

EVALUATION OF THE USE OF E-GOVERNMENT APPLICATION IN TURKEY AS AN E-TRANSFORMATION PROJECT

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Abstract

A rapid change is being experienced in today's environment where the foundation of information age is being established. This rapid change has made the change of social structure and transformation of systems dependent to that, necessary. Becoming an important value for economies which have undergone a structuring process, information is the source for the level of development. Computer aided applications are required to be utilized to fulfill functions such as processing, transmitting and storing information. These tools which are named as information technologies have given birth to the concept of "e-" and integrated that in our life. Concept of "e-" renders transformation obligatory within the social structure. In this study, transformation of government structure from traditional to electronic is described by examining the conceptual frames. Setting from the hypothesis that "*technology is a useful tool*" "E-Government" implemented in Turkey is explained. Survey method is used to evaluate the usage of "E-Government" application. Questionnaire study established using survey method is applied to academic staff of İstanbul Kültür University selected as sample. In the light of collected data, the study is examined both with qualitative and quantitative evaluations.

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Özet

Bilişim çağının temelini atıldığı günümüz ortamında hızlı bir değişim yaşanmaktadır. Bu hızlı değişim sosyal yapının değişimini ve buna bağlı sistemlerin de dönüşümünü zorunlu kılmıştır. Yapılanma sürecine giren ekonomiler için önemli bir değer haline alan bilgi, gelişmişlik düzeyinin kaynağı durumundadır. Bilginin işlenmesi, iletilmesi ve saklanması gibi işlevlerin yerine getirilmesi için bilgisayar destekli uygulamaların kullanılması gerekmektedir. Bilgi teknolojileri olarak adlandırılan bu araçlar “e” kavramını doğurmuş ve yaşamımıza girmesini sağlamaktadır. “e” kavramı sosyal yapı içerisinde dönüşümü zorunlu kılmaktadır. Bu çalışmada, devlet yapısının gelenekselden elektroniğe dönüşümü kavramsal çerçeveler irdelenerek açıklanmaktadır. Teknolojinin yararlı bir araç olduğu” hipotezinden yola çıkarak Türkiye’de uygulanan “E-Devlet Kapısı” anlatılmaktadır. E-Devlet Kapısı” uygulamasının kullanımının değerlendirilmesi için sormaca yöntemi kullanılmaktadır. Sormaca yöntemiyle belirlenen anket çalışması örneklem olarak seçilen İstanbul Kültür Üniversitesi akademik kadrosuna uygulanmaktadır. Toplanan veriler ışığında, hem nitel hem de nicel değerlendirmelerle çalışma irdelenmektedir.

Anahtar Kelimeler: Enformasyon toplumu, Dönüşüm, e-dönüşüm, e-devlet, Türkiye’de e-devlet

1. INTRODUCTION

Rapid industrial developments experienced in the 20th century brought the end of industrial economy and provided introduction of the information age to our life. While the level of development of countries was measured with energy amounts and production economy in the industrial society; now it is measured with the amount of information obtained, processed, transmitted, stored with electronic and computer applications which constitute the information technology. Becoming an important value, information has become the source of level of development. With the data exchange that is accelerated through information technologies “Global Village” concept set forth by Marshall McLuhan is being realized. Especially, it is an undeniable fact that

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electromagnetic inventions that created globalization have facilitated the process of transmission of information (McLuhan, 2007).

We have entered in a rapid life system as Paul Virilio stated with his words “*Ever increasing restlessness is an indication that the world has transformed into digits.*” (Virilio, 2002). In this environment of speed, function of time constitutes the most important point. Economies competing with time necessitate information exchange of societies to be faster.

Highlighting technological determinism, McLuhan emphasizes that the most powerful force that ensures progress of humanity will be rapidly developing and spreading technology (Kabakçı, 2004). Technology is contribution of human to nature to make life easier in one aspect and the struggle of human to comprehend environment, surrounding together with that and than the universe. In this study, we will state that technology is a helpful aspect for society basing on the approach of McLuhan and analyzing the systems which are adapted to our life.

