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## On the Introduction of E-Government Processes in an EU Revenue & Customs Department: Reluctance to Change, Tangible Benefits and Value-for-Money Investments

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*E-Government could be seen by and large as the use of Information and Communication Technology in the transformation of governmental operations. When you look it from the governmental perspective it is essential that the transformed operations should be more efficient and effective. In this study using a qualitative research methodology and respective instruments we explore the introduction of e-Government processes in the Revenue & Customs department of an EU country. We focus on: a) the reluctance to change faced when those changes are introduced, b) the tangible benefits from the changes, and c) the perception as if the imposed changes are really value-for-money. Coming as no surprise, and despite the clear and sustainable benefits that these changes bring, it is always quite difficult to easily accept the forthcoming changes.*

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

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## Introduction

E-Government could be seen by and large as the use of Information and Communication Technology (ICT) in the transformation of governmental operations. When you look it from the government perspective it is essential that the transformed operations would be more efficient and effective, however this is not always possible. In the current article we focus on the introduction of e-Government processes in the Revenue & Customs agency of a core-EU country via observing and measuring that the imposed changes are welcomed and the extent to which these are believed to be value-for-money.

The paper is structured as follows. Section two covers the relevant literature. Section three describes the research questions and our methodological approach. Section four presents the results of our survey and a relevant discussion while section five wraps up the conclusions and highlighting avenues for future research.

## Background Literature

There is an extensive literature, especially since the early 00s on developments that exploit and advance the use of ICT in the favour of e-government. The next few paragraphs recapture the most important of these developments as well as lessons learned from them, in reverse chronological order from more recent (and therefore more relevant to this study) back to the more distant past.

Olatubosun and Rao (2012) provide empirical results on the readiness of public servants on the adoption of e-government. In their study they identified the adoption determinants of e-government services from civil servant users in four different ministries in Nigeria. Their findings revealed that performance expectancy and self-efficacy are significantly associated with age, while social influence and attitude behaviour are strongly associated with gender. Van Veenstra et al. (2011) discuss the barriers and impediments to transformational government (t-government) providing insights from literature and practice. Mofleh et al. (2009) present a generic framework for explaining e-government focusing on the role of the state throughout its deployment. Dhillon et al. (2008) explore what the transformational stage of e-government means to local authorities in the UK

and what process-related challenges have to be overcome to successfully implement transformational change in local government. Through two case studies it is shown that information systems related issues pose an even more significant challenge in practice.

Weerakkody et al. (2007) analyse the contributing factors of e-government implementation with the case study being Zambia: that paper explores the reality of e-government implementation in Zambia using survey based research with the main results being that while challenges such as 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 and therefore very minimal awareness about the importance and value of e-government has been achieved. This latter study is quite relevant to the setup we examine and thus we may be seen as corroborating to this specific stream of research however our research questions will be more narrow as will be revealed at the start of the next section

Janssen et al. (2007) provide experiences from the development of a digital safe by the Dutch Inland Revenue Service. They present the design process of the information architecture of this facility to highlight a number of architectural and process management experiences. Overall, they found that information architecture is multifaceted and a negotiated artefact. Specifically, architecture should not only provide an overview of the dependencies between systems, but also act as communication instrument to support decision making. Context-wise this is the closest study to what we are investigating here as both studies focus on an Inland Revenue service however in both cases the results can easily be generalised for other operations and departments of governance.

Lane et al. (2007) discusses the context of e-health, an e-phenomenon that has evolved rapidly. The UK government made over the years significant investments in new e-health projects but the healthcare sector has historically been slow to adopt IT solutions. The analysis in this paper of National Health Service (NHS) Direct employs a case study research approach to explore the e-phenomenon. Theoretical models are applied to NHS Direct in order to understand the success of its conceptualisation and implementation. The importance of management of change, skilled managers and organisational maturity is clearly emphasised.

