give an overview of the change management process in e-

government. Mofleh et al. (2009) presents in their study a generic explanation of e-government with a focus on the role of the state throughout its deployment.

Weerakkody et al. (2007) combines in their study both qualitative and quantitative data in order to find and analyze the contributing factors of e-government implementation in Zambia using survey based research. They find that while challenges like environmental issues, leadership, change management, human capital, funding and infrastructure are critical to the successful implementation of e-government in Zambia, there is little evidence to suggest that effort is being applied to counteract these challenges. Lane et al. (2007) employs a case study research approach in order to analyze the e-health (e-phenomenon) of the National Health Service (NHS) Direct. I order to understand the success of e-phenomenon; he implements various theoretical models to NHS Direct. Moreover, he emphasizes the importance of management change, skilled managers and organizational maturity.

Olatubosum and Rao (2012) made a survey about the promptitude of public servants on the adoption of e-government services. The survey was made in four different ministries in Nigeria in order to identify the basic determinants of public servant users. The results show that social influence, attitude behavior and self-efficacy are strongly associated with gender, while performance expectancy and self-efficacy are significantly associated with age. Jansen et al. (2007) provide us with experiences from the development process of the digital safe facility by the Dutch Inland Revenue Service. They found that the information architecture is multifaceted and a negotiated artefact. Furthermore, architecture should not only provide an overview of the dependencies between systems, but also act as a communication instrument in order to support the decision making process.

Spirakis et al. (2014) uses in their research a qualitative research methodology in order to explore the introduction of e-government processes in the Revenue & Customs department of an EU country. More specifically they are focusing on the reluctance to change, the tangible benefits and the "value-for-money", after the introduction of e-government processes. In their results they find that even if these changes are bringing sustainable benefits, it is always very difficult to accept the forthcoming changes from the introduction of e-government. In this paper we continue the research of Spirakis et al. (2014) by constructing a more specific

questionnaire, which is addressed only to the senior managers of the Ministry of Finance and the Revenue and Custom department. Moreover we observe the changes, which are coming by the introduction of e-government, from the senior manager public servants view in order to note the behavior of the subsistent servants.

Research questions and Methodology

The main research questions are the same as in Spirakis et al. (2014). For a reminder, these questions have as follows:

> *RQ1: Were the proposed changes welcomed from the employees in the organization?*

> *RQ2: What are the tangible benefits coming as result of these newly transformed processes?*

> *RQ3: Are the imposed changes perceived as value-for-money for the organization?*

We employ a qualitative research methodology for our research. We construct a questionnaire which consist of seven (7) general and six (6) specific open ended questions. These questions and their answers are presented in the next section. The questionnaires were disseminated and completed by public servants that hold positions in the senior and higher management levels and the response rate was 100%.

Qualitative Empirical Results

In this section we present the questionnaire with the given answers. As mentioned our questionnaire consists by two parts, one of seven (7) general and one of six (6) specific open ended questions. The first part of the seven (7) questions is presented in Table 1 and the second part of the specific questions is presented in Table 2.

Table 1: General Questions and Answers

a/a	General Questions	Answer 1	Answer 2	Answer 3	Answer 4	Answer 5
1	What is your opinion about the role of new technologies (information technologies, communications and internet) in afford public services?	The application of the new technologies in the Public Administration proceeds slowly, however, we cannot overlook the fact that progress has been made. Part of the new technologies is now available to the average worker and governmental officials, who are able to be applied with a relative ease.	The usage of the new technologies has significantly improved the efficiency and effectiveness of the user (employee) and the public services. In my view, the application and adoption of these new technologies in Public Services proceeds slowly. I am sure that, the Greek Public Administration and Services will faces only benefits by adopting and applying the new technologies.	It is necessary, essential and catalytic.	It is imperative, in order to address the modern requirements for providing integrated services to citizens.	The use of the new technologies has proven the advantages it has on providing public services in citizens daily lives. By the adoption of the New technologies it is possible not only to have an easier access to the information of public authorities, but furthermore they facilitate greatly the transaction with the citizens. Considering that new technologies are constantly changing, the public administration and particularly the public services should be

