

**“INFORMATION-BASED ECONOMY” AND EDUCATIONAL
SYSTEM***

TEKPOL – WP - 0612

ABSTRACT

Mahir TERZİ

Department of Political Science & Public Administration, METU

“Information-Based Economy”, which is today’s economy that is a proof and indicator of development level for the countries now on, comes on the scene with its new organizing model on its infrastructure, which is called “Information Society”.

The phenomenon of administration introduces to “e-Government” for reinforcing the roots of “Information-Based Economy” now.

Having a systematic knowledge of the relation between “Information-Based Economy”, “Information Society” and “e-Government” as a whole composes of the theme of this study.

For this purpose, a questionnaire has been conducted in the Ministry of National Education, which is responsible for forming the society of the future, to understand whether there is a systematic knowledge on the relation between “Information-Based Economy”, “Information Society” and “e-Government” as a whole. Moreover, it has been aimed to discover what the mental formulations of participants are.

Questionnaire results reveal that there is no systematic knowledge on the relation between “Information-Based Economy”, Information Society” and “e-Government” as a whole in the Ministry of National Education, and that the participants are apt to perceive “e-Government” within the context in which they are in terms of professions, status and backgrounds.

Questionnaire results also show that the responses given by the participants concerning “e-Government” are more or less the same due to the hierarchical organization of knowledge and official knowledge in particular.

Keywords: Information-Based Economy, Information Society, E-Government, Educational System.

* I would like to express my thanks to my supervisor Assoc. Prof. Dr. Yılmaz Üstüner since he has encouraged me for interdisciplinary approach, and since he has helped me express myself without difficulty by showing tolerance.

For their suggestions in determining methodological approach in the course of prothesis seminar, I would also like to express my gratitude Prof. Dr. Şinasi Aksoy and Assist. Prof. Dr. Cem Deveci respectively.

I thank to Assoc. Prof. Dr. Erkan Erdil very much for his contributions to make my study more meaningful.

In addition, I thank to the officials of Ministry of National Education for their participation in answering the questionnaires that I have handed out.

1. INTRODUCTION

There is an organic relation between “Information-Based Economy” and “Information Society”.

Technically speaking, “Information-Based Economy”, which is also called as Knowledge Economy, Digital Economy, e-Economy or Post-Industrial Economy (Rzevski, 2002), means the economy which is based on information and telecommunication technologies (ICTs) (International Telecommunication Union 2003).

Another definition is much more striking; according to this definition, “Information-Based Economy” is that “the capacity and capability to create and innovate new ideas, thoughts, processes and products, and to translate these into economic value and wealth” (Toft 2002).

“Information-Based Economy”, which is based on the products of ICTs, requires an appropriate environment which is called as “Information Society”. In that sense, the appropriate environment in which the products of ICTs will be consumed is “Information Society”.

The establishment of “Information Society” and the prevalence of “Information-Based Economy” necessitate an appropriate organizing model to transform the state that is dominant and authoritarian power. This new organizing model is “e-Government”.

“E-Government” is seen as equivalent for keeping up with the times today in terms of not only technical aspect, but also especially social, economic, political and cultural transformation.

In fact, for any country at national level the vital point is educational system that will train and educate her citizens and that provide “prescriptive knowledge” and in particular “propositional knowledge” for her future in accordance with “Information-Based Economy” and “Information Society”. Otherwise, societies can be transformed into “Consumption Societies” in which the products of ICTs are consumed via loans.

2. THE PURPOSE

In order to evaluate that there is/is not the consciousness whether or not "e-government" has economic, cultural, political and social effects apart from the technical influences, a questionnaire has been conducted for the staffs in the Ministry of National Education in Turkey.

The reason why the Ministry of National Education has been chosen is that the Ministry of National Education is responsible for forming society of the future. In that sense, it is important to understand whether or not the staffs in the Ministry of National Education are well-informed about the argument that there is a knowledge concerning the relation between "Information-Based Economy", "Information Society" and "e-government" systematically and as a whole.

In addition, it has been analyzed what the mental formulations of questionnaire participants are.

3. THE SCOPE OF THE RESEARCH

The Questionnaire was conducted in the Ministry of National Education in Turkey between July 2004 and May 2005.

For this purpose, two General Directorates in the Ministry of National Education have been chosen. These two General Directorates are General Directorate of Educational Technologies and General Directorate of Apprenticeship and Common Education.

50 participants in the General Directorate of Educational Technologies and 78 participants in the General Directorate of Apprenticeship and Common Education have chosen. Participants have been chosen through random sampling.

4. THE REASON AND THE SIGNIFICANCE OF THE SCOPE

The reason why the Ministry of National Education has been chosen is that it is responsible for training needed human resource under the directions of national action plans determined by the Prime Ministry of Turkish Republic, State Planning Organization with respect to "acquis communautaire"¹.

The Prime Ministry of Turkish Republic makes Ministry of National Education accountable for actualizing the Action Issues in the framework of "Action Plan of e-Transformation Project for Turkey"² that was come into force by being published in Official Newspaper of Turkish Republic in April 01, 2005.

These Action Issues³ are defined as;

1. To increase the computer literacy of teachers and students (Article 9),
2. To establish the classes of Information Technologies (ITs) for the schools of primary education (Article 12),
3. To open the education places of IT in education institutions to public (Article 13),
4. To increase the quality of the education of the course and certification related to ITs to the level of the standardization of European Union (Article 14),
5. To improve the application of "e-exam" (Article 15),
6. To create the awareness in the society in using safe Internet (Article 17) (Official Newspaper 2005).

The other important reason in choosing the Ministry of National Education to conduct a questionnaire is that education plays an important role for keeping in pace with "Information-based Economy" and for transforming the society into "Information Society".

¹ In the process of harmonizing all regulations of Turkish Republic with European Union, all efforts are evaluated in "acquis communautaire".

² 58th Government of Turkish Republic prepared "Acil Eylem Planı (Immediate Action Plan)" in January 3, 2003 (State Planning Organization of Turkish Republic 2003). In this scope, under the direction of Circular of Prime Ministry, date 2003 and number 12 (Prime Ministry of Turkish Republic 2003), State Planning Organization have been answerable for " e-Dönüşüm Türkiye Projesi Eylem Planı (Action Plan of e-Transformation Project for Turkey)".

³ The same Action Subjects were enumerated in the Article 9,10,11,12,13, and 14 for the year 2004.

Naturally, the consciousness level of the officers in the Ministry of National Education plays an essential role. Anyway, one of the most important duties of any education system in any country is to train human resource according to its economic system⁴.

General Directorates of Educational Technologies and Apprenticeship and Common Education have been chosen owing to the following reasons.

a) Rule 4359 defines one of the duties of General Directorate of Educational Technologies in the Article 24/a as below.

- To make needed research, planning, application, evaluation, and investment for men (the service of training human force) *for supporting education with technological developments* by deploying the education and increasing the quality of education and for constituting functional tie between open education and formal education (Ministry of National Education 1999, 183).

b) Rule 3739 defines one of the duties of Apprenticeship and Common Education in Article 18 as below.