Stojanovic et al. (2006) describe the change management in e-government through the OntoGov case study. The authors' show how semantic technologies may improve management of changes regarding process knowledge in an e-government system focusing on new level of functionality such as verification of a service annotation and refinement of search results. Archer (2005) provides an overview of the change management process in e-Government. In that study a new model for the process of planning and implementing e-Government is proposed. The model is validated through an application involving multiple governments at two levels in Canada. Yu and Fang (2005) discuss the strategic roles of government in e-infrastructure development through evidence from case studies in China and Korea. Main results include the finding that the governments in developing countries can play key roles like monitor, support, sponsor and enabler in such a process and that the roles of the government from the demanding-supplying perspective or the direct-indirect involvement perspective need to change in different stages of e-infrastructure development.

Chircu and Lee (2005) discuss the key success factors for value discovery and realisation in e-government. They propose that the value of e-government needs to be managed by increasing the potential value and reducing the associated risks with public sector nuances in mind. Patelis et al. (2005) present how tourism planning decision support can be transformed and improved through and effective e-government framework, via presenting a case study in Greece. Palanisamy (2004) analyses various important issues and challenges in e-governance planning. Through a review of literature up to 2003, this paper identifies the following key challenges: trust building in e-governance, ICT management, and privacy and security. Finally, Nikolopoulos et al. (2004) present the latest development that would enable the effective and efficient use of Forecasting Systems for e-government, systems that would provide on-line forecasting capacity to governmental operations and therefore better and more informed decision making within public organisations.

## Research questions and methodological approach

Having reviewed the relevant literature we derived three main research questions that either still to date remained unanswered or corroborating evidence is needed in order to support them; these are as follows:

RQ1: Were the proposed changes welcomed from the employees in the organisation?

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 intentionally avoid testing for formal statistical hypotheses as we are primarily aiming for more insight here rather than a strict numerical statistical exercise. Furthermore the typical sample sizes gathered in similar studies in the literature render the performance of any formal statistical testing quite challenging.

In order to address these research questions a qualitative methodological approach was employed and in particular a survey (without any open-ended questions) was selected as the preferred instrument. Three main areas were investigated with 5-4-6 questions in each respective area; responses were requested in the form of an even 6-point Likert ordinal scale (see appendix) and the choice of an even rather than an odd scale was made in order to avoid anchoring to the median. The areas of interest, corresponding to the respective research questions were:

- the attitude that the government officials do have towards changes brought by the entry of e-government services in the public sector
- the size of the expected benefits which are resulting from the implementation of e-Government services in the following areas
- the cost and return (value-for-money) of projects of e-government

The questionnaires were disseminated to public servants in an EU country that most of them work for the EU Revenue & Customs department in this country. The survey took part at the Executive Education site of EU-funded further-training courses that the public servants were voluntarily

taken (although the cost was fully subsidized by EU and the local government, and as such the response rate was very high (about 80%) since these were given out by the instructor. It has to be noted that he/she was not present while the questionnaire completion took place as to avoid forcing biases in the process. All this process resulted in a total 162 completed questionnaires to be available for statistical analysis at the end of the survey. So overall given the sampling process followed it may be seen as a representative and random sample of our target population; however it is a convenience sample given the site that was used. We do not believe that this latter statement restricts in any means the validity and generalization of our results.

Some basic statistics for our sample: of the 162 respondents 51 were males and 111 females that is consistent with the respective percentage ratio in the EU Revenue & Customs department that is the target of our research. 41% of the respondent holds an important post in their organization (supervisor, manager or above) while as far as their educational qualifications are concerned: 58% have a university degree while 26% hold also a postgraduate degree (MSc, MA or PhD).

## Results and discussion

On the first research question (Were the proposed changes welcomed from the employees in the organisation?) from figures 1-5 becomes evident that we had reluctance to change. In detail:

- a. They consider that changes have a negative impact on public administration.

