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MEASURING E-INSURANCE IN GREECE: THE CASE OF PUBLIC INSURANCE FUNDS

By

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Abstract

Everyday, millions of people use Internet for communication, for access in information, for research, for doing businesses and for education. Almost every organization promotes his presence in the Web, so that its content and activities made available. Despite the widest usage of Internet, it is still open the question of benefit and determination, in sufficient degree, on the disposal of information. Even though a lot of systems and methods have been proposed and implemented for the general evaluation of web sites, these are still of limited value in assessing the quality of the content. The main reason is that the type of content can vary from one web site to another. The scope of our research is the analysis and the comparative evaluation of the public insurance funds' websites in Greece. The selection of the research sample was based on 22 public insurance funds that had a valid link to their website. In order of analyzing and assessing the web sites' content, a model checklist with eight broad homogenous criteria groups was used. The results are disappointing as only one fund was found above the average in overall evaluation, actually having a value approximately 2 times over the second fund. As a result, e-government in Greece in the sector of e-insurance is far from meeting the demand of relative services from the citizens and enterprises. JEL Classifications: G23, O32, L86.

Keywords: e-government, e-insurance, websites evaluation, information systems, public funds.

1. General characteristics and objectives of the public insurance funds in Greece

Social protection in Greece is carried out via three systems: social security system, social welfare system and the national health system (CEPR, 1976). The social security system is structured in three levels (pillars) (E.C., 2006): the first level (pillar) includes the system of main and auxiliary compulsory insur-

ance, the second includes occupational supplementary systems and the third includes private insurance coverage. In particular, the Greek social security system is a system of public law which operates with self-administrating social security organisations, set up by law for each occupational category of workers covering the total of workers in the Greek state. Social security organisations provide social security services, social work based on the solidarity between generations and do not have any lucrative purpose (M.S.S., 1981). The basic attributes of the national system of main and auxiliary pension schemes is the public, universal, compulsory and re-distributive character, while the economic system of its operation is pay-as-you-go. In Greece main insurance derives from the main insurance organisations which are public entities and governed by public law. Within the scope of their activity is to cover employees for insurance risks of ageing, disability, death, sickness and maternity, work accidents, occupational sickness etc. The auxiliary cover of employees is provided by a number of auxiliary insurance organisations, mainly public entities and to smaller extent private entities, supporting unions, which are private social security organisations for auxiliary insurance established by the employees' trade unions. The kind of protection offered by auxiliary insurance organisations is the awarding of pensions in case of ageing, disability and death (OECD, 1996). Employees are obliged to fall under one of the social security organisations of main and auxiliary insurance. Public insurance policy planning is undertaken by the central administration and more precisely by the Ministry of Employment and Social Protection, which coordinates and monitors the social security system (E.C., 2004). The organisations of main and auxiliary insurance are governed by a collective body, namely the Administrative Board, in which participate the representatives of pensioners and of the insured, employers' representatives, State representatives-an expert in insurance matters-, an elected employees' representative for each organisation and the Government Commissioner. The administration of each organisation is defined by general and individual provisions in their Articles of Association. The organisations are independent from an accounting and economic point of view.

2. The Greek system of social insurance

In our days Greece faces a lot of problems. This opinion is acceptable not only from the wide public, but also from the state and official financial organizations (Bank of Greece, 2009). It is apparent that the social security system of Greece is found in its limits and the basic factor of the increase of budgetary deficit. This contributes in the increase of social insecurity and the current situation mortgages the future of each worker and undermines every effort for

competitiveness, growth and social cohesion (Nektarios, 1996). The reasons of the problem or in other words the crisis that it faces for many years the Greek pension system are many

- The abundance of public insurance funds, with a lot of problems in their operation;
- The increased administrative and functional expenses;
- The insufficient control and monitoring from the State;
- The taxation avoidance in Greece, that is ten times greater of the European average;
- The flexible forms of employment that deprive from the system valuable resources;
- The demographic shift;

Thus it must be created a rational, socially fair and viable system of social insurance that will support in real terms the substance of its public, global, obligatory and redistributive character. The needs of social insurance should be faced as a whole and as a fundamental developing issue. According to many researches, the current cost of pensions constitutes the 12,5% of GNP, while in 30 years it is calculated to upon the 24%. It needs an immediate action that requires apart from dialogue, knowledge, effective flexibility, social sensitivity and long-term planning.

