Use of Intelligent Business, a Method for Complete Fulfillment of E-government

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ABSTRACT

In this paper, the concepts and missions of the electronic government (e-government) have been taken into consideration, and there has been a look at the current status and the desired status of these concepts. Use of tools such as service offering portals to people, public communication portals, and other services used by e-government show that the only current use of IT is in the input and output systems but the brain of this system which has the capability to control, supervise, plan and lead remains intact. In this paper, the use of business intelligence as a new and emerging idea of electronic government system engineering in fulfillment of e-government goals has been paid attention to. Utilization of business intelligence tools and techniques in inter and intra organizational levels in order to back up the inter-governmental processes in line with non- business purposes such as social equity establishment, criterion control and increase in leading ability of the society as methods of fulfilling electronic government have been brought up.

Keywords

Business intelligence, E-government, IT management, E-government processes, Iran code.

1. INTRODUCTION

After emerging a concept entitled as electronic government (e-government), a lot of efforts have been made in order to develop and expand this concept and to make use of IT potential. According to Bekertz, IT services in government which are referred to as e-government can be summarized as follows: public informatics services (information services), discussion halls

and virtual associations(subscription services), electronic entrance, renewal of permissions, tax payment (transaction services), public reports and communications (communication services), transferring data among people, government and its representatives and private sector (data transference services) [1].

As it can be understood from the above mentioned items, the government uses IT tools in order to establish a direct and fast way of communication between organizations and public information centers with people, private sectors and suppliers. There are plenty of definitions for electronic government, but a mostly agreed upon definition of e-government by many opinion holders, is: *"electronic government is the selection, implementation, and use of information and communication technologies in government to provide public services, improve managerial effectiveness, and promote democratic values and mechanisms as well as the development of a legal and regulatory framework that facilitates information-intensive initiatives and foster the knowledge society"* [2].

It seems that the interactions between the government and the environment have been deemed more important than other aspects in a way that the scholars haven't taken into account investigating and researching about other IT potential in the government structure, while the government have many more responsibilities to do such as planning, policy making, supervising and controlling other than the aforementioned items [3].The usage of IT in the correct and on time performance of the above tasks should be regarded. In this paper this aspect of IT in the complete fulfillment of the e-government is brought up.

This paper has been organized as follows: In section 2, related works are presented, in section 3 E-government as an open system is clarified; section 4 deals with BI definition, section 5 shows unnoticed aspects of the BI, section 6 talks about the needed requirements of the BI, in section 7 a case study is presented, section 8 offers the results and section 9 is the conclusions.

2. RELATED WORKS

The importance of e-government practices cannot be overstated, as it focuses the direction of government technology funding for future years [4]. To that end, the goals the President of the United States has set forth for e-government are to increase the ease of access for citizens; to increase efficiency/effectiveness of government; and to increase government responsiveness to citizens [5].

Mahdi Bahrami et al state: *"Nowadays, business organization needs to analyze market so that be able to stay stable in facing market variant changes and eventually to be able to handle market management. For this*

purpose, organization should update their business processes by utilizing modern technologies which this is called BI' [6]. In today's highly competitive and increasingly uncertain world, the quality and timeliness of an organization's BI can mean not only the difference between profit and loss, but also even the difference between survival and bankruptcy [6].

Different levels of functionality and technical aspects of electronic government systems and applications are represented by the characteristics of electronic government. These characteristics provide a way of measuring the success of initiatives in terms of how they meet technical requirements such as usability, quality of information, privacy, or security. Furthermore, they reflect the level of sophistication of these systems, differentiating, for example, between applications that only provide information and those that serve to carry out application processes or government services associated with health, education, and other important policy areas [7]. Among the main electronic government results identified in the literature are the following: improvements in the quality of public services [8], efficiency and productivity in processes and government operations [9], more effective programs and policies [10], transparency and accountability [2,11], citizen participation [12], a regulatory framework that supports electronic government [13], a legal and regulatory framework that encourages the information society [2,14], and transformation of government structures [15].

