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Training Civil Servants to ERMIS IT system for the purposes of Directive 2006/123/EC

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Abstract

In this paper we present the task of training civil servants on the back end of the ERMIS IT system, in order to enrich it with information regarding service activity provision in Greece for services related to Directive 2006/123/EC. The evaluation of the process which involved 65 persons from 11 ministries led to the conclusion that, civil servants less than 40 years old holding an academic degree are more capable of dealing with the task.

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1. Introduction

The membership of countries in the European Union requires their conformity to the various directives aiming to provide a uniform policy between EU Member States. An example of this is the applicability of Directive 2006/123/EC [1] which focuses on the simplification of practicing a service activity i.e. a profession such as "Cross border provision of services for tourism businesses" by a European citizen to another EU Member State. The implementation of this Directive requires from each EU Member State the provision of a dedicated portal. This portal must contain, for each service activity, information regarding required supporting documents. In must also provide the capability of submitting on line an application. A central portal [2] provides an index to the specific ones supported by each EU Member State.

To align with its obligation for conformity with Directive 2006/123/EC [1], Greece created a portal which hosts information regarding 659 service activities in Greek and English translations of 134 of them. The aforementioned service activities involve 11 ministries. The important number of service activities, whose

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number has not yet been finalized, created the need to train representatives of each ministry to import data in the portal and modify appropriately when necessary. Training was performed on 65 persons from all involved ministries of different ages and educational background. The evaluation of training led to the conclusion that, training civil servants with different educational background to a complex IT system constitutes a difficult task. Training difficulty is aggravated by the fact that, innovative information systems for e-government while offering increased functionality, may often neglect or underestimate the human factors affecting their successful integration in production environment.

This paper provides insights from a real-world e-government information system and problems that were not anticipated during its design and implementation. This acquired knowledge can be used as input for adjusting and adapting software design and engineering processes in first place.

This paper is organized as follows: Section 2 provides information regarding related work, Section 3 provides a description of Directive 2006/123/EC [1] and all requirements for its implementation, Section 4 lists the training methodology and describes the supporting system providing evaluation results, while Section 5 provides concluding remarks and future work.

2. Related Work

Training adults is an open issue and is extensively studied by researchers. The most representative analysis may be considered that presented in [3]. The authors in [3] examine different aspects of teaching including: a) what is meant by adult learning and what are the main characteristics of adult learners b) what is the nature of learning and how does theory relate to practice c) how do teachers plan learning, set goals and objectives and most importantly how does a teacher know when learning has taken place. The book focuses - among others - on issues such as adult learning in formal and non-formal education programs. This book is valuable reading for those who are new to teaching and workplace trainers. However it does not focuses on problems like the one examined here.

Generally speaking, very few related work appears in the literature. The closest related work was the one presented in [4], where the problem was training civil servants in a Health Management Information System. The aforementioned work presents a number of aspects such as the availability of the trainees in the success of the training process. It also evaluates the success of the training process by examining the quality of data inserted in the system. The second related work is the one presented in [5] where the authors present the trainees' view with regards to training on traditional versus contemporary (mainly Web 2.0) information systems topics. However, the training program was theoretical and not technical like the one examined here. The authors produced a survey of the trainee's views with regards to expectation and value of traditional and contemporary training topics. The survey was conducted in the form of questionnaires.

In Greece, training civil servants was performed on two other governmental IT systems namely "Apografi" [6] and "Diavgeia" [7]. However, due to the simplicity of the task i.e. the amount of information to be inserted as well as the user - friendly interface, distance learning through an education platform as well as an online tutorial was provided. Occasionally, a single - day training was performed. It is worth mentioning that, no information regarding whether the same problem exists at the other EU Member States (i.e. in what extent) and subsequently how it was dealt by each of them.

3. Directive 2006/123/EC

Directive 2006/123/EC [1] was proposed in order to provide a genuine internal market for services, as is in the present case the market for goods in the EU. Its purpose is the reduction of barriers to cross-border trade, mainly by establishing a uniform procedure throughout EU Member States. It is seen as an important building block of Lisbon Agenda [8], whose main aim was (and remains) to facilitate the creation of an internal market for services

by 2010. Among Directive 2006/123/EC's main objectives is the removal of legal and administrative barriers for the development of service activities between the EU Member States and the promotion of cross-border competition. Additionally, Directive 2006/123/EC aims to improve the quality of service activities provided and the fostering of more administrative cooperation in the European Commission (EU). The European Commission has identified certain obstacles related to the free movement of service activities, namely complicated procedures to obtain service activities i.e. permits and licenses, lack of information about legal requirements and discrimination on nationality. EU Member States are required to examine and if necessary simplify the procedures and formalities to exert a service activity. Mainly, this includes the establishment of Points of Single Contact which must also be accessible online via a dedicated portal at which a provider may complete all the necessary formalities. This portal must provide all information related to service activities in two languages, the national one and English. In practice, citizens can chose among two categories of service activities: freedom of establishment and freedom to exert service activities in any other EU Member State.

