Development of and ICT Benchmarking Index for the Public Sector By Jose Luis Liranzo.

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Abstract

Dominican Republic Public Sector have been involved since 2004 in the implementation of a knowledge and information society with emphasis in e-Government. The country needed a tool to measure the advancement in said implementation. This paper describes the tool designed to systematically measure the efforts that have been and are being taken by Dominican Republic's public institutions in order to deploy ICT and implement e-Government citizen services. The solution was proposed with the prediction or thesis that the implementation of this type of index accompanied by a "ranking" list of the institutions involved, result not only in the plain measurement of use of ICT's but also in the achievement of the additional objectives of promotion and development of ICT in the public sector as well as prioritization and competition among institutions as a direct or indirect consequence of the implementation of such tool.

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Introduction

According to the study "Development of an Information Society in the Dominican Republic - Challenges & Limitations" (Liranzo, 2014), the implementation of e-government services has been more difficult due to duplication of efforts and the little coordination of implementation of ICT projects. Addressing this deficiency in the effort, OPTIC (ICT and strategic regulatory entity) has designed an index and ranking of public institutions to measure the progress of implementation of ICT and e-Government. The many initiatives introduced by the Government of the Dominican Republic to improve the processes of Government through the use of ICT (e.g., the publication of information on web sites or portals to support transparency and accountability), served as direct sources used by the research team to enrich and add value to the final analysis of the governmental institutions included in this list or "ranking". It also lists the additional objectives of promotion and development of ICT's in the public sector as a direct or indirect result of the implementation of a competitive index.

1. Approach/Methodology

The research team compiled its body of data from different sources: Given that OPTIC had a body of information obtained by different recent research drives and the data collected was stored in a hierarchical fashion and divided into sectors and that additional data had identified a lack of coordination of implementation of ICT's and e-Gob in public institutions of the Dominican Government; It was decided to

take advantage of these realities and create a tool to measure such progress, in addition to promoting its publication and general knowledge to use it as an incentive to institutions that are lagging behind in the implementation of these topics and to advance their agendas and thus achieve a more accelerated progress of implementation of ICT and E-Gob.

Data was collected from diverse sources: the study "Survey of the development of government electronic in the Dominican Republic", through face-to-face interviews in the institutions of government, evaluation of Government portals and payroll published in sections of transparency of the institutions. A total of 60 institutions have been included in this index which employees represent 53.50% of Dominican Republic's government workforce. The 2013 rate is based on 2 strategic areas or pillars which are: ICT infrastructure and implementation of the electronic government. These axes in turn are divided into 6 sub-pillars are: Hardware, Software, human resources, development of services citizens and transparency, Web presence and standards and best practices. The questionnaire had 102 questions and was filled up by trained personnel visiting those institutions. All other data was obtained from government websites and their transparency pages. Data from the Dominican Institute of Telecommunications (INDOTEL) about computer and mobile phone use is also included in this paper.

One of the results of this tool will be a "ranking" national implementation of ICT and e-Government based on 100 points.

2. Indicators and KPIs

Each institutional evaluation included in this index contains a series of indicators whose individual values were obtained according to section 2 of this document "approach/methodology". The assessment determines the fraction on the basis of 100 points which each value that earned the institution contributes to the total points of the same. The definition of each indicator and its weight in points is defined below. The total number of points to get the sum of the values of the indicators is 100. The proportion obtained then places the institution within a list or "ranking" of institutions. Highest score better positioning of the institution in the ranking.

2.1 Pillars

Reflecting the vision for the use of ICTs in the Dominican Republic, is the following: To achieve the FINAL GOAL of a Knowledge and Information Society (SIC) by implementing these vital phases: State Reform (using process re-engineering and ICTs), Electronic Government (by offering Citizen Services, ICT development), Open Government (with OAI, Transparency, Open Data).

2.1.1 ICT infrastructure (40 points)

ICT infrastructure consists of hardware or hardware, software and operating systems and staff that handles both. This section evaluates the level of advancement in this pillar.
Hardware (18 points)

Datacenter: Evaluates the center of data processing and equipment, control and implementation of the same. Connectivity: It evaluates the ability that has the institution of both internal and external connections.

Continuity: Evaluates aspects such as prevention measures and implemented disaster recovery plans that institutional services continue to function, or re-established in the shortest possible time in case of disaster or unforeseen.