- To provide general and vocational education for candidates, apprentices, foremen and masters according to Law determined by Apprenticeship and Vocational Education.
- To train citizens, who have not attend the formal education, have been left from any education level or have been graduated, via common education in the fields of general or vocational and technical. To open the institutions of apprenticeship and common education, and execute all kind of duties and services related to education and its administration.
- To prepare curriculum, school books and educational equipments related to apprenticeship and common education, and submit those to the approval of Teaching and Education Board (Talim Terbiye Kurulu) (Ministry of National Education 1999, 181).

⁴ For the argument that why the education system has to be national and for the comprehensive explanation of the importance of education in an economic system, see the book of Aristoteles, titled Polity, and the book of Althusser, titled Ideology and Ideological Apparatus of the State respectively.

- c) In addition, the reason these two directorates are chosen that whilst General Directorate of Educational Technologies is questionable for accomplishing the Action Plan Issues on education as responsible directorate in the Ministry of National Education, General Directorate of Apprenticeship and Common Education does not take part in responsible directorates. This is useful for making comparison between general directorates since it is reckoned that the staff of General Directorate of Educational Technologies will be more well-informed than the staff of General Directorate of Apprenticeship and Common Education because of their duty scope.

5. THE METHOD OF THE RESEARCH

In this thesis, the empirical study has been done basically to obtain descriptive analysis since the objective is to understand if there is the consciousness on the argument that "e-government has economic, cultural, political and social effects apart from the technical influences. If there is the consciousness, in that case, the objective is to have knowledge about what the direction of this consciousness is. In other words, the objective is to possess knowledge about people' own mental formulations, their visions and their backgrounds concerning "e-government" by using the method of interpretative-textual method.

Nonetheless, to be able to give some statistical knowledge about people' thoughts, mental formulations and perceptions, the method of empirical-statistical analysis has been used. For this purpose, the steps below have been followed.

- Firstly, similar answers for each question in the questionnaire have been categorized.
- Secondly, the categorisations have been coded as Code 1, Code 2 and Code 3, etc. for each question in the questionnaire.
- Finally, the codes have been measured as numeric, and percentages for each question in the questionnaire have been determined.

6. THE EVALUATION AND DISCUSSION OF THE QUESTIONNAIRE RESULTS

Survey results have been evaluated by making descriptive analysis. In the first step, the responses that have been given for each question are illustrated as bar graphic with frequency table in total. In the second step, the cross tabulations are illustrated by accepting the general directorates as independent variables.

The questions and answers are defined and evaluated below.

6.1. Attitudes toward “E-Government”

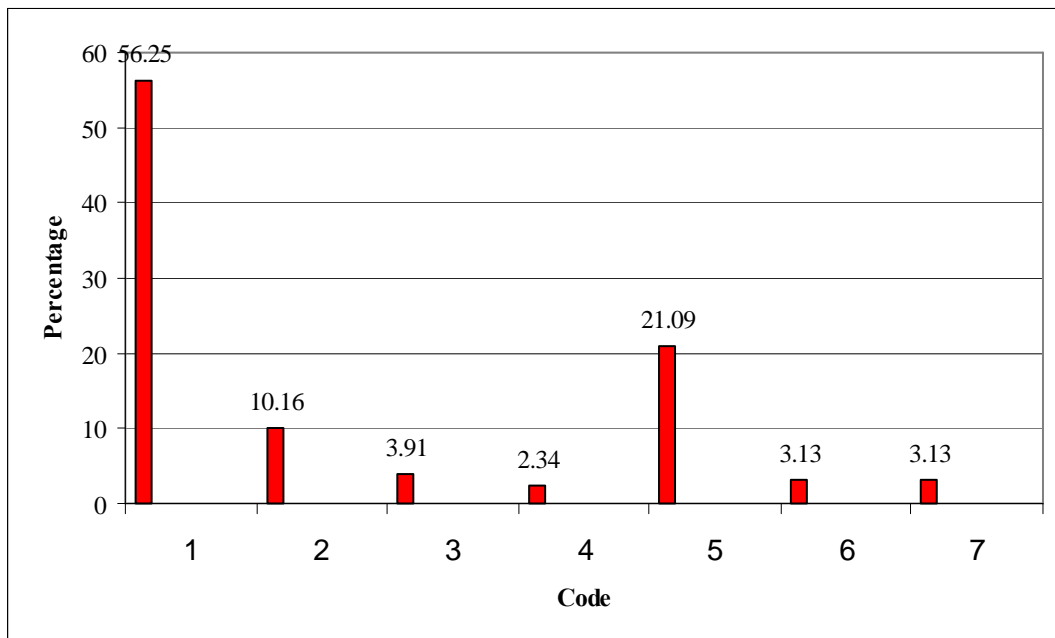
The percent of given answers for the question of “What Does the Concept of E-Government Mean to You?” is below.

- 56.25 percent of participants agree that “e-government” is that citizens make the things and transactions *concerning the state* in the media electronically.
- 10.16 percent of participants reply that “e-government” is that citizens make the things and transactions *concerning public and private* in the media electronically.
- 3.91 percent of participants claim that “e-government” means that the public institutions of any state make their own duties among themselves in the media electronically.
- 2.34 percent of participants note that “e-government” means the adaptation for the epoch and technology.
- 21.09 percent of participants interpret “e-Government” with a various set of definitions that include following answers.
 - “E-government” means information and communication electronically.
 - “E-government” means “Information State” electronically.
 - “E-government” means Internet.
 - “E-government” means the state which is economical and cheap.
 - “E-government” means informatics, speed and life which are free of error.
 - “E-government” means savings from time, comfort, etc.
- 3.13 percent of participants degree that “e-government” means the decrease in the bureaucracy.

- 3.13 percent of participants have no idea about the definition of “e-government”.

As it is seen from Figure I, there is no consensus on the definition of “e-government” that has been made by participants. Nonetheless, most of them (56.25 %) understand that “e-government” is that citizens make the things and transactions *concerning the state* in the media electronically. The other major percent (21.09) defines “e-government” with a set of perceptions from information and communication electronically to “Information State” electronically, from internet to the state which is economical and cheap, from informatics, speed and life which are free of error to the savings from time, money, etc.

Figure I: What Does the Concept of “E-Government” Mean to You?



	Code (Percent)							Total
	1	2	3	4	5	6	7	
People in Number	72	13	5	3	27	4	4	128
Percentage	56.25	10.16	3.91	2.34	21.09	3.13	3.13	100

Codes including the numbers of 1, 2, 3,4,5,6 and 7 have been formed for categorizing the similar answers as below.

- 1) Code 1 stands for the answer: “E-Government” is that citizens make the things and transactions *concerning the state* in the media electronically.
- 2) Code 2 stands for the answer: “E-Government” is that citizens make the things and transactions *concerning public and private* in the media electronically.