In practice, the number of service activities falling into the scope of Directive 2006/123/EC [1] strongly depends on each EU Member State's legislation. Greece constitutes a negative example due to its complex legislation system as well as to the lack of officially recorded administrative procedures concerning service activities. Directive 2006/123/EC [1] proved to be an excellent starting point for the simplification and coding of an important number of service activities. At the present moment, 659 service activities are recorded and simplified. This number is expected to increase.

4. Training Methodology and System's Description

As it was previously mentioned, the Greek legal system as well as the administrative infrastructure is responsible for the involvement of an important number of service activities falling into 11 ministries among the 14 ones. The consequence of this is the occupation of a number of civil servants for the simplification process as well as the management of information contained in the portal which implements the provision of electronic application of each service activity. Each ministry is responsible for content specification and management of each service activity falling into its responsibility, both for Greek and English. More specifically, content management involves the import and enrichment of the required information in the back office of the dedicated portal, named the Greek Point of Single Contact (PSC) [9]. A description of the Greek PSC portal [9] is provided in Subsection 1, while Subsection 2 provides details regarding the information describing each service activity as well as the training methodology that was followed.
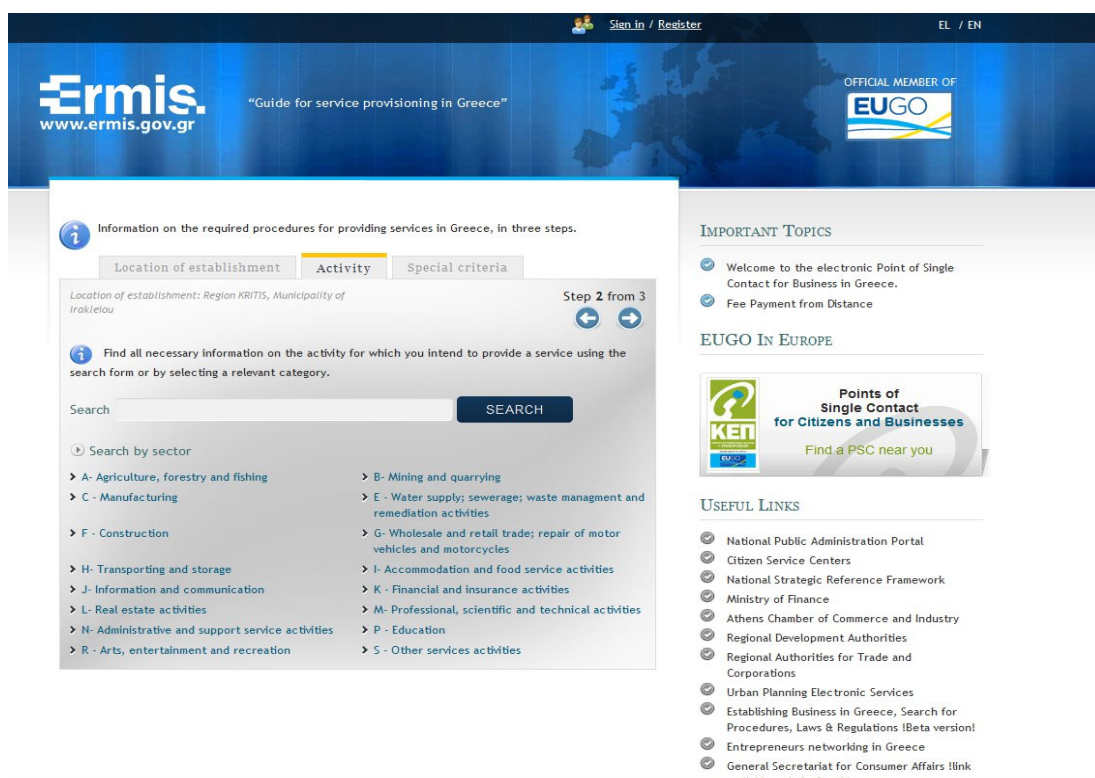
4.1. The Greek PSC Portal

The Greek Point of Single Contact (PSC) portal [9] was built on an existing e-government website, namely ERMIS Infrastructure [10] which constitutes the official Greek portal for Public Administration providing citizens and businesses alike a central information and e-services hub. The Greek PSC portal [9] is linked to a network of 54 physical PSCs i.e. KEP (the Greek acronym for Accommodation Centers for Citizens), which have been selected to serve Directive 2006/123/EC [1] purposes and that have been operating in Greece for about a decade. The electronic PSC i.e. the Greek PSC portal [9] serves as a central hub, transferring information and applications to the physical PSCs, according to their geographic area of responsibility. The Greek PSC portal [9] supports both languages i.e. Greek and English. However, the English content in the electronic PSC is limited due to translation issues.