						strengthened in order to meet the current trends of e-government, ensuring so a better quality of services to all citizens .
2	Which needs do you believe that the information systems are covering in your position of responsibility?	The information systems at the Ministry of Finance cover primarily the needs for cross-checking the financial information with a user friendly way for the average employee of the ministry.	The Information systems in the Financial and Economic Crime Unit and specifically in that of Public Prosecutor, covers the need for cross-checking of various economic data and information in minimum time with an immediate access, even to the most novice computer user. Moreover these provide an direct and secure communication with various other government	Speed, directness, honesty and quality.	It decreases the time to visit the corresponding office which provides the service, it provides the requested service remotely (eg, by e-mail) and it provides the standarization of the documents and certificates.	In my department (Tax Office of Tripoli-Peloponnese), we use the IT system named TAXIS. This service may reasonably be regarded as the most comprehensive, easy to use and complete package of services which are provided electronically. Furthermore, our work as users of that IT system becomes faster and more reliable, giving so the corresponding added value by providing our services to the

			agencies (CIA etc).			taxpayers. At the same time, it gives to taxpayers the opportunity to settle the remaining issues with the Tax Office via the Internet, without queues, hassles and wasted time.
3	Do you believe that the introduction of new technologies in the public administration makes more complex the structures, the procedures and the actions of the public administration?	Indeed, it is observed mainly in the introductory phase an inability to handle the new technologies which often reaches the levels of indignation by some colleagues who are close to retirement. But the vast majority of the employees of the Ministry of Finance is able and has the desire to utilize the new structures.	The introduction of new technologies can only have positive results to the public administration. This, because it reduces more than 50% the time of research and cross-checking. Several of the colleagues who are not familiar with the use of computers and are closely to the retirement age refuse the use of these specific	Simplification with simultaneous training and specialization.	No, with the condition that it will redesign the roles and responsibilities of each organizational unit.	The introduction of the automatization in the public sector will not automatically create better or more governance, but this technology can help so that the bad procedures can be replaced by better once. The E-Government is about to much more than simply obtain and install the appropriate technologies. Therefore, it is understood that the existing

		technologies.				processes and structures are not becoming complex but by the help of the technology adapted to the needs in order to serve better the citizens.
4	Do you believe that changes have occurred in the organizational environment, as a result of the introduction of ICT, in the Public Administration?	Lately, we are experiencing a high mobility of ministry's staff to new development structures and actions as well as a drastic change in the traditional structures at both the tax offices (DOY) as well as the directorates in general. Despite these problems, that undoubtedly arise by the application of new technologies, I believe that these changes are to the right direction.	Certainly, a great part of the changes in the organizational environment owe to the introduction of new technologies. This issue needs a sufficient resolution, but I do not want to stray from the essence of this survey.	Yes, fewer employees and more accurate results.	Yes, but not always to the right direction. Increase of the subunits against the final result.	The successful implementation requires; careful planning and guidance of the organizational goals, policies, procedures and technologies. There are a series of changes in the specific organizational environment, which are: 1. Change of attitude from public-centered to client-centered without necessarily to be at the expense of the Public Administration or employees. 2 Redesign

						the processes to include and to incorporate the requirements of the new resolve ways. 3 Change in the amend of service organization with emphasis on the electronic communication channels and the internal automation, 4 Changes in the legal status in order to legitimize new practices, eg. electronic signatures and e-mail so that they become equivalent to the conventional - traditional.