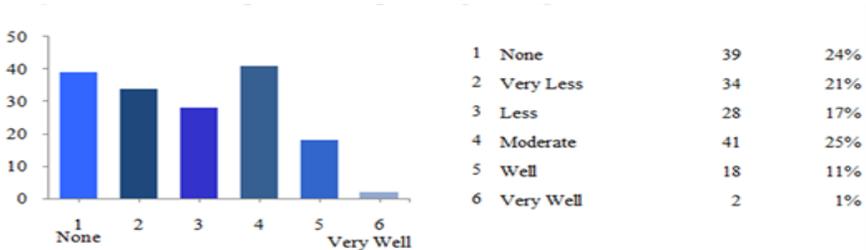
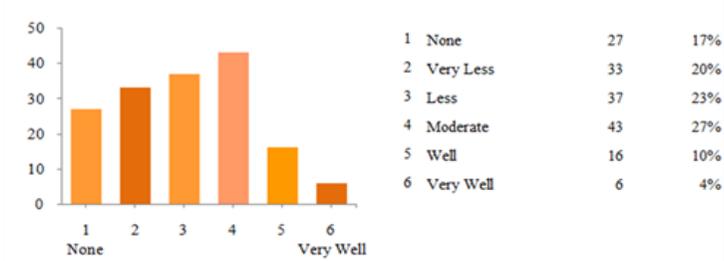


Figure 1: The impact of the changes on public administration

From the above figure 1 it is concluded that, over the half of the questioned persons consider that the changes may have not a negative impact on public administration. In more detail, 24% answered that the changes have not negative impacts on public administration while 21% and 17% answered very less and less respectively. 25% were moderate in their answers as respectively 11% and 1% answered that the changes have a negative impact on public administration.

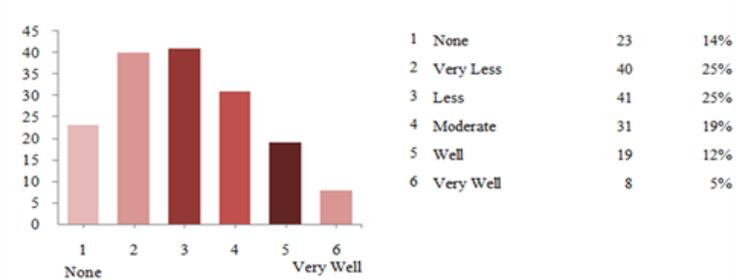
b. They are reluctant to adapt e-government services.



**Figure 2:** Adaptation of e-government services

Figure 2 shows us if the government officials are reluctant or not in order to adapt e-government services. In more detail from figure 2, the majority of respondents answered that the government officials may are reluctant to adapt e-government services. Only 17% answered none while 20% and 23% answered very less and less respectively. 27% were moderate in their answers as respectively 10% and 4% answered well and very well.

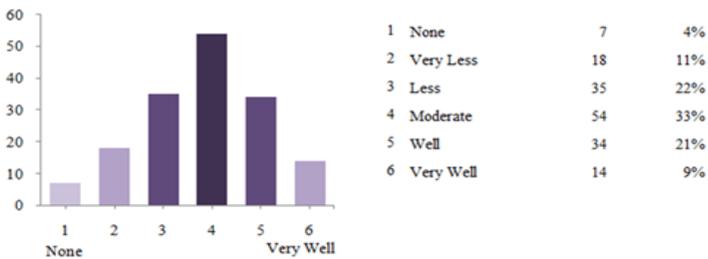
c. They indicate a lack of trust in e-government services.



**Figure 3:** Trust in the e-government services

Figure 3 answers us the question if the participants in this survey indicate a lack of trust in e-government services. We can see again in this question and from the above figure that the majority of the participants indicate a lack of trust in e-government services. Only 14% of them indicate that there is no lack of trust but the positive answers vary from very less (25%) to very well (5%).

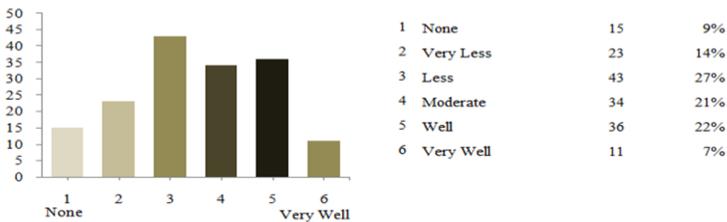
- d. They consider that the changes have a positive impact but they state weak by adapting the changes.