- 3) Code 3 stands for the answer: “E-Government” means that the public institutions of any state make their own duties among themselves in the media electronically.
- 4) Code 4 stands for the answer: “E-Government” means the adaptation for the epoch and technology.
- 5) Code 5 stands for the answers grouped in the category of “others” that include following answers.
 - “E-government” means information and communication electronically.
 - “E-government” means “Information State” electronically.
 - “E-government” means Internet.
 - “E-government” means the state which is economical and cheap.
 - “E-government” means informatics, speed and life which are free of error.
 - “E-government” means savings from time, money, etc.
- 6) Code 6 stands for the answer: “E-Government” means the decrease in the bureaucracy.
- 7) Code 7 stands for those who have no idea.

The cross-tabulation of the responses that have been given for the question 1 is shown in Table I. As it is seen, most of the participants not only in General Directorate of Educational Technologies, but also in General Directorate of Apprenticeship and Common Education agree that “e-government” is that citizens make the things and transactions *concerning the state* in the media electronically. In other words, most of the participants in the two general directorates perceive that *the public institutions are the proponent of “e-government”*.

Table I: The Cross-Tabulation for the Distribution according to the General Directorates

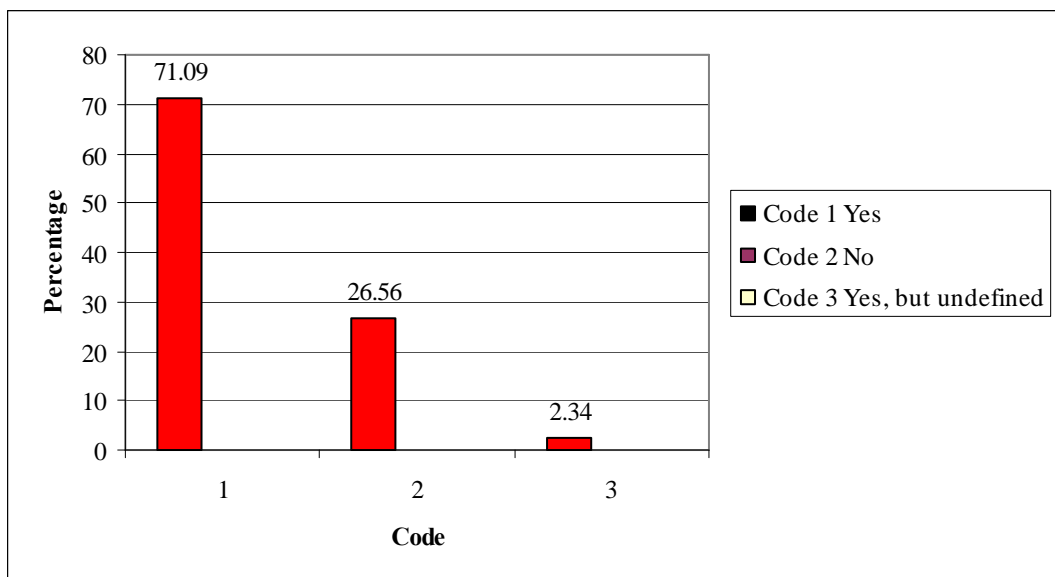
General Directorates	Code (Percentage)							Total
	1	2	3	4	5	6	7	
General Directorate of Educational Technologies	74.00	10.00	0.00	2.00	10.00	0.00	4.00	100
General Directorate of Apprenticeship and Common Education	44.87	10.26	6.41	2.56	28.21	5.13	2.56	100

6.2. Use of “E-Government” Applications

Although 96.87 percent of participants can give a definition of “e-government” in the first question, it is interesting that 26.56 percent of participants state in the second question that they have not used any application of “e-

government” while 71.09 percent of participants state that they have used some of “e-government” applications that include the applications of the Ministry of Internal Affairs, of the Ministry of National Education, and of the Ministry of Labour and Social Security such as learning citizenship number, entering personnel information into database, declaring insurance premium of workers, banking transactions, etc. as presented by Figure II.

Figure II: Have You Ever Used Any “E-Government” Application? If Your Answer is Yes, What Are These Applications?



	Answers Given (Percentage)			Total
	Yes	No	Yes, but undefined	
People in Number	91	34	3	128
Percent	71.09	26.56	2.34	100

The cross-tabulation of the responses that have been given for the question 2 is shown in Table II. As it is seen, most of the participants in the two general directorates are acquainted with any kind of “e-government” application.

Table II: The Cross-Tabulation for the Distribution according to the General Directorates

General Directorates	Answers Given (Percentage)			Total
	Yes	No	Yes, but undefined	
General Directorate of Educational Technologies	72.00	24.00	4.00	100
General Directorate of Apprenticeship and Common Education	70.51	28.21	1.28	100

The cross-tabulation shows that there is no significant difference between two general directorates.

6.3. Expectations from “E-Government”

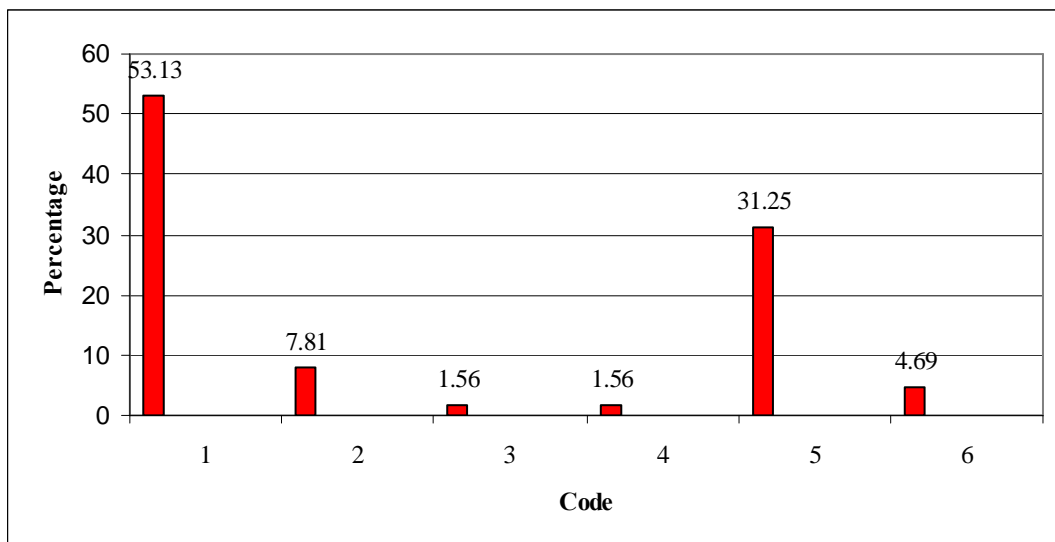
The percent of the given answers for the question of “What are Your Expectations from E-Government?” is below. This question reflects also the mental formulations of the participants based on their backgrounds and imaginations.