2. INFORMATION SOCIETY AND E-TRANSFORMATION

2.1. Information Society

Information which forms the basis of science was born due to the need of human to comprehend surrounding, nature and universe, shaping, classifying and interpreting them in specific forms. The question of “What is information” has come today since from the discussions of Greek philosophers and the concept was first defined by Platon as “*proven real beliefs*” in other words as assumptions which are proven to be correct. Concept of information derives from “*informato*” word in Latin and used in meanings of shaping, forming and informing. In general, information is described as an “intellectual product” or “learnt thing” obtained through thinking, judgment, reasoning, reading, observation and experiment. Information, in this sense, means data that is processed be being subjected to a specific process, having a meaning for the owner, assumed to have a strategic importance for making management decisions or having a real value. (Öğüt, 2003: 9)

Dijk defines a binary system that consists of one and zero as the starting point of information process. This starting point named as bit, constitutes the basis of the digital coding system. Steps of the pyramid are briefly described as follows:

- Bits and bytes: Series of ones and zeros.
- Data: Figures, texts and other symbols
- Information: Interpreted data
- Knowledge: Realities and effects
- Wisdom: Profound experience (Van Dijk, 1999: 186)

As can be understood from this process, collected data is transformed into information upon being summarized and into knowledge upon being analyzed. Interpreted information will be retransformed to data to be utilized in the future and used as a resource. When linear communication model of Shannon and Weaver from source towards target is realized, feedback aspect in interactive communication model of Wilbur Schram is also realized.

Today's most important power is information. While economy depends on industry in industrial society, economy relies on information in information society in the same way. In information society, central position in the sense of production and economy is the information technologies. Information explosion arising after the Second World War and increasing publications in parallel with this, increasing dependence to information in societies, rapid development in computer and communication technologies have given rise to *information society*. Information society describes the social lifestyle where information becomes human and a basic power and main capital in social life, where the number of people working in production of information is increasing, lifetime learning habits are being settled, learning individual, learning organization and learning society connection is established (Baransel, 1996). Learning individual forms information human, organizations where these individuals work at forms learning organization, learning organization forms information society (Töremen, 2001).

In information society, brain participates in the thinking process as a whole with creative intelligence. While transforming from industrial society to information society; a shift in the system of values and restructuring is realized as equality instead of hierarchy, personal quality and creativity instead of harmony and suitability, difference instead of standardization, moving away from centralization instead of adopting it, efficiency instead of effectiveness, adopting quality instead of product quantity, self proving and self actualization instead of security.

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2.2. Concept of e-transformation

Information society is defined as a society which produces all kinds of information in the community, connecting to information networks, accessing to ready information, spreading accessed information easily and using information in all sectors. Environments are being created to access to information as a symbol of the age we are living in, using accessed information, spreading them and producing technology out of them. This new environment is the concept of “*internet*” which is accepted as the third revolution (Dilmen, 2003).

Entering our life after printing, radio and television, the concept of “*internet*” is the most important source of information in such extensive development of globalization today. Internet, as the most important invention of the information age is the abbreviation of “*international network*”. Internet is a widespread and ever-growing communication network throughout the world, connecting numerous computer systems together. Internet has become an inevitable part of our lives as a new media resource of today with the studies of Defense Advanced Research Project (DARPA) on the concept of “Galactic Network” brought to discussion by J.C.R. Licklider. Forming the basis of the new media, internet has leded such fast growth of globalization and ensured realization of the concept of global network.

Being important for the information society, internet enables us to access correct, secure, quick, necessary and sufficient information and to use such information. It is a technology that has come to existence with the desire of people to store, share the produced information and access it easily. Briefly, internet is the access to information and sharing it and then using the obtained information. Environments are required to realize this sharing and utilization. One of the most important processes that these environments were subjected to was transformation.

Transformation means “*turning into another form than the original one, having another condition*”. Transformation is formed by *trans* and *formare* words in Latin. *Trans* means shifting from one side to another; *formare* means to gain figure, form or shape. When these words are combines the meaning is to gain form, shape while shifting from one side to another. A change of shape in a process is mentioned here. In conclusion, transformation is *change of form by preserving the origin and the origin of form remaining unchanged*. We can commence e-transformation chapter in line with these information.

Concept of “e-” which is defined as electronic environment cannot be understood fully. “e-” means the utilization of information and communication technologies in the scope of content. Here, the aim is to improve effectiveness, efficiency, participation, social and economical development. E-transformation is defined as the change of the current culture, business model, business processes, products and services in integrity for the benefit of business partners and all other social stakeholders by using information and communication technologies effectively. Having the meaning of restructuring, e-transformation is the combination of transformations. Transformation of the individuals, businesses, commerce, corporation and state shall be completed to ensure its realization. Individual oriented e-transformation is a matter of integration. Various stages shall be completed for its realization. These stages are arrangement on paper, preparation, record system in computer environment, database creation, presentation to outside the organization, inter-organizational sharing, limitedly accessible for public (Arifoğlu, 2004). Organizations that have completed these stages may realize e-transformation.