Each service activity appearing in the electronic PSC is categorized into one or more categories which follow the NACE basis [11]. The European Classification of Economics Activities (NACE) is the European reference framework for the production and dissemination of statistics related to economic activities. NACE is an important tool for comparing statistical data related to economic activities at a world level. Information related to

a service activity can be retrieved in Greek PSC portal [9] by selecting the preferred language, the interested thematic category of professions i.e. the appropriate NACE code and/or whether the service activity of interest involves a cross border exertion or installation. Table 1 provides a list of service activities appearing in the Greek PSC portal [9] classified according to the NACE basis [11], while Figure 1 provides snapshots of the portal [9].

The content quality appearing in the Greek PSC portal [9] varies, since there are service activities missing and service activities which have not been updated according to the latest simplifications of the regulative framework and the latest circulars and Ministerial Decisions issued. The content of the Greek PSC portal [9] regarding service activities for cross-border service providers has been enhanced during the period of the PSC initial operations. However, there is a strong need for this content to be enriched by inserting more service activities. Moreover, there is also need for the existing content to be updated, since the regulative framework implementing Directive 2006/123/EC [1] is under constant modification and simplification. Overall, the Greek PSC portal [9] offers a satisfactory level of services online but there are still things to be done to improve its efficiency and to make it a real tool that will be used by citizens and public administration.

Fig. 1. The Greek PSC portal

Table 1. List of service activities in the Greek PSC portal

Category	Service activities in English	Service activities in Greek
A- Agriculture, forestry and fishing	4	19
B- Mining and quarrying	0	15
C - Manufacturing	0	72
E - Water supply; sewerage; waste management and remediation activities	1	6
F - Construction	5	94
G- Wholesale and retail trade; repair of motor vehicles and motorcycles	22	63
H- Transporting and storage	5	47
I- Accommodation and food service activities	2	10
J- Information and communication	0	1
K - Financial and insurance activities	0	0
L- Real estate activities	1	3
M- Professional, scientific and technical activities	29	72
N- Administrative and support service activities	16	40
P - Education	33	66
R - Arts, entertainment and recreation	15	29
S - Other services activities	1	22
Total	**134**	**659**

4.2. Education Methodology

Each ministry as well as each subdivision of it involved in Directive 123/2006/EC [1] was asked to appoint civil servants to insert information regarding service activities of their ministry in the back office of the Greek PSC [9]. The number of trained civil servants currently is 65 belonging to totally 33 subdivisions. It must be stressed that, the number of trainees cannot be considered as a small one, since specific departments from the 11 ministries were involved. Since the number of services activities falling into the scope of Directive 123/2006/EC [1] constantly increases, the number of trainees also augments. The appointed civil servants, in the majority of cases, were also dealing with the administrative part of those activities i.e. the simplification of the procedure as well as the reduction of supporting documents. However, computer familiarization level of each of those persons presents strong variation. Two factors were taken under consideration for categorizing trainees: (a) age and (b) educational background. Those factors were chosen because in the secondary level of Greek educational system, informatics was incorporated as subject in the early 90's. This means that, persons older than 40 may either learn empirically how to use computers or attended introductive level seminars. Those holding an academic degree, in the majority of cases, followed computer classes during their studies in order to cope with academic requirements. Computer familiarization remains one of the main and unresolved problems of the Lisbon Agenda [8]. The profile of the aforementioned civil servants is listed in Table 2.

The subject of training involved the insertion, in the form of metadata, of a predefined set of information related to a specific service activity. Each service activity contains the following information:

- The service activity's name
- The service activity's description
- The Public Sector responsible for the legal framework of the service activity.
- The Public Sector responsible for receiving and expediting the authorization of the service activity.
- The service activity Type, i.e. permit, license, certificate, etc.
- The Life Event, such as Starting a Business, Getting Insured, Studying etc.
- The Legal Rule, i.e. all related laws.
- All prerequisites that may restrict some categories of applicants.
- The service activity Cost
- The delivery Time i.e. the required time for the provision of the authorization decision.
- Comments, which may include any information which may prove to be useful for the applicant such as a telephone and/or an e-mail for help or complaints.
- A list of related keywords
- The investment environment, e.g. whether this service activity is financed by any investment program.
- Whether physical presence is required for the submission of the application.
- Whether physical presence is required when receiving the result of the application.
- The description of how the application is expedited by the involved public sector(s) by paying special attention to the factors which may lead to its rejection.
- All required supporting documents.
- Bank account, in case where a service activity cost is required and can be paid in a bank.
- NACE code(s) i.e. the thematic category in which the service activity can be categorized.