| 5 | Do the citizens-clients of public institutions believe that they are enjoying more quality services when supplied by electronic means? | We are on the verge of great changes, both in the Public Administration as in the mindset which is entrenched years regarding citizen service. While we are going to the excesses regarding the rights of citizens against the public officer, I am optimistic that the situation will balance and eventually the service will be comparable to the European requirements. | I believe that our country is still in a "toddler" stage in terms of quality of services even if they are provided by electronic means. Nevertheless I believe and I am confident that the changes which are taking place are in the positive direction, in terms of quality, since we observe changes in both the personnel of the Public Services (much better training) and in the basic operating structures. | Yes, if the electronic database is directly informed. | Yes, because they are standarized, and every citizen is treated with the same criteria as everyone. | By providing the services electronically, we note big changes in the way of dealing with the state. Citizens enjoy a range of quality services, such as: 1. Easier access to the information of public services, 2. facilitation of citizens transactions and ensuring the simplicity and speed of services, deal with bureaucracy, better responsiveness to citizens' needs, while reducing the latency in public and government agencies, 3. serving people with disabilities by providing alternative ways for physical and electronic access to services |

						provided by public administration. 4 Ability to communicate with public administration bodies in a 24 hours basis, 5. the possibility of direct questions to the policy makers and the ability to express their opinion on the policies promoted by the state.
6	Do you believe that the satisfaction of citizens needs is achieved in a greater degree when public services are provided with the usage of new technologies?	It is certainly that the use of new technologies and the use of internet have as a result the improvment of public services.	Sure, as I previously mentioned, the use of new technologies can only be positive for the client-citizen.	Yes, because the provided services are more secure, directly effective and are not challenged if the computer database is properly updated.	Not always, because governments should (and possibly the DEKO) have a common electronic platform and the citizen should have a basic familiarity with the new technologies.	Today, the citizen is interested in the product he wants, and not on the internal organization of public services. The restructure of the services provided to citizens especially in the way of providing these (electronically), contributes significantly to the satisfaction of citizens needs, as they

						achieved: 1 Speed in providing information, 2 Data Security, 3 There is no transition to the relevant department required.
7	In what actions do you believe that the public administration should proceed in order that the executives recognize the role of e-services.	I believe that our generation of civil servants will ultimately live the era of utilizing the technology to such an extent that they will not need, in the future, the physical presence of citizens in public services.	The changes have already begun with the most essential to be the immediate replacement of retired executives with highly qualified young scientists who have an ease of computer usage.	To create a database which will be on-line connected with other databases of other agencies for direct collection by the VAT number etc.	To be granted a possible bonus, moral and material.	The Public Administration and especially the executives must be informed to the societies requirements and the updated available resources in order to give them the opportunity to increase their administrative capacity and to meet the most complex demands of the citizens. In order that this is going to be happened, there should be a proper employee training. Through the proper training it is possible to update and acquire new knowledge,

						to develop their skills, to change their attitudes and mindsets (improving work culture), creating a team spirit, and the satisfaction of the workers themselves (the government ensure their progress) and of course all of the above makes up the total quality management, leading to improve the efficiency and effectiveness of the public sector. Therefore, in order to make proper use of the human resources, which will lead to the maximization of public interest, which is none other than the satisfaction of people's

						needs, there should be proper management regarding the stages of human resource management, such as recruitment, selection, retention, development, empowerment, motivation, evaluation, rewards and recognition. It is the duty of senior management team to offer a working environment where employees will have the opportunity to give their full potential by recognize the role of e-services in their daily work. Through the satisfaction of human resources it is possible to achieve the citizens satisfaction.

*	Have you participated in the past in a similar research on the effects of e-government?	No	No	No	No	No

Table 2: Specific Questions and Answers

a/a	Specific Questions	Answer 1	Answer 2	Answer 3	Answer 4	Answer 5
1	The introduction of new technologies in the public administration makes a substantial and significant change in the way that public services are provided. What is the attitude of the public administration staff towards these changes? Do you find any emerging resistance on the changes that are brought by the new technologies? If yes, do you consider that the resistance to the changes is justified?	I think that any resistors are bent and that the majority of administrative factors have faith on the effectiveness of the technology implementation in public life. I think that any suspicion finds support in the practical impossibility of satisfactorily implementing new technologies that will inevitably overcome.	There are several public executives and staff that resist the adoption of new technologies and this, because most of them are too old and can not respond to the computer usage. Also several public executives and staff is suspicious by entering these systems in their workplace. Apart from these two which I mentioned, I think that any	I do not think that resistance is increased to the changes that where brought by the introduction of new technologies to the healthy-minded people. Instead of that, new technologies are helping the public services in order to be more effective, to carry out more checks and to be accurate to the services they are providing and not to provide services	Firstly, an enthusiastic acceptance for new technologies in Public Administration. However, when it is required to give a new initiative (by rebuttable colleagues) ,which is closer to these new technologies, one can distinguish a reluctance for the next step, redesign - the expected outcome and the assignment of new responsibilities.	The changing organizational culture of the tax-offices is going to be ranked to one of the key players of a qualitatively enhanced tax administration. A crucial and special role between the resources of the public services holds its workforce , which is widely recognized as one of the critical factor for success. In this context, the education and