3. e-government

E-government is the use of information and communication technologies, and particularly the internet, as a tool to achieve better government (Hahamis *et. al*., 2005). As we can assume electronic Government is the benefit of standardized services of information or even transactions, using electronic means, mainly the Internet and it's that this provides (Giannakopoulos and Manolitzas, 2009). Substantially e-government concerns transactions that are related with the relations of Public Administration (OECD, 2003): (a) with citizens (Government to Citizens-G2C) providing services that are related with submission of tax of income, publication of certificates etc, (b) with businesses (Government to Businesses-G2B) providing services that are related with the submission of tax, contributions of social insurance, submission of statistical data etc and finally (c) with public services in the particular type of transaction (Government to Governement-G2G) the possibilities provided via the completed interconnection and the interdepartmental collaborations for communication between the public services. An additional category is government-to-employ-

ee, which is used to describe the connection that can be established between people within the government through the use of computers and the internet (Blakemore and Dutton, 2003; ESCWA, 2003), which is also referred to by Evans and Yen (2006) as intra-government (Nagi & Hamdan, 2009).

4. Scope of the study

The use of the Internet as a tool for commerce is expanding rapidly (West, 2005). It is known, that in the majority of cases the conduct of experimental controls of the quality is rendered almost impossible (Cox & Dale, 2002). The experimental methods require an important amount of resources which typically is not supported by most organizations. Specifically the experimental methods take place in specific equipped laboratories of manageability and require the participation of real users. Regarding the analytic methods, there exist a big degree of subjectivity in the translation of criteria and the way that these are used during the evaluation. The measurement process of quality should be structured and organized (Pollalis, 2000; Pollalis, 2003). This means that it should be determined precisely the way of interaction of people who conduct the survey with the application during the measurement of various criteria. The approach that is followed in this paper, at the problem of determining the process of evaluation of quality is the use of a model checklist that contains and determines the way of measurement of metrics, which recommend the criteria of quality. Substantially each factor-metric is analyzed in one or more questions that constitute a part of checklist and the answer of these corresponds in the degree of satisfaction of each criterion of quality (Anshu, 2003). The checklist contains ready recorded questions that are given in the user-asked and he/she records his/her answer or checks a degree of subjective satisfaction for certain parameter of the system (West, 2004). The checklist differs from the interviews at the fact that is less flexible, since the questions are recorded and they cannot change case by case. Also it differs from the surveys at the fact that they constitute recorded lists of questions and not random interviews and therefore require more effort from the side of the user in terms of the completion of the checklist. In the next paragraph follows the presentation of the checklist structure (Garvin, 2002; Vozikis, 2004).

5. Evaluation methodology

5.1 Evaluation criteria and the model checklist formation

The model checklist (Appendix) is composed from 71 questions grouped in

8 major categories (Pollalis & Vozikis, 2007). These categories are the following: *Visitors' services, Insured people services, Employer's services, Declarations-Competitions, E-services to the insured people, E-services for the employers, Usability, Transactions '- Content's safety*. The method that we follow for the evaluation of public insurance funds web sites to answer a binary type question in the type of "Yes" or "No".

5.2 Sample selection

The selection of the sample was based on the public insurance funds that are presented at the GGKA (General Secretariat of Social Insurance). From the 155 insurance funds on the members list, only 22 had a valid link to their website..

5.3 Web sites evaluation

5.3.1 Scoring the websites

To evaluate the funds' Web sites, we structured a model checklist in a manner so as to assess every single criterion, given the score 0 or 1 depending on its presence or not on the website. We consider this process was important because some of the criteria were not relevant. The evaluation was conducted by visiting the funds' website. At the end of each category (i.e. Range of Products, Functionality, Customer Services. etc), the score for that category was summarized. The row next to these scores shows the score divided by the number of criteria in this category and the maximum score that an organisation can take in each category is the 1,00. The total score for all eight categories was calculated at the left top of the checklist sheet (with the rank of every category in the next column). The proximity of the scores to 1,00 in each category or totally reflects the performance of website in that category or as a whole. This means that the maximum score that can take a social insurance institution is the 8,00 (because the checklist has 8 categories).