**Figure 4:** The impact of changes and their adaptation

From the above figure 4 it can be easily concluded that, the overwhelming majority of the participants consider that the changes have positive impacts on e-government services but they state weak by adapting the changes. In more detail, only 4% answered that the changes have no positive impacts on e-government services while 11% and 22% answered that the changes have very less and less positive impacts respectively. 33% of the participants were moderate in their answers as respectively 21% and 9% answered that the changes have a positive impact on e-government services with a weakness in adaptation of the specific changes.

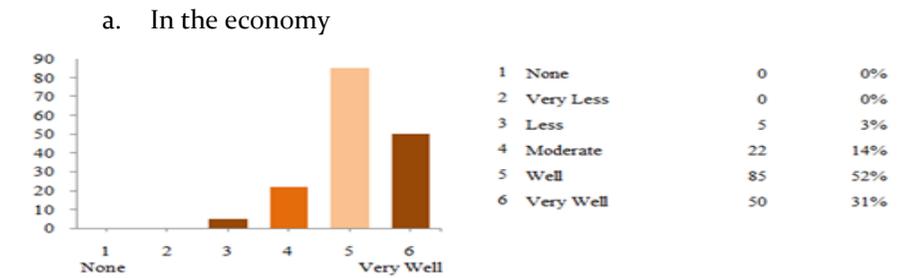
- e. They observe a lack of cooperation with the IT support team.



**Figure 5:** Cooperation with the IT support team

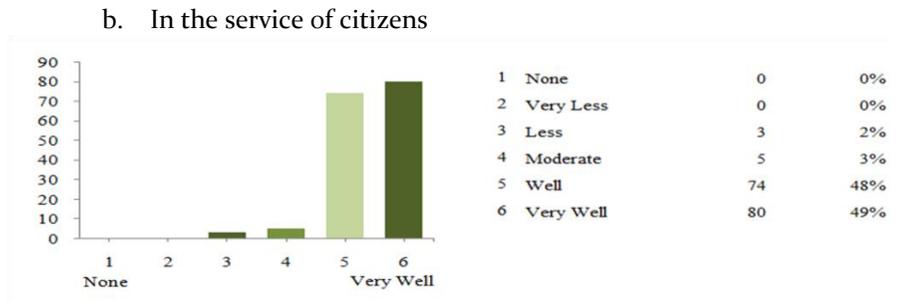
Figure 5 shows us if the government officials observe or not, a lack of cooperation with the IT supports team. In more detail from the above figure, the majority of respondents answered that the government officials observe a lack of cooperation with the IT support team. Only 9% answered none while 14% and 27% answered very less and less respectively. Moderate answered 21% as respectively 22% and 7% answered well and very well.

On the second research question (What are the tangible benefits coming as result of these newly transformed processes?) from figures 6-9 is illustrated that we have tangible benefits, most notably:



**Figure 6:** Benefits in the economy

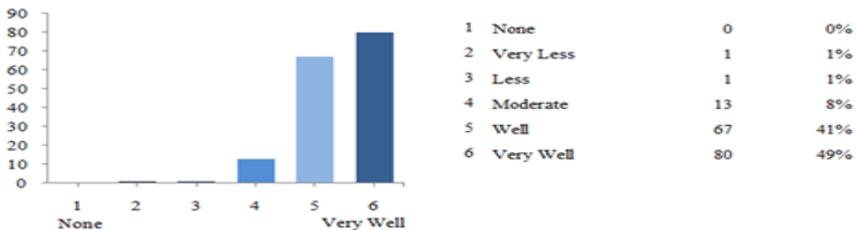
From figure 6 is concluded that, the overwhelming majority of the participants consider that the benefits from the implementation of e-government services are positive on the economy. In more detail, 0% answered that there were no benefits and very less benefits respectively. Only 3% answered less and 14% were moderate in their answers. Well answered over the half of our sample in a percentage of 52% while 31% answered that the benefits which are resulting from the implementation of e-government services in the economy were very positive.