- 53.13 percent of participants hope that “e-government” will result in speed, security, comfort and savings from time and money.
- 7.81 percent of participants hope that e-government” will bring about openness, transparency and equity.
- 1.56 percent of participants hope that “e-government” will give rise to be an orientation for the standards of European Union and/or is to reach at the level of contemporary civilizations.
- 1.56 percent of participants hope that “e-government” will bring about participation and cooperation between state and citizen.
- 31.25 percent of participants hope a different set of expectations as follows.
 - Expectation from “e-government” is to make “e-government” prevalent in terms of infrastructure.
 - Expectation from “e-government” is to make people well educated for the applications of “e-government”.

- Expectation from “e-government” is to reduce the bureaucratic processes, etc.
- 4.69 percent of participants represent those who have no expectation on “e-government”.

From the results presented by Figure III most of the participants (53.13 %) conceive that “e-government” will result in speed, security, comfort and savings from money and time. Such imagination indirectly shows that “e-government” is perceived as a technical project for the savings from money and time. The other major group that represents 31.25 percent is in pursuit of making the applications of “e-government” prevalent, of becoming more educated for the applications of “e-government” and of reducing bureaucratic processes.

Figure III: What are Your Expectations from “E-Government”?



	Code (Percentage)						Total
	1	2	3	4	5	6	
People in Number	68	10	2	2	40	6	128
Percent	53.13	7.81	1.56	1.56	31.25	4.69	100

Codes including the numbers of 1, 2,3,4,5 and 6 have been formed for categorizing the similar answers.

1) Code 1 stands for the answer: Expectations from “e-government” are speed, security, comfort and savings from time and money.

2) Code 2 stands for the answer: Expectations from “e-government” are openness, transparency and equity.

- 3) Code 3 stands for the answer: Expectation from “e-government” is an orientation for the standards of European Union and/or is to reach at the level of contemporary civilizations.
- 4) Code 4 stands for the answer: Expectations from “e-government” are participation and cooperation between state and citizen.
- 5) Code 5 stands for the answers grouped in the category of “others” including similar answers.
- Expectation from “e-government” is to make “e-government” prevalent in terms of infrastructure.
 - Expectation from “e-government” is to make people well educated for the applications of “e-government”.
 - Expectation from “e-government” is to reduce the bureaucratic processes, etc.
- 6) Code 6 stands for those who have no expectation.

The cross-tabulation of the responses that have been given for the question 3 is shown in Table III. As it is seen, most of the participants not only in General Directorate of Educational Technologies, but also in General Directorate of Apprenticeship and Common Education (58 percent and 50 percent respectively) agree in terms of the expectations from “e-government”. These expectations are speed, security, comfort and savings from money and time.

In other words, most of the participants in the two general directorates have mostly the same expectations related to the technical aspect in terms of “e-government”.

Table III: The Cross-Tabulation for the Distribution according to the General Directorates

General Directorates	Code (Percentage)						Total
	1	2	3	4	5	6	
General Directorate of Educational Technologies	58.00	4.00	2.00	0.00	28.00	8.00	100
General Directorate of Apprenticeship and Common Education	50.00	10.26	1.28	2.56	33.33	2.56	100

According to table, it is also clear that the participants in the General Directorate of Educational Technologies have expectations from “e-government” in terms of technical aspect as opposed to the participants of General Directorate of Apprenticeship and Common Education although the participants of the General

Directorate of Educational Technologies have to be more well-informed about “e-government” because of their duty scope.

6.4. Implications of “E-Government”

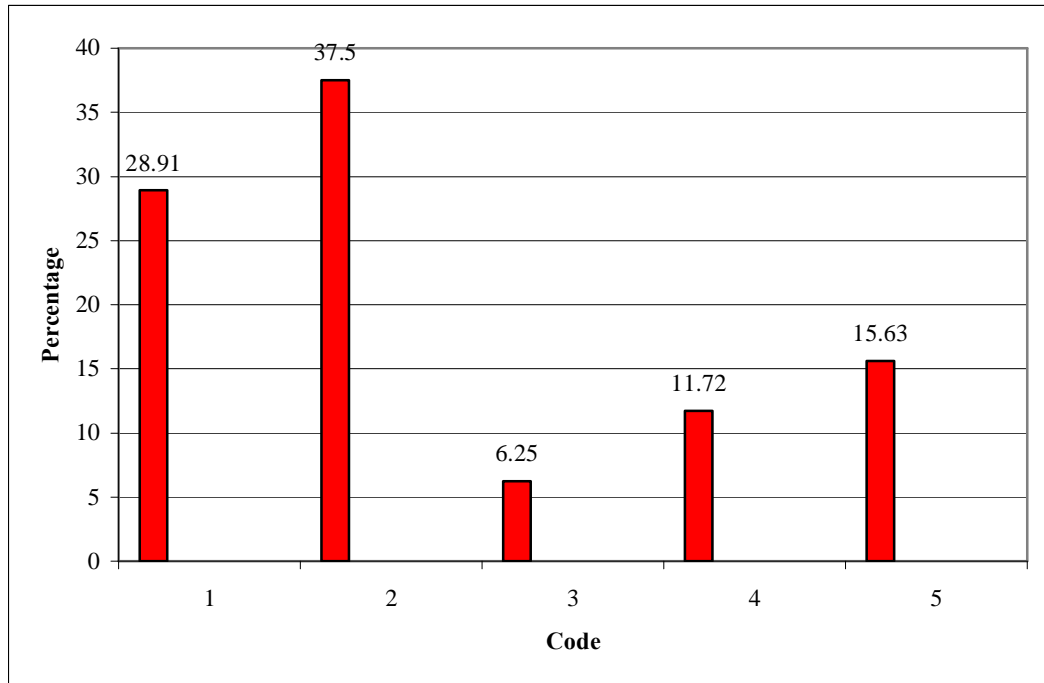
Figure IV.I and IV.II demonstrate the answers for the question related to positive and negative sides of “e-government” as below respectively.

- 28.91 percent of the participants envisage that speed for reaching at information and comfort in transactions is positive side of “e-government”.
- 37.50 percent of the participants envisage that productivity and savings from time and money is positive side of “e-government”.
- 6.25 percent of the participants envisage that the decrease in the bureaucratic processes is positive side of “e-government”.
- 11.72 percent of the participants represent those who have no idea on the positive sides of “e-government”.
- 15.63 percent of the participants envisage a different set of answers including followings:
 - Cooperation between public and citizen.
 - Contemporary developed society.
 - Openness, etc.

With respect to the results, most of the participants (37.50 percent) imply “e-government” as a technical project for productivity and savings from time and money. 28.91 percent also imply that e-government” is a technical project for reaching at information and comfort in transactions. Only 15.63 percent point out economic and political results.

Figure IV.I: According to You, Are There Any Positive and Negative Sides on “E-Government”? If There Are, What Are These?