3. E-GOVERNMENT AS AN OPEN SYSTEM

If we consider e-government as a dynamic and updated open system which is interacting with its environment permanently, the process of this system can be divided into three main parts: "figure-1".In this part, the current status of the e-government has been investigated and then it has been compared to the desired status.

3.1 The Internal Process of E-government

As it was mentioned, processes such as policy making, planning, controlling, and supervising the country affairs are up to the government. Performing these affaires is among the main responsibilities of the government. The government should provide a permanent interaction with society. The government should consider the conditions and contingencies of the time.

3.2 IT Supporting Tools of E-government Internal Processes

With due consideration to the nature of these processes it can be understood that these processes are in the cluster of organization high levels, and mostly related to managerial and decision making. Regarding the huge amount of

the offered tools in IT field, the decision support and expert systems can be deemed and pointed out in this field.

Having access to accurate and correct information from all of the engaged parties of the society is the prerequisite for providing strategic management, long term policy makings, and macro planning's and etc. This information should be entered via interacting input and output portals of the e-government. After collecting data it should be processed, this is exactly what this paper talks about. The cycle of data accumulation in the environment has been illustrated in Figure 2.

Data accumulation from all around is the key factor in establishing an efficient and successful e-government. Therefore, it is still of paramount importance to improve and expand the input and output process. But how data is accumulated and how it is integrated mostly depend on the outlook and goal of the system. If we have a long term plan for the internal process of the system we should definitely have a long term outlook at data integration category. At last, thoughtful brain of the e-government system will encounter with huge amount of data which cannot be dealt with and processed by human's brain and it might not make the right decision.

4. BUSINESS INTELLIGENCE (BI)

The definition of the authors from this concept is different. Using a broad definition:"*Business Intelligence is a set of methodologies, processes, architectures, and technologies that transform raw data into meaningful and useful information used to enable more effective strategic, tactical, and operational insights and decision-making*" [3]. The authors believe that intelligence in business includes characteristics such as ability of collecting, processing and accumulating of the information that all levels of people of the organization could access to them according to their own requirements and help to shape it in future and protect them against competitive treats. In order to define briefly and clear of the business intelligence we can say that business intelligence is collecting information about competitors and the environment to create and sustain competitive advantage [16].

In fact, intelligence in business is a systematic process to be ensured of the updated, exact and related information of the competitors. An intelligent system refers to a set of programs and origins that is used by managers in order to access to the daily information marketing environment. BI is a set of concepts, methods, and processes to improve business decisions, which use information from multiple sources and apply experience and assumptions to develop an accurate understanding of business dynamics. It integrates the analysis of data with decision support system to provide information to people throughout the organization in order to improve

strategic and tactical decisions. BI is considered as a strategic management tool and one of the fastest growing areas of the world of business as shown in Figure 3 [17].

5. NON- BUSINESS USE OF BI

Business intelligence is a set of applied software's, technologies and processes which are used for accumulating, arranging, accessing and analyzing data in order to make the right decision [18].

The above mentioned definition shows that BI as the suggested tool in this paper has been used for IT supporting role in the internal process of e-government system. As it is apparent from the "business intelligence" term, first it was used to help managers to make the right decisions and to get competitive advantages in today's turbulent market and it attempted to explore the hidden aspect of the data in the organization transactions as well as the data in the competitive environment of the organization by means of data mining techniques and in some cases to distinguish condition altering patterns and effective variables in a model as well [19].

While in this paper another usage of the BI has been considered and it is far beyond the business borders and it is seeking the non-business use of the BI. For example, utilization of business intelligence in predicting and analyzing the cultural situation of the society such as crime and violence criteria, marriage and divorce or scientific situation such as the rate of knowledge growth in the country or quality and quantity of the university students growth in technical fields or market control growth such as investigating the required rate of the export and import, people's complaints and dissatisfaction from different guilds and etc. The aforementioned can just be considered as a small part of the non-business usage of the business intelligence in complete realization of the e- government. But for the time being, this dimension is a sort of far goal to reach since fulfillment of this goal is in need of a highly developed infrastructure.