**Figure 7:** Benefits in the service of citizens

The results from figure 7 are in the same manner as the results from figure 6. We conclude again here that, the overwhelming majority of the participants consider that the benefits from the implementation of e-government services are positive in the service of citizens. In more detail, 0% answered that there were no benefits and very less benefits respectively. Only 2% answered less and 3% were moderate in their answers. Well and very well answered 97% of our participants, so we can easily conclude that the benefits which are resulting from the implementation of e-government services in the service of citizens were very positive.

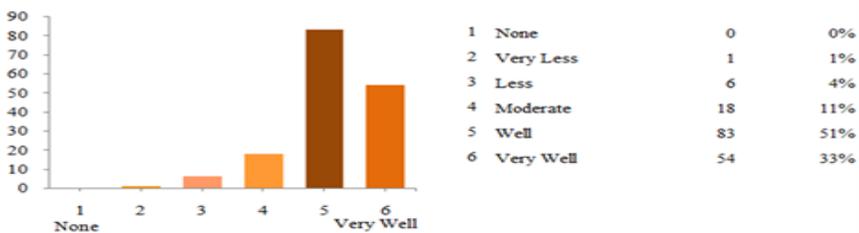
c. In improving the quality of public services



**Figure 8:** Benefits of improving the quality of public services

From the above figure 8 it can be easily concluded that, the overwhelming majority of the participants consider that the benefits from the implementation of e-government services are very positive in improving the quality of public services. In more detail, 0% answered none while 1% answered that the benefits have very less and less positive impacts respectively. Moderate were 8% of the participants while well and very well answered the 90%. As we can easily conclude from figure 8 the benefits of improving the quality of public services by the implementation of e-government services were very positive.

d. In human resources of public administration

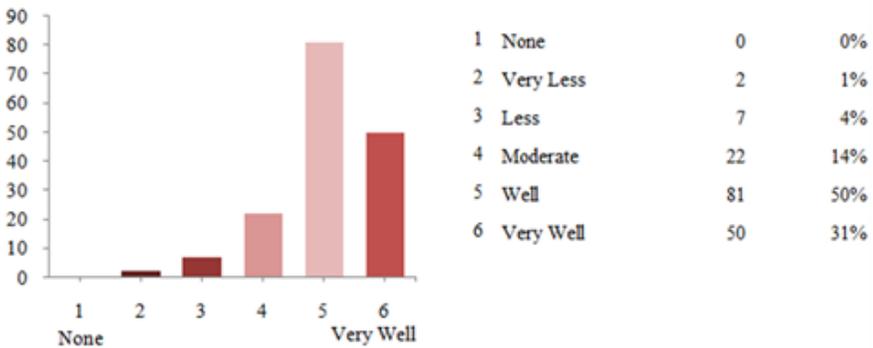


**Figure 9:** Benefits in the human resources of public administration

From figure 9 is concluded that, the overwhelming majority of the participants consider that the benefits from the implementation of e-government services are positive in the human resources of public administration. In more detail, 0% answered that there were no benefits and 1% very less benefits respectively. Only 4% answered less and 11% were moderate in their answers. Well answered over the half of our sample in a percentage of 51% while 33% answered that the benefits which are resulting from the implementation of e-government services in the human resources of public administration were very positive.

On the third research question (Are the imposed changes perceived as value-for-money for the organization?) From figures 10-15 is becoming clear that not everything was perceived as being value-for-money. Most would agree that it is but still there were voices of concern, in detail:

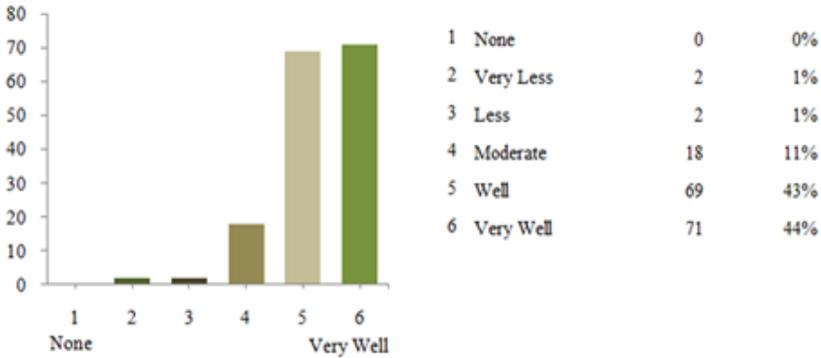
a. In saving resources



**Figure 10:** Importance in the benefits of saving resources

From the above figure 10 is concluded that, the overwhelming majority of the participants consider that there were important benefits from the implementation of e-government services in saving resources given of course the cost of projects. In more detail, 0% answered none while 1% answered very. Only 4% answered less and 14% were moderate in their answers. Well answered the half of our sample in a percentage of 50% while 31% answered that the imposed changes are value-for-money changes in saving human resources given the cost of e-government projects.

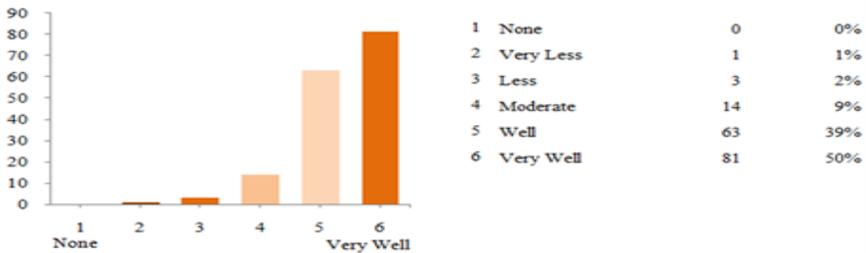
b. In saving worked hours



**Figure 11:** Importance of the benefits in saving worked hours

The results from figure 11 are in the same manner as the results from figure 10. We easily conclude here that, the overwhelming majority of the participants consider that the benefits from the implementation of e-government, given the cost of e-government projects, have important benefits in saving worked hours. In more detail, 0% answered that there were no important benefits and 1% very less important benefits respectively. Only 1% answered less and 11% were moderate in their answers. Well and very well answered 87% of our participants, so we easily conclude that the benefits which are resulting from the implementation of e-government services in saving worked hours are very important.

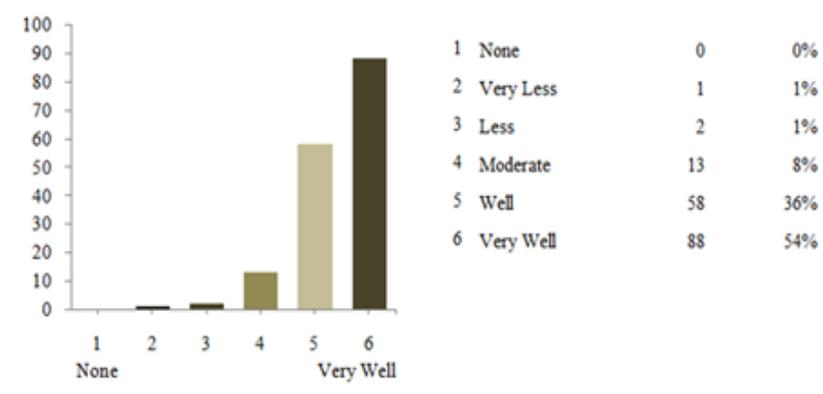
c. In the quality of provided services



**Figure 12:** Importance of the benefits in the quality of provided services

From the above figure 12 we easily conclude that, the overwhelming majority of the participants consider that the benefits from the implementation of e-government services, given the cost of e-government projects, have important benefits in the quality of provided services. In more detail, 0% answered that there were no important benefits and 1% very less important benefits respectively. Only 2% answered less and 9% were moderate in their answers. Well and very well answered 89% of our participants, so from the above results we conclude that the benefits which are resulting from the implementation of e-government services in the quality of provided services are very important.