Figure IV.I: for Positive Sides



	Code (Percentage)					Total
	1	2	3	4	5	
People in Number	37	48	8	15	20	128
Percentage	28.91	37.50	6.25	11.72	15.63	100

Codes for the positive sides of “e-government” including the numbers of 1,2,3,4 and 5 have been formed for categorizing the similar answers.

- 1) Code 1 stands for the answer: Speed for reaching at information and comfort in transactions.
- 2) Code 2 stands for the answer: Productivity and savings from time and money.
- 3) Code 3 stands for the answer: The decrease in the bureaucratic processes.
- 4) Code 4 stands for the answer: Those who have no idea.
- 5) Code 5 stands for the answers grouped in the Code of “others” including similar answers.

- Cooperation between public and citizen.
- Contemporary developed society.
- Openness, etc.

The cross-tabulation of the responses that have been given for the positive sides is shown in Table IV. As it is seen, most of the participants in the two general directorates perceive “e-government” as a technical project for speed, productivity and savings from time and money respectively.

Table IV: The Cross-Tabulation for the Distribution according to the General Directorates

General Directorates	Code (Percentage)					Total
	1	2	3	4	5	
General Directorate of Educational Technologies	20.00	46.00	6.00	10.00	18.00	100
General Directorate of Apprenticeship and Common Education	34.62	32.05	6.41	12.82	14.10	100

In addition, according to the cross-tabulation, one can conclude that there are significant differences in terms of general directorates. For instance, most of the participants in the General Directorate of Educational Technologies see “e-government” as a means of productivity and savings from time and money. On the other hand, most of the participants in the General Directorate of Apprenticeship and Common Education see “e-government” as a means of speed for reaching at information and comfort in transactions. Nonetheless, these expectations stress the technical aspect of “e-government”.

On the other hand, the answers given by the same participants for the negative sides of “e-government” are as below. Figure IV.II also demonstrates the results.

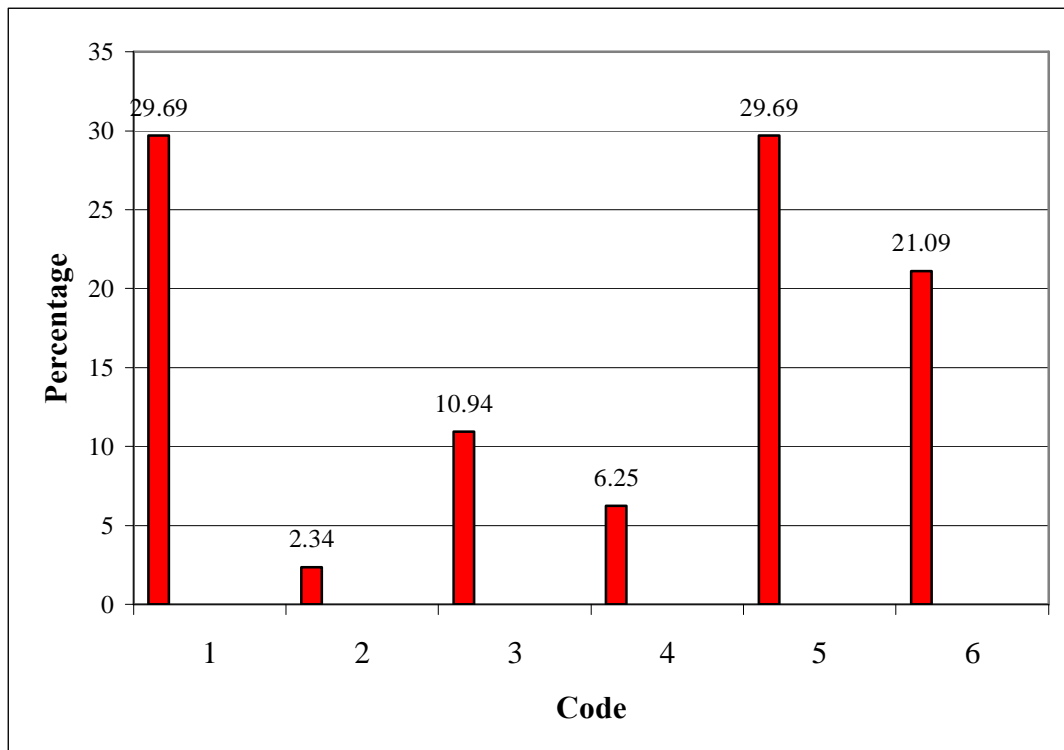
- 29.69 percent of the participants envisage that insufficient security measurements are the negative side of “e-government”.
- 2.34 percent of the participants envisage that contingency of faulty transaction is the negative side of “e-government”.
- 10.94 percent of the participants envisage that insufficient deployment of “e-government” in terms of infrastructure and culture with reference to skill for using the products of ICTs is the negative side of “e-government”.
- 6.25 percent of the participants envisage that lost time stemming from network system including computer is the negative side of “e-government”.
- 29.69 percent of the participants represent those who have no idea or the idea that “e-government” has no negative side.

- 21.09 percent of the participants envisage a various set of negative sides on “e-government” as follows:
 - Alteration in the relationship among humans.
 - Being uneducated.
 - Over employment.
 - Applying savings measures wrongly.
 - Exposing to the limits of the network system, etc.

In terms of results, 29.69 % has no idea. The second biggest percentage (29.69 percent) envisages that insufficient security measurements are the negative side of “e-government” by implying technical deficits of a technical project. Only 21.09 % indicate social and economic points such as alteration in the relationship among humans and over employment.

Figure IV.II: According to You, Are There Any Positive and Negative Sides on “E-Government”? If There Are, What Are These?

Figure IV.II: for Negative Sides



	Code (Percentage)						Total
	1	2	3	4	5	6	
People in Number	38	3	14	8	38	27	128
Percentage	29.69	2.34	10.94	6.25	29.69	21.09	100

Codes for the negative sides of “e-government” including the numbers of 1, 2,3,4,5 and 6 have been formed for categorizing the similar answers.

1) Code 1 stands for the answer: Insufficient security measurements.

2) Code 2 stands for the answer: Contingency of faulty transaction.

3) Code 3 stands for the answer: Insufficient deployment of “e-government” in terms of infrastructure and culture with reference to skill for using the products of ICTs.

4) Code 4 stands for the answer: Lost time stemming from network system including computer.

5) Code 5 stands for those who have no idea or the idea that “e-government” has no negative side.

6) Code 6 stands for the answers grouped in the Code of “others” including similar answers as:

- Alteration in the relationship among humans.
- Being uneducated.
- Over employment.
- Applying savings measures wrongly.
- Exposing to the limits of the network system, etc.

The cross-tabulation of the responses that have been given for the positive sides is shown in Table V. As it is seen, 40 percent of the participants in General Directorate of Educational Technologies and 23.08 percent of the participants in General Directorate of Apprenticeship and Common Education have no idea on the negative sides of “e-government”. In addition, the second majority in the two general directorates, 22 percent and 34.62 percent respectively, agrees that one of the negative sides of “e-government” is insufficient security measurements.