If the utilization idea of business intelligence to support the internal process of the e-government to be accepted by experts, some giant steps with a long term approach to pave the path for this idea should be taken.

6. INFRASTRUCTURE OF BI

For implementation of the BI, the governments all around the world take different kinds of strategic measures which are out of this papers depth. Inter-organizational BI is in need of complete integration of the information among different organizations [20]. For example if two organizations are willing to have an effective management system in order to make a better use of supply chain advantages they should integrate their data, in other words, in both of these organizations, if such a system to be created and

implemented all the required information in both management systems can be made use of and the best decisions can be made. As a result, e-government cannot make use of these beneficial tools without integrating the required information organizations management systems. So, it seems that one of the requirements of an auspicious infrastructure for e-government is having a similar management information system, standard and coding. In the last part of this paper Iran code has been studied as one of the coding systems.

## 7. IRAN CODE SYSTEM AS A CASE STUDY

Iran code or national system of the goods and services classification is a system which codifies the goods and services information. It provides the supply chain existence identity and it simplifies the information flow in the chain. This system tries to create a common language between suppliers and customers and in general all those involved in goods and services chain nationally.

It is aimed at developing a common language at national supply chain of the goods and services; creating information backgrounds for companies and the products nationally; simplifying different processes of supply chain; creating a background to develop and simplify inter organizational processes; creating backgrounds to develop modern methods of trading [21].

The main purpose of this paper is to investigate about the advantages of using Iran code expansion as well as development of the e-government. If the government tries to generalize this integration and generalization to all parts of the concerned information system, it will be a giant step in providing the necessary backgrounds for utilization of the BI.

8. RESULTS

There is no doubt that information technologies have great potential to improve government all around the world. However, it is necessary to explore and execute all of its hidden aspects and make this technology as efficient as possible. Achieving to the advantages of business intelligence from non-business point of view in supporting the internal process of the e-government as the key factor for its complete fulfillment, requires a long term outlook along with strategic planning for development of information system. Also the needed frameworks and infrastructures in order for its complete execution and fulfillment should be provided. It is suggested to those interested in this field of research to pay more attention to the new and emerging sciences, especially IT.
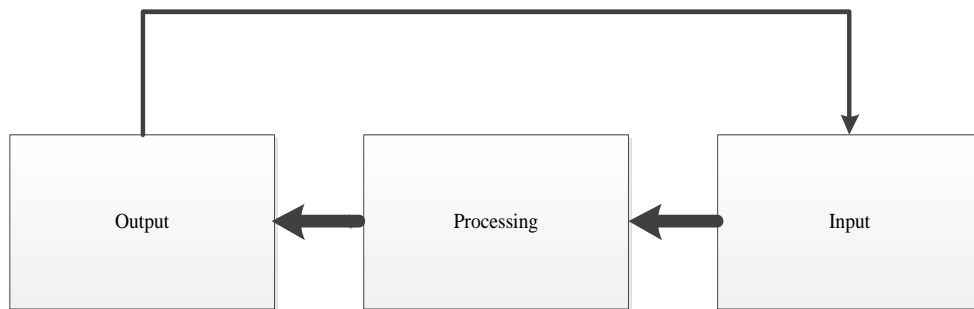
Figure 1: e-government as an open system