			obstacles will be overcome and the new technologies will offer the maximum.	based on the bureaucracy and the favoritism.		training of the staff in new technologies is a particularly important organizational function. Humans tends to resist to the changes in their industrial relations, since that they are threaten their peace, their relatives and their normal lifestyles. The public administration must have the ability to react to the changing conditions, by changing his own political structures and time. The objective is the implementation of an effective strategy based on the principles of a good change management, of an effective

						leader, but furthermore by reducing the degree of the resistance of officials . Public services have to cope with major changes, from a technological standpoint , taking place at all levels , through a comprehensive policy on human resources that promotes the best and motivate the entire staff in order to achieve greater efficiency. The modern civil servant should have knowledge, skills and qualifications that are relevant to the effectiveness on his job .

2	The persons who are holding positions of responsibility in your workplace, are adopting new technologies or are preferring the traditional way of working? Do you believe that there is a distinction on the adoption of new technologies between supervisors and staff? From where do you believe that such a distinction is caused?	Differentiation occurs in the mentality of the older and younger employees with an apparent weakness of the older employees to adopt these new practices and is mainly due to the lack of interest due to their impending retirement.	As mentioned above, there is shown a differentiation in the mentality of the older staff in comparison to the younger staff and is because the former have an apparent inability to adopt the new technologies . Also we observe a differentiation between supervisors and staff and that because in my view the executives in senior positions need to have direct and rapid information in relation to the average employees. Another reason that I think is important, is the lack of money made by the state for the supply and equipment at all the	Yes they are adopting the new technologies and are wishing that the new technologies will be improved and upgraded. In some cases there is a differentiation between supervisors and staff (and vice versa) which is due to the lack of knowledge of how to use a PC and their age.	First of all, they are accepting the new technologies. But when the system is going to be blocked, or because of ignorance, or because of structural system problems, then they are going back to the old hand-tested systems. There is some variation in the hierarchy, and I believe that this is due to the heterogeneous distance of education.	Both the persons who are holding positions of responsibility as the rest of the staff has been adopted in their daily work new technologies, from the editing of a single document up to providing more quality services to citizens. It is a fact that the TAXIS has considerably facilitated our everyday work .

			levels of civil servants.			
3	Do you believe that the conversion of the processes and the way of delivering the public services from the "manuscript" way to the "electronic" way can lead and how in order to save time or resources in providing public service?	I believe that the benefits of monitoring electronically the economic data is immeasurable both by reducing the errors - arbitrariness of public servants as the administration in general. Moreover a editable file is easily going to be created for the next years that is quickly accessable by every public servant.	New technologies led to save time and resources. Whether it is difficult to determine, definitely the sizes will be huge.	I have already reported for the immediacy and accuracy effectiveness concerning the time, there is also a reduce in the producing costs by saving resources eg more precise controls with the same staff at the same time.	Sure it saves time and resources, I cannot express it in percentage and money, but as a parameter that should be taken into account is the procurement in software and machinery so that it would be a product of a serious business plan and not just to pay the additional agents that are operating biased to specific suppliers and also not only to install a system that works	Services that are electronically provided have as a result that the efficiency of the carrier is going to be increased and moreover it has the acceptance and widespread use of the provided services by citizens and companies. The submission of the VAT return, a birth certificate or a statement of insurance with the electronic way is typical examples of such services.