Table 2. Profile of the trained civil servants

Age 25-40	*Age > 40*
66,15%	33,85%
Holding an Academic Degree	*Secondary Level Education*
75,38%	24,6%

The amount of inserted information strongly depends on service activity's nature, having a strong impact on the time spend by the person involved. We observed that, service activities require at least the insertion of a document corresponding to the application (requiring the insertion of at least 11 metadata fields and a document file), a legislation document corresponding to the related law (requiring the insertion of at least 15 metadata fields and a document file), a minimum description of service activity's characteristics (requiring the insertion of at least 32 metadata fields). A service activity contains on average 13 supporting documents each of which requires the insertion of 12 to 17 metadata fields. Thus a service activity requires the insertion of at least 120 metadata fields, which must be inserted in a strict predefined order. This predefined order proved to be very uncomfortable to users. Insertion time for a familiarized user can vary from one to five hours according to the amount of information.

The difficulty of the training task lies in the fact that, the back office of the Greek (PSC) [9] was designed to be used by expert and not simple users. Insertion of the aforementioned information constitutes an odd and sophisticated task thus, prohibited us from applying a standard educational methodology. Another reason for this was the strong variation of educational level as well as computer familiarization of the trainees. Due to the necessity of speeding up the insertion process and the lack of financial resources, a user friendly interface i.e. API placed as a front end to the actual system was unfeasible. An educational platform also was not created since users felt more confident when in house training, at least at the beginning of training, was performed. Another reason that prohibited us from creating an educational platform was the long duration of the training process. For all those reasons, we chose to perform in house training.

Before training all representatives from all involved ministries and Public Administration Organizations, the author, which was the unique trainer of the whole procedure, created the necessary documentation i.e. manuals. Each of the 65 persons was trained either by attending one of the three seminars conducted in the National Centre for Public Administration and Local Government or, in the majority of cases in - house. In - house training usually had a 10 - hour duration and was conducted in two separated days. Due to the system's peculiarities, a period of familiarization was required by the trainees.

The whole process started at the beginning of the September 2010 and remains open. Scheduling of seminars in the National Centre for Public Administration and Local Government was also unfeasible due to the disorder of the chronological appointment of servants to the task.

No scientific tool can be used for our case to evaluate the training process of the 65 trainees. Learning was achieved through the completion of the insertion process. The only evaluation metric that can be used and is the quality of data inserted. Regarding the performance of the trainees, we may conclude that, trainees after spending a familiarization time with the system, inserted high quality information in it. Most errors occurred when the trainees took initiatives regarding the insertion of specific system information in case where this was absent. This caused some problems because system information has strict specifications.

We observed that, civil servants aged less than 40 holding an academic degree are more capable of learning and coping with the back office of the supporting information system. This artificial separation of the sample results from observation of the outcome as well as in person communication. Even though, elders may hold an academic degree, computer skills may have not been required during their studies or even worse during their career in the public sector. However, participants holding an academic degree from a faculty of science or a faculty of engineering proved to be more familiar with ICT and capable of learning how to use novel information systems.

Distance support via telephone to the trainees is still provided by the trainer. The number of days the trainer spent so far for in house training is 45. At this time, distance support via telephone is not included because it cannot be calculated.

5. Conclusions – Future Work

In this paper we presented the process of training civil servants in a specific IT system for the purposes of the Directive 2006/123/EC [1]. Currently, information regarding 659 service activities in Greek and 134 among the 659 in English is inserted. The training process led to the conclusion that, civil servants less than 40 years old holding an academic degree are more capable of coping with a complex IT system.

Training is an ongoing process. This is due to the fact that, insertion of content for the majority of licenses in English is pending (only 134 out of 659 were inserted). Additional content, i.e. service activities, in both Greek and English is expected to be inserted which is halted due to legal issues and administration processes.

The participation of civil servants may be drastically increased in case where more service activities are decided to be inserted for treatment by the current system for cases enriching or extending those of the current Directive. In such a case, alternative solutions will be considered, such as distant learning via an educational platform or implementation of a friendly API (application user interface) to facilitate insertion of information.

Our work shows that, innovative information systems for e-government while offering increased functionality, often may neglect or underestimate the human factors affecting their successful integration in production environment. Due to the fact that, their use may probably involve an important number of non expert users having different computer familiarization, real-world e-government systems should take those factors under consideration during their design and implementation.

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