2.3. E-government

Concept of government is a continuous political body consisting of a group of organized people living in a specific country and subject to a superior authority, being granted with an entity by the law. It is a form of organization which is applied by humans in social life. There is no wider, widespread and inclusive social organization than government in a society. Therefore, government is called as “*organization of organizations*”. These organizations operate for the country, authority and society. Particularly, public sector as the whole of the governmental organs operating for public service, stands as a very effective form today. Government offers citizen services to its citizens from birth to death.

e-Government is the realization of duties and services which the government is liable for towards the citizens and duties and services which the citizens are liable for towards the government mutually uninterruptedly and safely in electronic communication and transaction environments (TBD Kamu-Bib-2003).

Development of mass communication means in technological and social manner brings the insufficiency of government organization to the surface. This insufficiency obliges the government to place importance to individuals and an

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understanding of e-government can exist through instruments of the advanced technology within this context. Access to information in the new world order which competes with time renders fast access essential. This essentiality triggers the inevitable change. In this new condition that is experienced state-wide, due to direct communication of the society at all levels, public sector is considered as the driving force and main engine. This transformation which will diversify the lifestyles of governments is referred to as e-Government briefly.

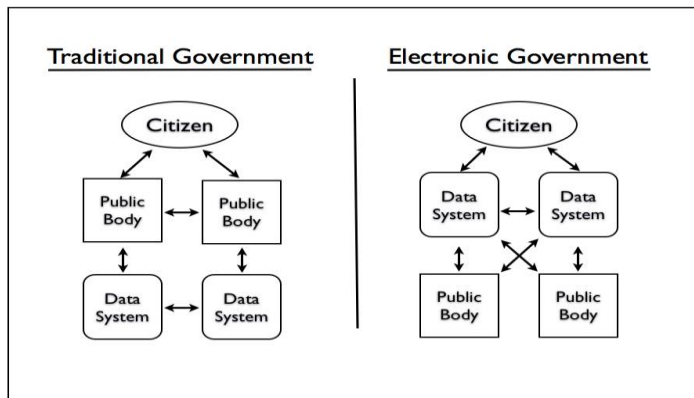


Figure 1. Process of Traditional and Electronic Government (Arifoğlu, 2004, p.99)

In the traditional government, public organizations/corporations stand between the citizen and the information system where the requested information is provided. Citizens do not have direct access to this system. It is clear that this structure increases bureaucracy in the government and impedes more effective operation through transparency. In the electronic government structure, public organization stays at the background of the information system unlike the traditional structure and therefore, the citizens have the opportunity to select the information they require and access them directly. Thus, bureaucracy is minimized and it is ensured that the government operates more effectively and transparency comes into prominence in public organizations. The most important difference between traditional and electronic government is the place

where the information system is located. In e-government system there is a direct connection between the citizens and information. Public organization stays at the background. Public organization remaining at the background enables the citizen to access the required information without losing time and experiencing bureaucratic transaction or prohibitions.

E-Government approaches in the world starting from local administrations are designed to facilitate the relationship relying on trust for “*accuracy of the declared information*” in the relationship between government and citizens, facilitating e-transformation, ensuring information is used by authorized people and to prevent its corruption. Governments have preserved their structure which is always closed, not sharing information and providing control due to their structures and nature. Also, in the 21st century, that we are living, where time is valuable, change of such understanding of government has become inevitable. Countries which have the highest level of e-government usage are Norway, Denmark, Canada and Finland. E-government usage ratio in these countries reach up to 50 percent and a wide range of services are offered. For instance; in Finland, a Lotus-based e-mail infrastructure is formed under the Prime Ministry. Ministry of Justice carries out management of lawsuits on the same platform and when the case is closed announcements of penalties/decrees are published on web instead of newspapers. In the USA, internet has the function of linking the citizens with the government. Being able to make phone subscription applications via internet, Americans can access the traffic offences they are involved in via a central database. This way, insurance companies can learn when the applicant has involved in an offence without asking questions to the official and establish the premium amount. The most popular e-government application is license plate registration service for vehicles. While the ordinary cost of this service was 100 dollars, through the application used via internet the cost was reduced to 18 cents. Hundreds of applications are realized via internet in the USA.

