eGovernment Transformation: Literature Review

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Abstract: eGovernment ends up one of the key components for the advancement of the nation. Previous studies on eGovernment indicate that most governments are performing well in eGovernment implementation. However, eGovernment make the services from the government more effective and efficient through the better ICT capabilities rather the conventional method. The use of ICT make the public access faster and the public can get better information through the digital platform via internet. Currently, there is a necessity to focus on eGovernment Transformation, Organization Transformation, Public e-service, Public value, Challenges and Obstacles that face government to transform. The findings showed that each organizational element, that consists of process, people, culture and structure can identified well through the technology that induced organizational transformation in public sector. The changes of attribute can be identified by comprehensive review from general literature review of organizational point of view, the literature in the field of organization and information systems, and eGovernment literature. The new idea is about the discussion of effect challenges and obstacles to eGovernment transformation.

Keywords: e Government transformation, Organization transformation, challenges, and obstacl**es**

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1 INTRODUCTION

eGovernment can be defined as the transformation of Government from the traditional way to digital way in achieves a better government through the business improvement processes and service delivery to the public, businesses and among agencies. The globalization era has affecting the public perspectives about the service from government and also the bureaucracy in it, ease of use of the ICT support has creating new standard from government bureaucracy [1]. Through the use of ICT, the public demands that government performance is fast, cheap, and process-oriented. Digitalizing services in the public sector has steadily increased in recent years, causing information technology (IT) expenditures to rise and IT infrastructures to become more complex [2]. In this review will discuss articles that related to the transformation of eGovernment, including in the era of digital and around the world because each government in each country has its own paradox and black box. Transformational aimed to make better service and changing in organizational through the better service delivery to the public or citizens, that facilitated by the use of information technology in creatig public value [3], also to increase governments' responsiveness and transparency [4][5]. Public sector organizations and their IT departments cannot succeed without fundamentally changing their operations. This transformation consists of e-citizen at all levels of government [6]. Through the implementation of digital government implementation in using the information technology to improve its operations in order to serve better to the public, in practice, sometimes it is realized that through the digitalization, it called public e-services[7].

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An e-citizen is digitally empowered, who can usher in the era of e-government transformation and make use as well as participate in the governance process in a much better way. However, no simple solution exists[8]. A more holistic approach is necessary to resolve the new challenges of the changing role of IT and IT departments[9]. Changing an organization's way of thinking is difficult, especially when the environment is becoming more unpredictable and the changes more rapid [10]. This makes it easier to put the focus on responding and reacting rather than planning, which can lead to costly investments and poor understanding of the overall situation of IT and IT infrastructure[11]. Different management approaches have consequently been suggested, one of which is EA[12] .The focus of this study is knowing the Public e-service, Public value, and technical, organizational, the social and financial obstacles that face government to transform. Attributes of four organizational elements at the interorganizational level as follows [6]: People: This is the new types of partnerships that create through the e-service of the government, including the public-private partnerships. This partnership allows to the management–information systems and the managers, also the IT professionals to participate in reaching the common solution. Another elements involved are the employees (as the knowledge exchange, organizational learning and qualification), the communication channels (among the organizations at all levels). Processes: The integration of vertical and horizontal among different organizations has been created the process of public services spread across different organizations. This make new tendency on 'one-stop-shop' concept. This also involve the information sharing, controlling process and management changes. The process must be supported by the inter-organizational information systems, complexity and the outsourcing. Organizational culture: The value also has been change becuase the inter-organizational cooperation and trust are increase also. The greater responsibility from organizational view, so the demand of better performance also be done. This can be the strong inter-dependence among the organizations participation and the complexity can be the more complex as ICTs increased. Organizational structure: In the structure of an organization, the inter-organizational level has particular characteristic and structures, including networking, complexity, and flexibility. [13] The network structure enables better communication inside and outside of organizations, as good as thus expected. The new rules,

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procedures, and the instructions (written and oral communication) at inter-organizational level is reach and the high standard of common procedures well maintained.