					worse than the manuscript.	But also in the public administration itself, the investment in information and communication technologies contributed in order to automate many functions and moreover to the automatic exchange of data between different carriers. Therefore it is going to be understood that both the time and the necessary resources have significantly declined in the daily service of citizens.
4	What do you believe are the major benefits of the application of new technologies in your organization?	Work is completed in much less time, data are faster searched, direct intersection and faster information	Time saving, direct access to information, direct intersection of data, file creation, secure communica	More tax audits, better and more accurate control results, corruption and cover-up avoidance.	Immediate of recovery and management of data, standardization and processing of the results.	The major benefits of the application of new technologies are: 1 Speed in the provided services. It

		processing.	tion with other agencies and work from any place and time.	Ensurance of audits.		features a central database, so that the taxpayer can be served by any Tax-office in the country. 2 Interoperable connection between the departments of the Ministry of Finance 3 Electronic movement of documents between the staff. 4 using of an electronic protocol which allows the modern development of electronic tools such as e-services via internet and bank payments. There is no requirement of the attendance of citizens in the Tax-offices for most of the transactions.

| 5 | What do you believe is the relationship between the costs of implementing the e-governance projects and the benefits resulting from that implementation? Is it "value-for-money"; | It is a fact that the modernization of the public administration is an extremely time and financially demanding issue. But I think that there is no dilemma because it should have been done a long time ago. | I think that it is value-for-money, although the duration of completion is large as the corresponding expenditure. | The arising benefit is huge between the implementation and the costs. | Yes but as I answered the question (3), it is a result of a serious and impartial business plan. | I really believe that it is worth investing in e-government projects designed to serve better the citizens. Just to consider how important is the benefit to all of us (citizens, businesses and public services) with the completion of an important project of the interconnection of all public services. Let us not forget that the satisfaction of citizens is like a journey and not like a destination. The citizens' good service is not an initiative that is to be achieved, but rather a perception of how one wants to operate |

						with the bodies.
6	Regardless the amount of public expenditure for the implementation of information systems, do you believe that public institutions should continue to provide services to citizens through the usage of new technologies?	Undoubtedly the usage of new technologies is a non-negotiable issue for the Public Administration and the sooner it is going to be developed, the sooner we will reap the benefits of the project.	Undoubtedly, the implementation and adoption of new technologies is the only way of proper functioning and developing of the Public Administration and the Public Services.	Regardless of the level of expenditure, the public services should continue to provide services using new technologies, because I believe that the effective transparency is possible to prevent the corruption, the abundance of checks etc, offsetting the expenditure.	No, the expenditure on information systems is not independent by factors such as the education of the system administrators (civil servants), familiarizing the citizens who are the ultimate beneficiaries of the provided service.	The ultimate goal is that the public services should meet the communication needs of the citizens, organizations and businesses through the effective and uninterrupted flow to both directions. The benefits are: for the public administration 1 Reduction of administrative costs for providing services to citizens and businesses 2 transparencies in the provided services 3 Better usages of the existing

						systems and infrastructu res. For the recipients of services (citizens and businesses) 1 Reduction of the required time for performing a service 2 Reduction of costs (time and money) of the service and 3 to provide the service every time and day (24 x 7).

Conclusions & Future Research

The answers we got are as expected. Specifically, from the questionnaires we can see that the introduction of e-government offers several advantages to the final user and the citizen. Some of these advantages that e-government processes offer are: cross-checking of the financial information, speed, directness, honesty and quality. Moreover such changes are offering a more prompt and fast service to the citizens and are welcome from the senior managers in the public sector.

According to our research questions, we get evidence of reluctance to change when the e-government processes were introduced, but this reluctance was mainly coming from the elderly public servants. Moreover, all answers agree that the benefits were large and the majority agrees that these changes were value-for-money with only two objections, that the introduction of e-government processes should be introduced a long time ago and that the duration of completion should be shorter.

Further research could be on more countries of the E.U. The results could be compared across these countries, in order to see the behavior and

the benefits that e-government offers to citizens and public servants in different E.U. countries.

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