Table V: The Cross-Tabulation for the Distribution according to the General Directorates

General Directorates	Code (Percentage)						Total
	1	2	3	4	5	6	
General Directorate of Educational Technologies	22.00	0.00	16.00	2.00	40.00	20.00	100
General Directorate of Apprenticeship and Common Education	34.62	3.85	7.69	8.97	23.08	21.79	100

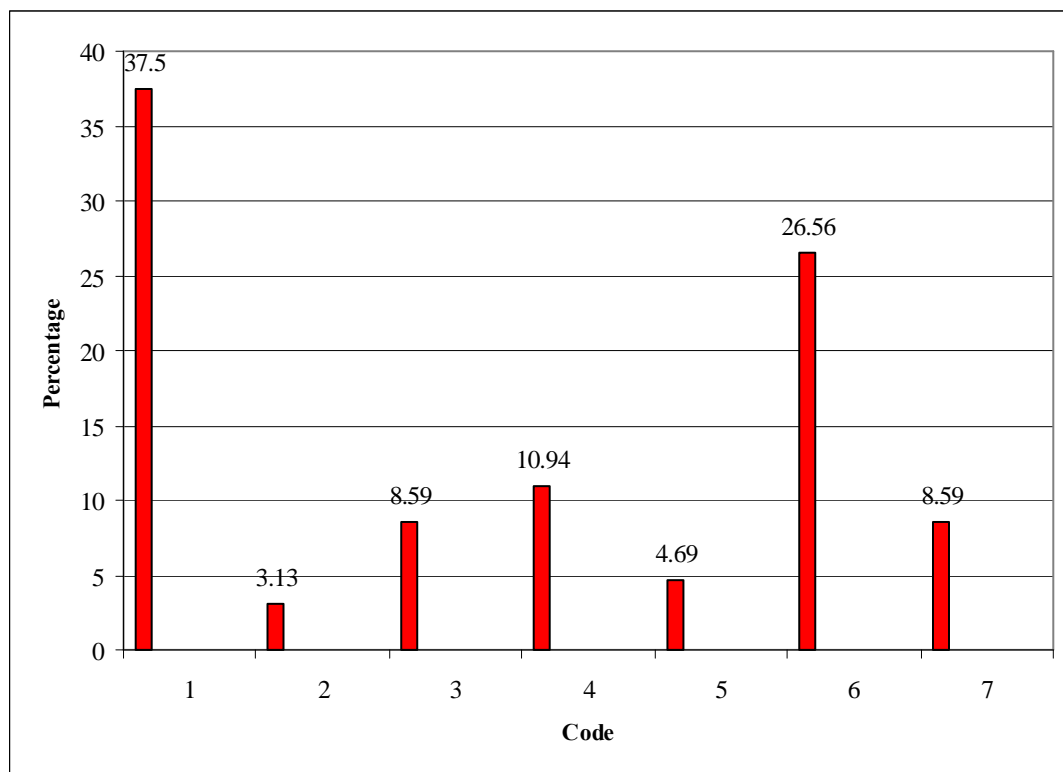
6.5. Objectives of “E-Government”

This question is the most crucial one in evaluating the consciousness of the participants about what “e-government” essentially is. The results from Figure V in total are below:

- 37.50 percent of the participants say that speed, productivity and savings from time and money are the objectives of “e-government”.
- 3.13 percent of the participants say that transparency, participation and equity are the purposes of “e-government”.
- 8.59 percent of the participants share not only the opinion of 37.5 percent of the participants, but also the opinion of 3.12 percent of the participants by stressing speed, productivity, savings from time and money, and transparency, participation and equity.
- 10.94 percent of the participants say that the decrease in bureaucratic processes is the aim of “e-government”.
- 4.69 percent of the participants say that keeping up with the times is the aim of “e-government”.
- 26.56 percent of the participants determine a various set of purposes of “e-government” as follows.
 - To realize the duties in the media electronically.
 - To increase life standard of people.
 - To eradicate queues.
 - To prevent bribery.
 - To control citizen via Internet.
 - To be able to use space technology.
 - To reach at information in secure.
 - To make reliable registration.
 - To share information.
 - To abandon the thought that state is the father by grasping the idea now on that state is the organization which citizens constitute, etc.
- 8.59 percent of the participants represent those who have no opinion about the purposes of “e-government”.

According to the answers, the largest group among the participants (37.50 %) determines the purposes of “e-government” as speed, productivity and savings from time and money. Such conclusion also indicates indirectly that “e-government” is perceived as a technical project that is erected on the cost-benefit analysis. On the other hand, few of participants among the second largest group of 26.56 % emphasize social, economic and political dimensions such as increasing life standard of people, preventing bribery, etc.

Figure V: According to You, What are the Purposes of “E-Government”?



	Code (Percentage)							Total
	1	2	3	4	5	6	7	
People in Number	48	4	11	14	6	34	11	128
Percent	37.50	3.13	8.59	10.94	4.69	26.56	8.59	100

Codes including the numbers of 1, 2, 3,4,5,6 and 7 have been formed for categorizing the similar answers.

- 1) Code 1 means the answer: Speed, productivity and savings from time and money.
- 2) Code 2 means the answer: Transparency, participation and equity.
- 3) Code 3 means the answer including not only Code 1, but also Code 2.
- 4) Code 4 means the answer: The decrease in bureaucratic processes.
- 5) Code 5 means the answer: Keeping up with the times.

- 6) Code 6 stands for the answers grouped in the Code of “others” including similar answers.
- To realize the duties in the media electronically.
 - To increase life standard of people.
 - To eradicate queues.
 - To prevent bribery.
 - To control citizen via Internet.
 - To be able to use space technology.
 - To reach at information in secure.
 - To make reliable registration.
 - To share information.
 - To abandon the thought that state is the father by grasping the idea now on that state is the organization which citizens constitute etc.
- 7) Code 7 means those who have no idea.

The cross-tabulation of the responses that have been given for the question 5 is shown in Table VI. As it is seen, most of the participants (30 percent)) in General Directorate of Educational Technologies agree indirectly that “e-government” is technological innovation in terms of keeping up with the times. On the other hand, most of the participants (43.59 percent) in General Directorate of Apprenticeship and Common Education agree that “e-government” is a technical project for speed, productivity and savings from time and money.