5.3.2 Ranking the websites

Finally we construct an Overall Evaluation Table where the summarized scores for every category and every fund are presented. In that way we had the ability to rank the public insurance funds' websites separate for every category and totally.

6. Results

6.1 Rank by evaluation of Visitors' services

As we can see the IKA-ETAM is by far the best fund concerning the specif-

ic category and the next three funds that follow are approximately at the same level. The worst funds in this category are the TEAYEK, TAMEIO NOMIKON and TAPE. The average of the marks that all the funds have taken in this category is 0,41. That means that the IKA-ETAM's mark which is 0,66 is by far better from the average mark of the other public funds. That means that there is a better informing for the visitors of this web site and that the services provided to the visitors are sufficient and of a high quality. One last thing is that only 10 funds have a mark of 0,50 or above. As we can easily conclude, the majority of the public funds fall short significantly in this category.

6.2 Rank by evaluation of insured peoples' services

The leading public insurance funds in this category are the IKA-ETAM and the TSMEDE. As we can observe, these funds have a mark (1,00) which is the best mark they can take. This means that the services provided to the insured people of these funds are excellent and that the volume of information concerning the services is very satisfactory. The next 4 funds that follow in this category and have a mark of 0,80 are the TAP-OTE, the OAEE, the TANPY and the OGA. These institutions are in a very good level of provided services and need only a little improvement in order to offer excellent services. The worst institutions of this category are 6 and have a marks of only 0,2. We must point that from the total of 22 institutions only 5 have a mark of 0,80 and above, which means that in this category a lot of changes must be done in the majority of the funds in order to improve their services to the insured people.

6.3 Rank by evaluation of employers' services

Concerning the employers' service, only 6 out of 22 social funds offer services to the employers and only the IKA-ETAM offers all the services that could be available from such an organization. IKA-ETAM offers high quality services and the employers are fully informed for the services provided to them. The other 5 funds that offer limited services are the TEAYEK, the TSEAPGSO, the TPEDE, the TEAYFE and the TEAX. All other funds do not make available that kind of services via their web sites. We can easily point out, all the institutions except IKA-ETAM have to improve their web sites in order to include services that could be available to the employers.

6.4 Rank by evaluation of declarations-competitions

The only web site that offers full information about personnel hiring and service competitions, e-procurements and forms available for downloading, is the IKA-ETAM, followed by the TSMEDE and the TAISYT, which are in a

very good level of information about declarations-competitions. A very important fact is that only 10 funds out of 22 have sufficient or limited information. The other 12 institutions have no information at all. That means that the majority of the funds have to make radical changes at their web sites in order to include sufficient information about declarations-competitions. The average of the marks of all the funds in this category is 0,25. That means that the IKA-ETAM is 4 times above the average, by far the best fund in this category. It is also remarkable that only 8 funds are above this average.

6.5 Rank by evaluation of e-services to the insured

There is no institution that offers the maximum of the e-services that a public insurance fund can offer. The leading 2 funds are the IKA-ETAM and the TSMEDE, having the mark of 0,57, by far under the excellent mark of 1,00. We can note that in this category 4 funds do not offer any e-services at all. These funds are the OAP-DEI, the TEAPEYDAP, the TEADY and the TAPE. A general notice is that many changes need to be done at all the funds in order to improve their e-services and offer the ability to the insured people to accomplish their works easier, faster, and without any cost. A final remark is that the average mark of all the institutions is 0,28 which means that the overwhelming majority of the marks of the funds is equal or bigger that value and that 9 institutions have exactly the mark of the average.