Software (10 points)

Free software: It evaluates the use of open source databases and operating systems. Interoperability/interconnection: Evaluates the institutional ability to establish connections at the level of network or application with other public institutions. Security: Evaluates the security measures taken to protect the equipment at the level of software.

Human resources (12 points)

Training: Evaluates which have invested resources for the training of personnel.

Gender gap: Evaluates recruitment and career growth opportunities are available for women in the same as they are for men.

ICT security: Evaluates the compliance of policies and security procedures implemented in the institution. Environment and ICT:

It assesses the implementation of environmental policies such as reducing the use of paper, the digitization of documents and the treatment of technological waste.

2.1.2 Implementation of e-Government (60 points)

This section measures the progress of the availability of the services offered by governmental institutions to citizens, businesses, employees and other government institutions.

Standards and best practices: (18 points)

Evaluates the monitoring and compliance of the institution to the rules and guidelines established by the regulators in the field of e-Government at national level, as well as the implementation of best practices and international standards in the day-to-day management of the operations of the institution.

Web presence: (2 points)

Evaluates the presence of the institution in the network and the fulfillment of its portal with the norms established by the regulatory body in the ICT field.

Citizen services and transparency (40 points)
It assesses the development of institutional services offered by the web which can be informative, interactive, and transactional, as well as the implementation of the section of transparency based on the standards set by the regulatory body in the ICT field.

2.2 Index Calculation

One of the results of this tool will be a "ranking" national implementation of ICT and e-Government based on 100 points.

3. Preliminary results/Figures

The detailed analysis of the collected data produced the following results: The first period of application of the index and creating the list of ranking of implementation of ICT and e-GOB made in Dec 2013, included 60 institutions of the central Government. The average iTICge [1] of all the evaluated institutions is 52.47 points, value can be taken as the national rate of Rep. Dominican implementation of technologies of information and communication, and e-Government. The percentage of completion of the pillars is the following: ICT infrastructure: 65.85%; Implementation of E-Government: 43.55%. The percentages of advance of measured sub-pillars them are as follows: Hardware: 72.23%; Software: 55.64%; Human resources: 64.76%; Standards and best practices: 22.13%; Web presence: 69.15%; Citizen Services and transparency: 51.90%.

4. Post publication results

The index was published in 13 March 2014 and its publication created the following response from the institutions involved: 13 institutions called for clarification of the methodology, and some of them requested meetings to be explained the rationale behind the tool and the ranking. Most of them requested assistance to improve their use of ICTs to get a better position on the next publication of the index.

Conclusion

The use of technologies to improve productivity has become a ruler to measure the competitiveness of an institution and lately of a country. In this sense the Rep. Dominican presents an index of 52.47 points out of 100 possible to measure the progress of ICT maturity. Then, areas for improvements in the use of technology are several and important. This index aims to become a tool that fosters competition by improving this conclusion. It denotes a deficiency in the use of standards and best practices in technology. 30% of the interviewed institutions has only implemented good practice and a 53% has not implemented any. This means that 84% of interviewed 60 institutions not used widely good practices and good use of technology standards. Another area that presents deficiency is the implementation of transactional services on the websites of public institutions.

84.1% of the institutions interviewed showed a 40% or less development of their services in transactional form. However in terms of implementation of technological security measures, with relation to desktop security, the country is in an excellent position. 89% of the institutions interviewed implemented at least 99% of the measured indicators to determine good desktop security. In terms of good governance, we can highlight that the transparency sections of the institutions interviewed have implemented it in an appropriate manner. 82% of institutions implements 100% of the measured indicators for transparency in their portal. Finally, highlight the reality that 89% of the institutions has a data center in different levels of implementation and use.

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About the author

Jose Luis Liranzo is a Caribbean and Latin America expert on Information and Telecommunication Technologies ICT's, Information Standards and Best Practices, Strategic Policies, Market Research, Trade Development, Trade Information and Training.

Worked in various managerial positions in national and regional organizations as well as multinational corporations. Good command of all aspects of management: Accounting, Budgeting, forecasting, HR management, Project Management, standardization, staff supervision, elaboration of strategic policies, design of organizational procedures and performance evaluation.

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Notes

[1] Spanish acronym for ICT and E-Government Index

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