2. LITERATURE REVIEW

Public and private sector organizations have become dependent on IT. New, evolving IT solutions create opportunities to offer services and increase transparency, Organizations have become accustomed to frequent changes in IT and operational environments[2]. Both citizens and service providers are continually creating new needs and requests, and expectations for IT solutions are increasing. This puts constant pressure on IT departments to renew their systems and services [14]. The broadness of the operational context is expanded further by the different e-government initiatives. Those put pressure on public sector organizations to consider also other governmental organizations. This means increasing collaboration and enabling interoperability of systems and services [15]. A prerequisite for the initiatives to be successful is good comprehension and ability to manage the organization's own information systems and processes [16]. Advanced government is frequently worried about the digitalization of administrations and the improvement of public e-services[17], although the e-participation and open data have gained the trust from the public. Public e-services can be electronically mediated through the users (citizens and organization) that create the value through the e-service[7]. Public e-service has good development with a multitude of challenges, such as understanding the users' needs and expectations [5] [7]. The notion are refers to a change of public administrations to a networked and open form of government. The ggovernment's no longer can develop the solution for the waste and pollution, the public health problem and so on in their own[18], but the government must make good collaborate with another stakeholders that closely related [19]. The use of digital technologies in public e-services is very important to contribute the best solutions to overcome societal challenges[5]. Through the good implementation of e-public services, so the government can improve the performance of public administration [3]. So, the public organizations are expected to achieve better value in and coordinate their actions cross-cultural departmental boundaries [20]. Information technologies have potential things in transform the governments performance and the functions in the relation to the citizens, businesses, and other governments[21][22]. The process of ICT can make the government transformation started and refers to the use of electronic or digital government [20]. The development of personal computers in the 80s was significantly reduced the size and cost of processing data in public agencies. After that, in the year 90s, internet and computer networks brought new opportunities to public service [23]. Nowadays, the evolution of social media implementations and new tools can make better organizational and institutional transformations in egovernment [21][24]. Organizational transformation involves the information technologies and has been interesting phenomenon in the literature reviews in the last decades. Three main views dominate the research in the area are[25][23]: (1) technological determinism (that consider technology as the powerfull tools to transform and change social structures), (2) social determinism (the social

actors such as the citizen itself and IT consultant can be the determination of ICT development), and (3) a unified view (the combination between two approaches). The institutional approaches stated that the comprehensive framework can make government transformation through the digital implementations, considering not only technology, but also the context, forms of organization, and the institutional arrangements [26]. Institutions are the power of rules in this approaches because it can determine the human interaction and the application of ICT [22]. Contemporary institutional approaches concluded that interactions between social structures and the interactions among individual actors. The basic principles of this theory is that the actions of individuals and organizations [23]. Meanwhile, the socio-technical theory related to the organization as a sociotechnical system that built from two correlated systems, such as the social and the technical systems. The technical system are the processes, tasks, and technologies needed to transform input into output. And the social system is the people, relationships, the reward systems, and authority. These classic socio-technical principles provides an environment for successful organizational change following the implementation of new technologies [27]. As can be seen from Fig. 1, Leavitt's views of organization theory are heavily intertwined, which make Leavitt one of the founders of this theory.
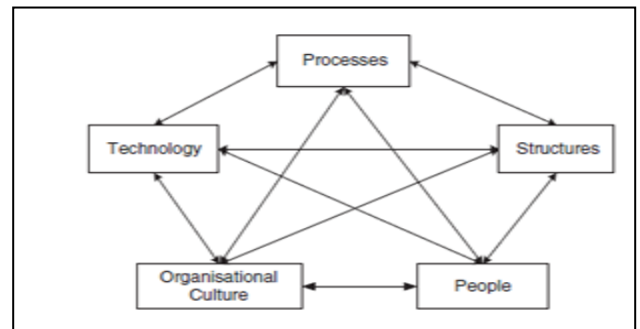

Fig. 1. *Leavitt's extended model (Kovacic et al, 2004)*

In the relationship with the socio-technical theory in public sector organizations ICT (technology) is only one of the components of the sociotechnical system, and as long as processes, people, cultures, and structures remain unchanged, the potential of modern technologies cannot be fully realized.[6] It is believes that the successfullness of eGovernment implementation still unknown. Through the comparison from the public and private sectors, [28] the determination of the bureaucratic nature of public sector organizations has greater obstacle and challenges rather than the successful implementation of new technologies than in the private sector. On the basis of examining the implementation of e-procurement in local governments of the UK, [29] warns of the importance of organizational, political, and economic factors, which influence the development and use of eGovernment solutions such as e-procurement.