6.6 Rank by evaluation of e-services to the employers

In this category we evaluate the ability to offer the employers services as to register to on-line services, to issue certificates, to change their personal data, to download forms, to receive insurance awareness, to pay charges etc. The on-line services are a very important part of a content of a web site because due to the technological changes it is imperative. There are only 4 funds that offer e-services to the employers and only IKA-ETAM offers e-services to accomplish employers' needs easier and faster. Other 3 funds offer a very low quality of e-services which means that is it very difficult for the employers to access information and services via internet. These funds are the TPEDE, the TEAYFE and the TEAX. All other funds offer none e-services for their employers.

6.7 Rank by evaluation of usability

The IKA-ETAM fund leads in one more category. It shows excellent usability as its web site is well-designed, with the right colour combination, consistency at screen designing, a comprehensible content and a fast web server. The visitors experience a very good sense when they "surf" on this web site. The TPDY

and the TEAX funds also position at a good level. The worst funds in this category are the TANPY, the ETEH and the TEADY. The average mark of all the funds in this category is 0,50. This means that the majority of the funds (14), have a mark of equal to 0,50 or above and that 7 institutions have exactly the mark of 0,50.

6.8 Rank by evaluation of transactions'-content's safety

In this final category we examine if a web site uses a certificate that guarantees the content's or/and the transactions' safety. We also examine the information quality about the bank account debit and the success of the transaction. The only public insurance fund that guarantees content's and safety transactions and offers a SSL certificate, are the IKA-ETAM, OAEE and TSMEDE. All the other funds which take the mark of 0,20, simply it is not necessary at these web sites the installation of certificate X.509 but they do not have certifications for the content's-transactions' safety. The mark of the average is 0,24, so only 3 funds are above this average.

As we can easily notice from the table 1, that presents the general sorting of the funds and their marks in the eight major categories, the best institution by far, with a mark of 6,44, is the IKA-ETAM, approximately 2 times better from the second fund, the TMEDE. As we step down we note that the TAPOTE, the OAEE, and the TAISYT are almost at the same level (from 3,14-2,99) with minor differences between them. The next thing that is notable is that is observed a large concentration of fund around the mark of 2. The worst funds are the TAMEIO NOMIKON, the TEAPEYDAP, the TEADY and the TAPE. The average of total has a mark of 2,36 and only 9 funds are above this average. The other 13 funds are under this average. We can also notice that the leading fund IKA-ETAM has a mark that is 2,5 times approximately over the average value.

7. Conclusions

Analysing the results above, we can focus on the basic problems and sectors that major changes are necessary so as public insurance funds to improve their presence in the web. Their web sites therefore should be up-to-date, to keep pace with the continuously changes in the technology and give the possibility to their users-citizens to make an advantage at their profit. Especially, e-services are a necessary part in e-insurance web sites because they give the ability to deal with necessary simple processes (provision of certifications, modification of personal data, submission of applications, payment of contributions, down-

loading of forms etc) easily, fast and without any cost. This necessity is referred to the importance of e-services to the insured but mainly in the provision of e-services to the employers, because this particular category is very limited to non-existent. Developments should be done also in the category of safety of transactions-content, especially to the purchase function and the certificate of safety provision (S.S.L. certificates). Another issue of development is the provision of sufficient volume of information to employers mainly, but also to enrich the information concerning the declarations-competitions that in most web sites is almost non-existent. Improvements need also to be done in the information to the insured. As a conclusion, e-government in Greece in the sector of e-insurance is far from meeting the demand of relative services from the citizens and enterprises. Major interventions should be made, so as to provide a sufficient level of services and to satisfy the citizens' expectations of e-government, in a highly demanding and problematic sector as public insurance.