The cross-tabulation also shows that the second large group (28 percent) in General Directorate of Educational Technologies agrees with the opinion of the participants (43.59 percent) in General Directorate of Apprenticeship and Common Education. That is, according to them as well, “e-government” is a technical project for speed, productivity and savings from time and money

Table VI: The Cross-Tabulation for the Distribution according to the General Directorates

General Directorates	Code (Percentage)							Total
	1	2	3	4	5	6	7	
General Directorate of Educational Technologies	28.00	2.00	16.00	10.00	2.00	30.00	12.00	100
General Directorate of Apprenticeship and Common Education	43.59	3.85	3.85	11.54	6.41	24.36	6.41	100

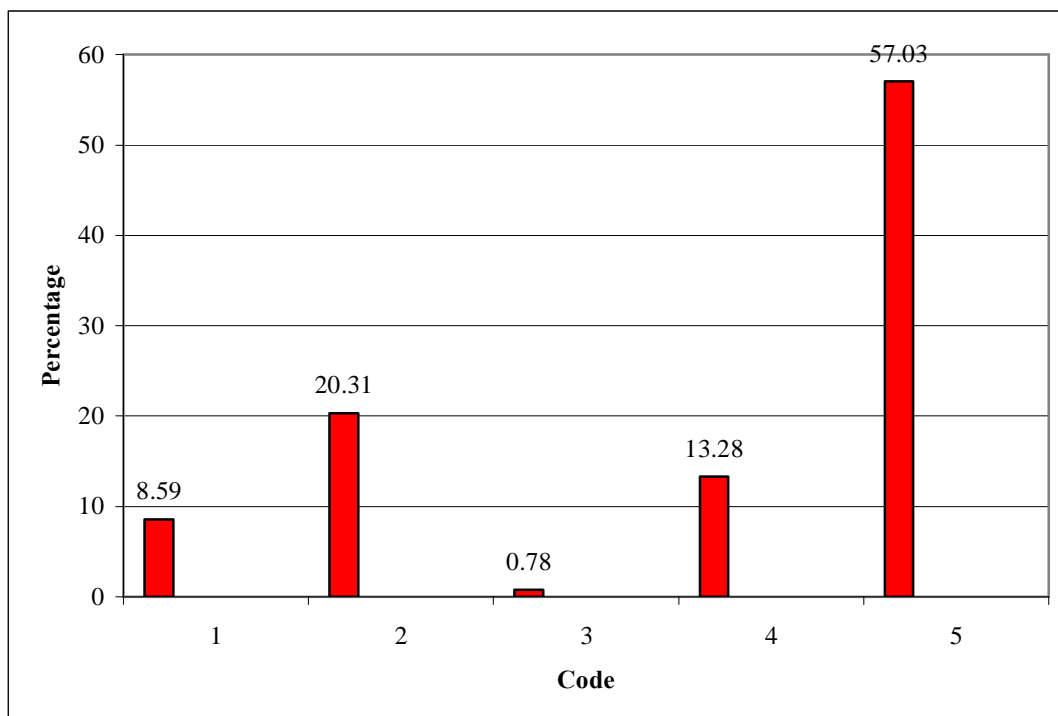
6.6. Other Facts about “E-Government”

This question is the other prominent question in the questionnaire in evaluating the mental formulations on “e-government” of the participants. Due to this question, by not drawing borders in the mind of the participants, it has been tried to learn their imagination under the direction of constructivist approach. Figure VI shows the results.

- 8.59 percent of the participants express the openness, equity, security and trustworthy for “e-government”.
- 20.31 percent of the participants express the deployment of “e-government” in terms of infrastructure and culture pointing out the skill for using the products of ICTs.
- 0.78 percent of the participants express the suitability for the standards of European Union and USA.
- 13.28 percent of the participants express a different set of expression to be grouped as below:
 - Speed, productivity and savings from time and money.
 - Easiness in the transactions.
 - Training skilled workman etc.
- 57.03 percent of the participants represent those who have no idea.

According to the results, more than halves of the participants (57.03 %) unfortunately declare that they have no idea by indicating the lack of expectation. Another large group of 20.31 percent states that it is needed to deploy “e-government” in terms of infrastructure and culture that points out skill for using the products of ICTs.

Figure VI: Other Points on “E-Government” that You Would Like to Express...



	Code (Percentage)					Total
	1	2	3	4	5	
People in Number	11	26	1	17	73	128
Percent	8.59	20.31	0.78	13.28	57.03	100

Codes including the numbers of 1,2,3,4 and 5 have been formed for categorizing the similar answers.

- 1) Code 1 means the answer: Openness, equity, security and trustworthy for “e-government”.
- 2) Code 2 means the answer: The deployment of “e-government” in terms of infrastructure and culture pointing out the skill for using the products of ICTs.
- 3) Code 3 means the answer: Suitability for the standards of European Union and USA.
- 4) Code 4 stands for the answers grouped in the Code of “others” including similar answers.
 - Speed, productivity and savings from time and money.
 - Easiness in the transactions.
 - Training skilled workman, etc.
- 5) Code 5 means those who have no idea.

The cross-tabulation of the responses that have been given for the question 6 is shown in Table VII. As it is seen, most of the participants not only in General Directorate of Educational Technologies, but also in General Directorate of Apprenticeship and Common Education have no idea. However, the second large

group (24 percent and 17.95 percent) of each general directorate agrees that “e-government” should be deployed in terms of infrastructure and skill for using the products of ICTs.

Table VII: The Cross-Tabulation for the Distribution according to the General Directorates

General Directorates	Code (Percentage)					Total
	1	2	3	4	5	
General Directorate of Educational Technologies	8.00	24.00	0.00	4.00	64.00	100
General Directorate of Apprenticeship and Common Education	8.97	17.95	1.28	19.23	52.56	100

7. THE INTERPRETATION OF THE QUESTIONNAIRE RESULTS

Questionnaire results, the fifth question that is the crucial one in particular, have demonstrated that those who answered the questionnaire perceive “e-government” as giving rise to:

- Speed, productivity and savings from time and money.
- Transparency, participation and equity.
- Decrease in bureaucracy.
- Keeping up with the times.
- To realize the duties in the media electronically.
- To increase life standard of people.
- To eradicate queues.
- To prevent bribery.
- To control citizen via Internet.
- To be able to use space technology.
- To reach at information in secure.

- To make reliable registration.
- To share information.
- To abandon the thought that state is the father by grasping the idea now on that state is the organization which citizens constitute, etc.

As it is seen, there is no systematic knowledge on the relation between “Information-based Economy”, “Information Society” and “e-government”. The deprivation of systematic knowledge can be explained by interpretivist approach since participants have commented the events within their context in terms of occupation, status and background.

Moreover, it is possible to conclude that the deprivation of systematic knowledge not only is limited to those who answered the questionnaire, but also includes the other staffs to which the questionnaire has not been delivered to be answered.

The reason why it is concluded such is that it is engaged in the institutional/organizational culture since institutional knowledge on something is delivered from top to bottom hierarchically, staffs share roughly same knowledge about something related organizational duty by the means of official documents, meetings and orders given by the superiors⁵. Anyway, the questionnaire results show that although two general directorates have been chosen for the questionnaire (one of these two general directorates is in charge of “e-government” because of its responsibilities that are determined by the legislations, as mentioned before), the conclusions are more or less the same.

Nonetheless, the conclusion that those who answered the questionnaire and, naturally, all staffs of the Ministry of National Education because of organizational culture do not know what “e-government” takes aim at in essence could be a mechanic one.