3. RESULTS AND DISCUSSION

The digitalization of public services is a means to increase and create the public value. There are some aspects that very importantt. Firstly, the decision making process that

involve the different stakeholders, especially the prospective users (co-creation) from the public, private and civil sector[30]. Secondly, in achieveing the user needs and accommodate shifting public values, the development rather than a traditional waterfall method for e-service development needs to be adopted [31]. Thirdly, as the pluriformity of interests increases, the notion of transparency, for example through realizing the openness of government, requires special attention [32]. For the comparison, The Transparency and Access to Public Information Lawfor the state of Puebla are relevant to the portal's development, since multiple ministries and the office of the executive are obligated to abide by this Law. In this way, the existence of this Law and the institutions to oversee its application, in this case, the Commission on Access to Public Information and the Protection of Personal Information for the state of Puebla, ensure that the state portal contains some core information. Therefore, the legal framework has helped shape and increase the portal's content. Although this law has been revised several times since 2004, there is no evidence to suggest that the development of the portal's functionality during this space of time influenced its evolution. On the other hand, some people recognized certain organizational practices as institutionalized routines or practices that lend legitimacy to both the portal and the development process. An example of this institutionalization process is the adoption of the SCRUM development method which became a routine part of the development process. In addition, treating content holders with respect, not just by the personnel in charge of the portal's design, but also by the state government bodies that collaborate with them, has given legitimacy to these development processes. The office of the Governor held no special interest in using the portal as a tool to increase citizen participation, access to information, transparency or improving services. The portal did not form a part of the state government's strategy in any of these areas. The portal's development team exploited this fact, as it gave them the freedom to adopt work routines that are uncommon inMexican government organizations but are inherent to the internet, such as publishing unpolished or unfinished content to get ahead and returning repeatedly to improve it. However, the results attracted the interest of the Governor who began to includemore and more information from the portal in his Annual Report. As one interviewee commented: The number of lines that each agency or topic was allocated in the government report depended directly on its importance. In the beginning, the portal earned a brief mention. Now, in the fifth report, this mention has beenwidened significantly, which clearly shows the current importance of the portal.
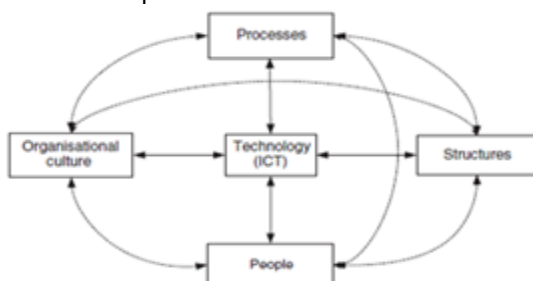

Fig. 2 *The role of ICT (Technology) in OT in eGovernment (Janja and Mirko, 2014)*

The model representing the role of ICT (Fig. 2) in the eGovernment era attempts to underline the central role of ICT in driving eGovernment related Organization transformation (OT), on the one hand, and on the other points out the fact that optimal realization of its potentials more than ever depends on the maturity and willingness of the organization to 'change', i.e. the issue of whether appropriate organizational transformation is needed. According to Levy's ideal model, second-order change is multidimensional and multi-level and in our case includes the organizational and inter-organizational levels, and first-order change refers to one or a fewdimensions and organizational levels, therefore a first-order change in our case includes theworkplace level. This assumption represents the depth of OT. The nature of OT can be examined through the organizational elements already introduced (Fig. 2); i.e. processes, people, culture, and structure. For each of these elements, the variables can be identified that best describe each element according to the depth of change. ICTs in the public sector have in the past largely induced first-order changes, which means that the ICT induced changes in the early stages of eGovernment development affected primarily the workplace level. However, later on, the intensity of organizational change is getting momentum and is increasing of a second-order change nature. Changes affect and spread vertically up the organizational pyramid and horizontally across all elements of it. In addition to influencing processes and employees at the operational level, their influence spreads to employees of all profiles (including managers), requires changes in organizational culture and adaptation of organizational structures at the organizational as well as inter-organizational level. This explanation is very much in line with[33]. who in this context provides some meaningful remarks, i.e. "Second-order transformation through electronic government can result from a long sequence of first-order changes."; "First-order transformation through electronic government can be observed more frequently in the earlier stages of its development rather than in the later stages."; and "Second-order transformation through electronic government can be observed more frequently in the later stages of its development rather than in the earlier stages."