3. EVALUATION OF THE USE OF “E-GOVERNMENT” IN TURKEY AS AN E-TRANSFORMATION PROJECT

Commencing the second half of 1998 without making much investment on e-Government studies, Turkey does not fall behind other countries too much. Established by Turkish Informatics Association in those years, with TBMM Information and Information Technologies Group, e-transformation process of

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Turkey has commenced. European Union established the objectives for the following decade in the meeting held on March 23-24, 2000 in Lisbon. The objective of “*Making Europe the most competitive and dynamic information based economy in the world in ten years*” was established and “e Europe + Initiative” was announced. Member and applicant states responded to this initiative and became members of that. E-Europe Action Plan is organized under four main topics. These are accelerating the works for establishing the main foundation stones of the information society, promoting internet usage by offering cheaper, faster and safer access; investing in human resource and ensuring widespread use of internet.

In order to fulfill responsibilities in E-Europe+ process, studies named as e-government under leadership of TÜBİTAK have been commenced. There are three stages in e-government applications. These applications are *from government to government* (service oriented applications established with cooperation between public organizations and institutions), *from government to citizens* (applications of public organizations and institutions for providing information) and *from government to business life* (interactive e-government applications.)

The main slogan of the European Initiative is established as “moving each individual, house, school, workplace and government department to internet”. Setting off from this slogan, e-transformation studies commenced in Turkey and various applications were brought to life. These are Central Birth Record Affairs System (MERNIS), Directorate General of Revenues Computer Automation (VEDOP), Integrated Management Information System (MEBSIS), Directorate General of Land Registry Information System (TAKBIS), National Adjudication Network System (UYAP), Provincial Inventory Modernization System (ILEMOD), Police Network Establishment System (POLNET), Customs Stations Security Systems (GUMSIS).

E-Government project process commencing with the Prime Ministry Mandate announced in December 2003, was completed on December 18th, 2008 and initiated. It is understood that the people who would like to carry out their affairs via government do not use information technologies fully. However, the youth who we may define as young generation have huge technological potential. The desire of the new generation which has been transformed into a visual community to save time through e-government instead of public offices and institutions to follow up their paperwork will be in the foreground.

3.1 Methodology

Information age has the basic properties that relies on information, efficiency prioritized and where products and services are engaged with information technologies. Manuel Castells suggests the radical transformation that the new society includes in the most comprehensive manner (Castells, 1996). Arguing that industrialism was replaced by informationalism Castells states “*studies the emergence of a new social structure, manifested in various forms, depending on the diversity of cultured and institutions throughout planet. This new social structure is associated with the emergence of a new mode of development, informationalism, historically shaped by the restructuring of the capitalist mode of production towards the end of the twentieth century.*”

Transformation of the government structure from traditional to electronic occurs in a rapid manner. Setting from the hypothesis that “*technology is a useful tool*” “E-Government” implemented in Turkey is explained. Survey method is used to evaluate the usage of “E-Government” application. Questionnaire study established using survey method is applied to academic staff of İstanbul Kültür University selected as sample. In the light of collected data, the study is examined both with qualitative and quantitative evaluations.

3.2. Findings

Questionnaire study established using survey method is applied to academic staff of İstanbul Kültür University selected as sample. Data collected through questionnaire portal formed on the Internet environment are analyzed. In scope of the questionnaire study, 55% of 133 participants (*Istanbul Kültür University Academic Staff*) are male (*73 participants*) and 45% of (*60 participants*) are women. As for the age range of the participants, there is an equal distribution.

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Academic Qualification	f	%
Prof.Dr.	25	18
Assoc.Prof.Dr.	12	9
Assist.Prof.Dr.	29	22
Lecturer	21	16
Instructor	4	3
Research Assittant	39	29
Specialist	4	3
Total	133	100

Table 1. Distribution of Academic Qualification

When the questionnaire data are analyzed, it is seen that particularly research assistants (29%), assistant professors (22%) and professors (18%) became the participants. Approximately 60% of the replies (79 *participants*) to the question on e-government application use were positive. 62% of those participants, who replied positively, enter into the system by making use of e-government password.

As for the question on yearly use of government offices, 50% of the participants (67) stated that they go to government offices 1-3 times a year. Similarly, as for number of services received in a year by making use of e-government application, approximately 45% of the participants (59) stated that they receive service 1-3 times a year by making use of e-government system.

11 questions prepared according to likert scale evaluates participants' points of view regarding e-government application. Participants think that technological innovations facilitate access to information, that technological innovations provide time and cost saving and that thanks to remote access to e-government application, information are accessed with less faults. Participants are doubtful about the facts that Turkey is behind the developed countries concerning e-government application, that e-government application is in harmony with our cultural structure and that it is informative rather than functional and is reliable.