TABLE 1

Rank by overall evaluation

	Public Insurance Fund	Visitors' Service	Insured people's Service	Employers' Service	Declarations-Competitions	E-services to the Insured	E-services to the employers	Usability	Transactions'-Content's Safety	Total	Overall Sorting
1	IKA-ETAM	0,66	1,00	1,00	1,00	0,57	0,83	0,78	0,60	**6,44**	**1**
2	TSMEDE	0,61	1,00	0	0,80	0,57	0	0,43	0,40	**3,81**	**2**
3	TAP-OTE	0,61	0,80	0	0,60	0,43	0	0,50	0,20	**3,14**	**3**
4	OAEE	0,44	0,80	0	0,60	0,28	0	0,50	0,40	**3,02**	**4**
5	TAISYT	0,61	0,60	0	0,80	0,28	0	0,50	0,20	**2,99**	**5**
6	TANPY	0,44	0,80	0	0,60	0,43	0	0,36	0,20	**2,83**	**6**
7	TPDY	0,39	0,60	0	0,40	0,43	0	0,64	0,20	**2,66**	**7**
8	OGA	0,50	0,80	0	0,40	0,14	0	0,57	0,20	**2,61**	**8**
9	TEAX	0,33	0,40	0,40	0	0,28	0,16	0,64	0,20	**2,41**	**9**
10	TEAYFE	0,33	0,40	0,40	0	0,28	0,25	0,43	0,20	**2,29**	**10**
11	TPEDE	0,39	0,60	0,20	0	0,14	0,083	0,57	0,20	**2,183**	**11**
12	TSPHSAP	0,55	0,40	0	0	0,28	0	0,57	0,20	**2,00**	**12**
13	ETEH	0,50	0,40	0	0	0,43	0	0,36	0,20	**1,89**	**13**
14	OAP-DEI	0,50	0,40	0	0,20	0	0	0,57	0,20	**1,87**	**14**
15	TSEAPGSO	0,28	0,20	0,40	0	0,28	0	0,50	0,20	**1,86**	**15**
16	TAS	0,39	0,40	0	0	0,43	0	0,43	0,20	**1,85**	**16**
17	TEAYEK	0,22	0,20	0,20	0,20	0,28	0	0,50	0,20	**1,80**	**17**
18	TEAPOKA	0,28	0,20	0	0	0,28	0	0,50	0,20	**1,46**	**18**
19	TAMEIO NOMIKON	0,22	0,20	0	0	0,28	0	0,43	0,20	**1,33**	**19**
20	TEAPEYDAP	0,39	0,20	0	0	0	0	0,50	0,20	**1,29**	**20**
21	TEADY	0,28	0,40	0	0	0	0	0,36	0,20	**1,24**	**21**
22	TAPE	0,22	0,20	0	0	0	0	0,43	0,20	**1,05**	**22**

APPENDIX

Visitors' Services
Available 24/7
Support/Ability to choose a foreign language
Information about the institution/History-Executive Synthesis-Short Description
Announcements-Press Reports
List of the insurance services
List of the hospitals-doctors-pharmacies etc.
List of the civil services and other emergency phone numbers
Communication phone numbers
E-mail
FAQ
Search machine in the site/internet
Links to Websites with similar content
Consumer's legislation and transactions' safety
Opinion questionnaire about the site
Calculator and money converter
Record of policy security and data protection
Policies against SPAM
Date of the last renewal
Insured people's Services
Announcements-Deadlines
Insurance Legislation-Circular
Insured Guide
Forms

continues

Fill-in advice
Employers' services
Announcements-Deadlines
Insurance Legislation-Circular
Employer's Guide
Forms
Fill-in advice
Declarations-Competitions
Declaration of stuff competition
Declaration of service competition
Other declarations
Declarations' and forms' downloading
E-procurement
E-services to the Insured people
On-line data changing
On-line data prompt
On-line certification issuance
On-line pension calculation
On-line help
Forms' downloading
Help step to step
E-services to the employers
On-line registration to the e-services
On-line data changing
On-line data prompt
On-line certification issuance

continues

Sending of access password to an e-address
On-line prompt of periodical references
On-line reception of insurance awareness
On-line charge payment
5 or less steps for the completion of the procedure
On-line help
Forms' downloading
Help step to step
Usability
Web Server speed
Suggested Screen Analysis
Graphics Simpleness
Absence or least presence of animation
No obligatory installation of plug-ins (flash,shockwave)
Texts and graphics without frames
Minimization of the screen rolling
Consistency at the screen designing (colour,links etc.)
System demands
Toolbars
Tour guide of the web site
Contents with minimized links
Colour combination
Comprehensible content
Transactions'-Content's Safety
Bank account debit
Safe transactions SSL 128 bits
Safe transactions SSL 40 bits
Without obligatory installment of X.509 Certificate
On-line confirmation

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