4. OBSTACLES AND CHALLENGES: ITS EFFECT OF EGOVERNMENTIMPLEMENTATION

There are several challenges and obstacles that can delay the progress of eGovernment implementation. The variety and complexity of eGovernmentactivities suggest the presence of a wide scope of challenges and obstacles to its implementation and management. This section will briefly introduce the most important and common challenges and obstacles. The first is technical obstacles. The implementation or performance of eGovernment faces some technological troubles, for example, an absence of shared guidelines and perfect infrastructure among departments and agencies. Also, privacy and security are critical barriers to the implementation of eGovernment in citizen concern. The guarantee by the government will not suffice unless among technical solutions, transparency of procedures and probably freelance auditing. The lack of weakness of ICT infrastructure is one of the major

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challenges for eGovernment implementation. Internetworking is required to enable the appropriate sharing of information and open up new channels for communication and delivery of new services. For a transition to electronic government, an architecture, that is, a guiding set of principles, models, and standards, is needed. Many developing countries suffer from the digital divide (digital divide refers to the gap in opportunity between those who have access to the Internet and those who do not), and they are not able to deploy the appropriate ICT infrastructure for eGovernment deployment. Privacy is a critical issue in the implementation of eGovernment in both developed and developing countries. [34]identified privacy and confidentiality as critical barriers on the way to the eGovernment implementation. Privacy refers to the guarantee of an appropriate level of protection regarding information attributed to an individual. [35]emphasized that eGovernment should be approached with an eye toward the protection of individual privacy. Both technical and policy responses may be required when addressing the privacy issue in an eGovernment context. The difficulty of protecting individual privacy is a very important barrier to eGovernment implementation. In addition, there is a need to deal effectively with privacy issues in networks in order to increase citizen confidence in the use of eGovernment services. In fact, security is one of the most significant challenges for implementing eGovernment initiatives. Many studies have found that security is one of the most important obstacles. Security means protection of all information and systems against any disclosure to unauthorized access. The second is organizational obstacles. The implementation of eGovernment is, not a purely technical issue only, but rather an organizational issue. Organizational challenges embrace high management support, Resistance to change to electronic ways in which, Collaboration and Lack of qualified personnel and training. The third is the social obstacle. Social issues are mainly concerned with the usability by a large variety of people. This implies that the interface must be usable by all kinds of people within the government. Social obstacles include many factors such as the digital divide, culture, education, and income. The last one is financial obstacles. [36] declared that the lack of financial support is considered as a significant obstacle to the implementation of eGovernment in many countries. It is necessary to ensure the availability of the existing and expected budgetary resources in order to achieve the goals. The most serious and significant barrier to the implementation of eGovernment is a lack of money; eGovernment implementation is expensive. Since every government budget is already overburdened with every possible expense budget makers can fit into it, the suggestion to expend the considerable sums that an excellent eGovernment will cost is a non-starter, in budgetary terms, and in budgetary politics.

5. C0NCJUSION

The eGovernment literature is still very weak in-depth explanations of organizational transformation, Public e-service and Public value related to the implementation of eGovernment projects. We have attempted to develop for each organizational element, element-specific attributes (process, people, culture, and structure) were identified, by

means of which technologically induced organizational transformation in public sector organizations can be more clearly observed. The attributes of changes were identified on the basis of a comprehensive review of the general organizational literature, the literature in the field of organization and eGovernment literature. However, one of the main conclusions of the discussion above is that public service development indeed can drive transformation, but also that ongoing transformations in societal values can drive digitalization. we should be aware of the importance of some other factors inside and outside of public sector organizations that have to be taken into account. These factors, we can call the institutional, organizational, and inter-organizationalfactors can enable or inhibit OT. Among them, we should underline at least one, i.e. 'leadership', which is first and foremost the ability of public managers to recognize the importance of OT in the successful implementation of new technologies, understand its dimensions, and support the necessary changes. Between one country and another country will be different of eGovernment transformation system but the most important things to do are the adoption technology and also the process through the Levitt model. There are four challenges and obstacles that affecting the eGovernment transformation performance that are technical obstacles, organizational obstacles, social obstacles, and financial obstacles.

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