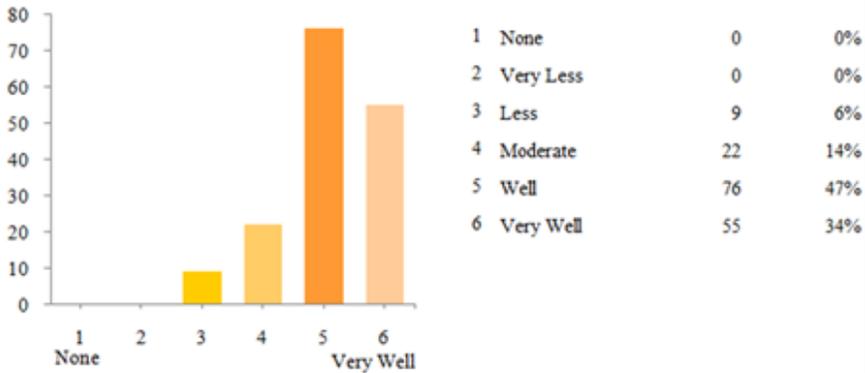
d. In the rapid service of citizens



**Figure 13:** Importance of the benefits in the rapid service of citizens

As in figures 11 and 12, figure 13 shows us that the overwhelming majority of the participants consider that the benefits from the implementation of e-government services, given the cost of e-government projects have, important benefits in the rapid service of citizens. In more detail, 0% answered that there were no important benefits and 1% very less important benefits respectively. Only 1% answered less and 8% were moderate in their answers. Well and very well answered 90% of our participants, so from the above results we conclude that the benefits which are resulting from the implementation of e-government services in the rapid service of citizens are very important.

e. In the employees working conditions



**Figure 14:** Importance of the benefits in the employees working conditions

From the above figure 14 is concluded that, the overwhelming majority of the participants consider that there were important benefits from the implementation of e-government services in the employees working hours given of course the cost of projects. In more detail, 0% answered none and very less respectively. Only 6% answered less and 14% were moderate in their answers. Well answered almost a half of our sample in a percentage of 47% while 34% answered that the benefits from the implementation of e-government services in the employees working conditions were very important.

## Conclusions

Coming as no surprise, and despite the clear and sustainable benefits that these e-Government changes do bring, it is not always so easy to easily accept the forthcoming changes...

Our results shed some further light and answer our research questions and do highlight the following conclusions:

- a) There was evident reluctance to change when the e-Government changes are introduced,
- b) There were however tangible benefits from the changes, and
- c) The perception was that the imposed changes were not really all of them value-for-money- at least not for everyone!

Future research on the topic should focus on getting more and broader evidence, in the form of larger and more diverse samples including

more departments within governmental sectors, so as to produce results with more ability to be generalized. Furthermore a multinational study would also give insight of cultural differences towards these questions and issues among countries.

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## Appendix

<b>FINANCIAL IMPACT OF e-GOVERNMENT IMPLEMENTATION IN PUBLIC ADMINISTRATION</b>												
1. What attitude do the government officials have towards changes brought by the entry of e-Government services in the public sector? (1: none, 2: very less, 3: less, 4: moderate, 5: well, 6: very well)												
a. They consider that changes have a negative impact on public administration	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
b. They are reluctant to adapt e-government services	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
c. They indicate a lack of trust in e-government services	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
d. They consider that the changes have a positive impact but they state weak by adapting the changes	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
e. They observe a lack of cooperation with the IT support team	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
2. Please determine the size of the expected benefits which are resulting from the implementation of e-Government services in the following areas: (1: none, 2: very less, 3: less, 4: moderate, 5: well, 6: very well)												
a. In the economy	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
b. In the service of citizens	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
c. In improving the quality of public services	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
d. In human resources of public administration	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
3. Given the cost of projects of e-government, how important do you think is their benefit: (1: none, 2: very less, 3: less, 4: moderate 5: well, 6: very well)												
a. In saving resources	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
b. In saving worked hours	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
c. In the quality of provided services	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
d. In the rapid service of citizens	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
e. In the employees working conditions	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6
f. In another sector ..... (which you think as important)	<input type="radio"/>	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6