	Strongly Disagree		Disagree		Neither Agree nor Disagree		Agree		Strongly Agree	
	f	%	f	%	f	%	f	%	f	%
Technological innovations facilitate access to information.	3	2	-	-	2	2	53	40	75	56
Technological innovations ensure time and cost savings too.	4	3	-	-	7	5	48	36	74	56
With remote access to e-government application, access can be provided to information with less error.	2	2	4	3	39	29	53	40	35	26
E-government application in Turkey is behind developed countries.	7	5	16	12	61	46	32	24	17	13
E-government application in Turkey is in conformity with our cultural structure.	7	5	26	20	60	45	33	25	7	5
E-government application in Turkey has more of an informative structure rather than being functional.	5	4	16	12	53	40	44	33	15	11
E-government application in Turkey is not reliable.	12	9	39	29	65	49	12	9	5	3
E-government application causes multiple opinions and lack of authority.	19	14	54	41	46	35	10	7	4	3
Content and titles of E-Government application shall be extended.	2	2	1	1	27	20	59	44	44	33
Instead of e-government application it is more suitable for each organization to transform its own application in a free environment.	20	15	41	31	48	36	17	13	7	5
E-government application contributes in Turkey's development.	5	4	2	2	32	24	64	48	30	22

Table 2. Distribution of assessment on E-government application

Participants think that e-government application does not cause a lack in authority, but its contents and titles must be extended. In addition to these, participants stated that it is not adequate that each institution uses its own application in the free environment instead of e-government application and that most importantly, e-government application will accelerate Turkey's development (Table 2).

As a result of the evaluation of research data, it is seen that most of the participants in the academic environment use e-government application in Turkey and that this application is for sure useful. Advocating for the requirement of transformation into technological environments, participants also defend that this application must be developed even more and titles in all fields must be increased. Ease of access to data thanks to time and cost saving is emphasized as a considerable advantage for participants. Participants' consideration of e-government application in Turkey, which is analyzed based on the hypothesis "*technology is a useful tool*", as required, useful, fast, functional and understandable supports McLuhan's Technological Determinism. In this context, although it produces technocrats different from

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one another, technology proceeds on its way by becoming more powerful rapidly and indispensably.

4. CONCLUSION

Modern world is identified with the instant and rapid change processes in social, political, economical and cultural areas. Widespread of information on the global level commenced an economical process based on information and while this process provides superiority to developed countries it caused obstacles for countries which have not completed their development.

Information society is the most concrete image of communication-information revolution. In this understanding of society information production gained importance by the technology. The way to get away from bureaucracy is to offer public services to the citizens through online system.

Change of understanding in governmental administration after 1980 and commencement of privatization of several public enterprises and institutions due to administrators' system change and commencement of administering the government by considering it as a corporation increased quality to a certain level and ensures known public administration models to turn into a more modernistic way.

Now, governmental structure is expected to be rapider and more practical. This structure comes forth with supported information society, strong informatics infrastructure, widespread use of electronic services and it is one of the definitions of e-government. Government does more work with less cost, control expenses and increases efficiency in this manner. Increasing efficiency brings together quality, and therefore citizens can benefit from that.

Bureaucracy is eliminated and service is offered on 24/7 basis. This condition support time and resource savings. Officialism which is a hunchback for the government leaves its place to digital data exchanged in virtual environments. Service provided is offered to everyone equally and misunderstandings or inappropriate requests are eliminated. Indeed, a very good information infrastructure is required for such services. Citizens' awareness of internet usage shall be raised, several internet access providers shall enter into the game and it shall be ensured that everyone purchases the most suitable service for him/herself. It must be noted that such service is only possible through an uninterrupted, healthy and fast internet access.

“Consequently, e-government’s having positive effects in increasing its public performance in a society by adopting a functional role at governmental effectiveness level is closely related to the level of importance paid to information and communication technologies by the governmental authorities and the width of the utilization area thereof within the society. E-governmentalization can only accelerate the government’s performance of responding to the social requests and improve the society and public administration to operate in a healthy manner and achieve the objective of becoming a more powerful government in the socio-economic context and a happier society this way.”

To have happy citizens at a high welfare level, who are able to pay their taxes, take public examinations and learn their results, get driving licenses or passports, use hospital services, access insurance service documents or purchase national lottery tickets using a single identity number, governments are expected to extend these services and make them perfectly functional by everyone with great enthusiasm.

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