1- Input: gathering required information from different information databases such as citizens, companies, suppliers
2- System internal process: such as policy making, planning and controlling
3- Output: these are resulted from the second part of the process. It can be generalized to society in order to fulfill e-government.
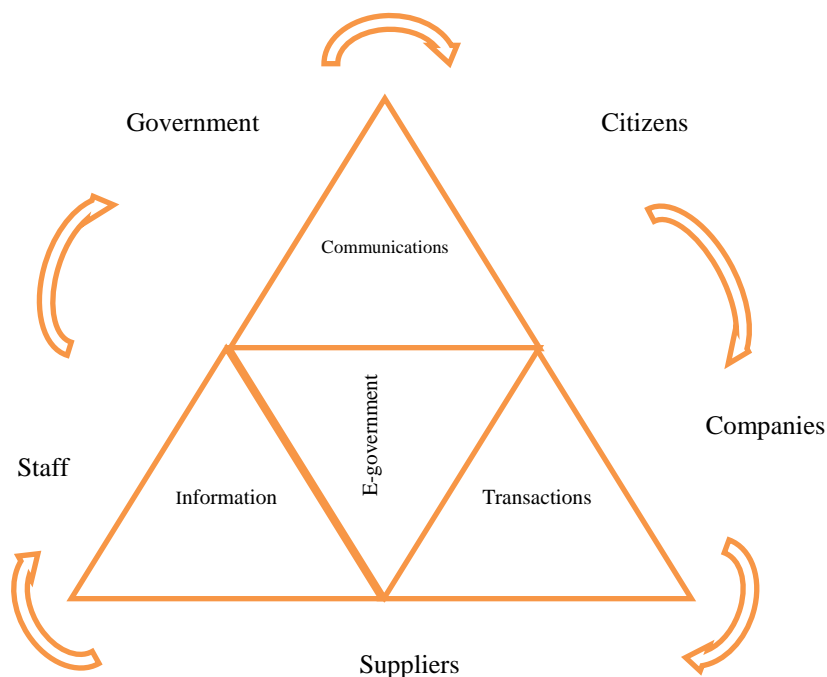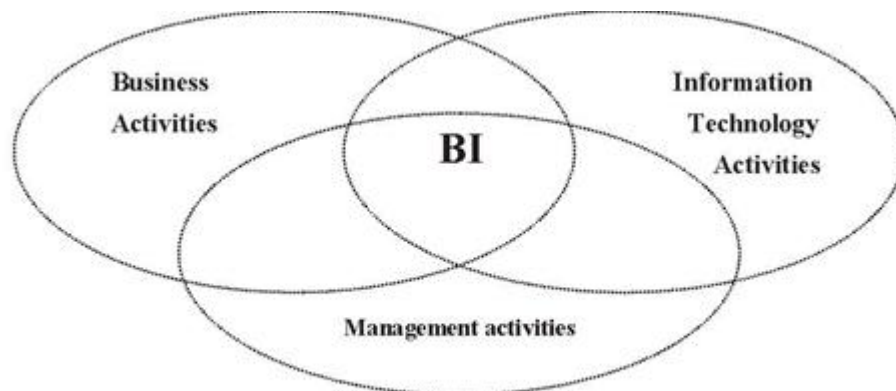

Figure 2: Accumulating information from inputs in order to make decision

Figure 3: Forming areas in business intelligence [17]

In Figure 3 different involved areas are shown. In order to have a complete form of BI these areas should be respected. As it is shown three main activities entitled as Business, Information Technology and Management activities. These three parts are the basic forming areas of BI and result in a new field which is known as BI. In order to define briefly and clear of the business intelligence we can say that business intelligence is collecting information about competitors and the environment to create and sustain competitive advantage [16].

9. CONCLUSIONS

In fact, intelligence in business is a systematic process to be ensured of the updated exact and related information of the competitors. An intelligent system refers to a set of programs and origins that is used by managers in order to access to the daily information marketing environment. It is clear that the full potential of information technologies hasn't been made use of. However, exploring the hidden aspects of these emerging technologies and making them efficient is of paramount importance. We put forward a practical framework to fulfill the complete execution of e-government. By providing the required backgrounds for e-government, not only its current status can be improved, but also there will be actual impacts on the welfare of citizens and government as well. In this paper, after a broad clarification of the e-government and non-business purposes of business intelligence the needed infrastructures for its complete execution have been presented.

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