People tend to perceive the events and phenomena as to their context. That is, in terms of interpretivism, for example, people think that social reality is the

⁵ Only one teacher that the questionnaire has been delivered to be answered has given systematic knowledge on the relation between “Information-Based Economy”, “Information Society” and “e-government”. Then, when it has been talked to her, it has been learned that she is Ms. Student in the Department of Education of Computer and Instructional Technology. That means that different points of view in different disciplines provide various comments and results.

outcome of their own mental formulation. They see the world that is already interpreted by the meanings, which they produce and reproduce as a necessary unit of their everyday activities together (Blaikie 1993, 36-48).

For example, a paymaster perceives “e-government” as a solution to deliver the notice of insurance premiums of the workers via Internet to the Ministry of Labour and Social Security by saving from the time. A teacher understands it as a solution for the transactions related to the banks whilst another teacher perceives it as a solution for a new kind of organizing. A manager reckons it as a solution for eradicating to favour someone and for preventing bribery while another manager thinks it as a solution for a better communication with people. On the other hand, a more superior administrator envisages that “e-government” is a contradiction for the belief that state is father. Instead, state is the organization which citizens constitute.

Furthermore, such considerations of those participants are close to the conclusion of Üstüner (2003, 54-7) on autopoietic and self-referential systems since those people are fragments of the processes in making decisions and putting their duties in practice at the same time. In other words, they have power to internalize the events in accordance with their context.

However, there is such an irritating matter to which one has to pay attention. This matter is the belief that “e-government” provides the savings of paper and then it helps the productivity. In other words, “e-government” contributes to the productivity by providing the savings of paper⁶.

⁶ In essence, there are some theories and laws in researching the reasons of increasing public expenses that some scholars such as; Musgrave, Wagner, Peacock and Wiseman, tried to explain. As for Peacock and Wiseman, as they are engaged in “Jumping Thesis” in war periods, their model is not suitable for evaluating whether or not “e-government” contributes to the savings of paper.

Nonetheless, the law of Wagner and the theory of Musgrave are the starting points since those are convenient with the scope of this thesis.

Adolph Wagner, a German economist, set forward law of continuous increase in state activities in 1883 by trusting his empirical studies that he made in various countries in 19th century. Wagner enumerated reasons of increasing public expenses as follows.

1. Increasing significance of internal and external security services in a state.
2. Increasing significance of maintaining civil law order in a state.
3. Increasing development activities owing to the industrialization and social developments.
4. Increasing costs of a state's activities owing to the developing technology for constituting needed infrastructure.

If “e-government” means an only technical base and to be a tool to decline paper using, as Koyun (2003, 85) understands, in that case, Ministry of National Education, for example, got in the debt in vain for establishing Information Technologies Classes by signing the loan contract with World Bank in 1998 for \$ 1.8,000,000,000⁷ (Projects Coordination Centre, 2004). Furthermore, when such and similar aims like the savings of paper have presented, it can be said that there is no consciousness about the economic, cultural, political, and social effects of e-government in addition to the technical influences.

Furthermore, let’s suppose that people do not use paper any more. CD-ROMs, floppy disks, flash disks, electricity, necessary software, ICTs infrastructure, etc. replace the paper now on. Now, one can ask that is the necessary investment cheaper than the paper? Of course, it is not cheaper than the paper. So, one can see that the thought that e-government will help decrease the costs of the use of paper is rather “stuff and non-sense”.

In fact, the issue is more crucial. The right fixing of the reason of any problem results in the right solution. In this context, there is a difference between conclusions providing that one defines e-government as a technical innovation or defines as a tool to realize social, economic and political transformation. In other words, the conclusion to which one comes by defining e-government as a merely technical innovation is different from the conclusion to which one comes by defining e-government as a tool to realize social, economic and political transformation. Naturally, the solutions will be different.

5. Demand of a state for providing better service to her people.

6. Some expensive services such as education, postal service, banking, etc. give rise to the natural monopolization of a state on these services because of their requiring lots of capital (Çakır et al. 2004, 102-3; Akdoğan 1999, 67-8).

On the other hand, for Musgrave, the composition of public expenses changes according to the development process of a country. In other words, the development level of any country changes the composition of public expenses (Çakır et al. 2004, 102; Akdoğan 1999, 73).

In this approach, the composition of public expenses changes in favour of education, health and other social services as long as the development level of a country will ascend.

⁷ This is an only example that includes the project of Ministry of National Education. Apart from this example, Ministry of Health, Ministry of Internal Affairs and Ministry of Labour and Social Security, etc. have the projects in cooperation with World Bank.

In the first case, such conclusion perceiving e-government as a technical project, of course, will give rise to wrong thoughts, solutions that result in wrong policies and wastage of resources in Turkey.

For example, Democrat Party believed an economic integrity with Western World when it came into power in Turkey in 1950.

The reason Democrat Party wanted the economic integrity with Western World is that it hoped the economic development with foreign aids and foreign loans (Kongar 1999, 150). And, via foreign aids and foreign loans, Democrat Party increased the number of tractors from roughly 1,066 to 40,000. However, as the land reform was not actualized, the result was that farmer families who possessed the large parts of the land, they owned most of the tractors. As a result, loans given by different organizations and same loans distributed by Democrat Party befitted big landowners. In other words, Democrat Party did not actualize the development through agriculture as it had not necessary rationale to comprehend the requisitions that necessitated structural reforms (Yerasimos 1980, 830-7).

In brief, once the appropriate rationality and structural adaptation for the countries which are necessary for development are not present, the result is an only disappointment for those who aim at development via loans and foreign aids no matter the objective is to establish “Information Society”.

However, the main purpose for “Information-Based Economy” in any country is to take aim at providing enough intellectual capital. These intellectual capitals not only will actualize economic development based on Information and Telecommunication Technologies by producing software and hardware and by producing knowledge, but also will be the base of “Information Society”. Otherwise, “Information-Based Economy” means the transfer of technology from developed countries to underdeveloped countries through the loans and foreign aids.

First of all, possessing necessary intellectual capital needs structural adaptation and change in educational curriculum in accordance with “Information-Based Economy” because one of the basic purposes of the education is to train needed human resource for the economy of the country. However, the change of educational curriculum is not meant to add a new chapter into any book. It is meant educational curriculum that takes aim at using ICTs for giving rise to the

consciousness to produce intellectual capitals and directing people to the sectors that “Information-Based Economy” is nourished and will feed. Otherwise, the values of “Information-Based Economy” and “Information Society” appear as nominal.

8. PROPOSALS FOR THE MINISTRY OF NATIONAL EDUCATION

Though it is accepted that educational system presents wholeness from primary education to the university education, it has been merely interested in the education under the scope of Ministry of National Education due to the scope of questionnaire that has been conducted.

According to the results of questionnaire, the participants of the Ministry of National Education have no systematic knowledge concerning the relation between “Information-Based Economy”, “Information Society” and “e-Government”. In fact, the results can be denied in terms of interpretivist approach, and participants can be seen as right because they have commented the events according to their professions and positions.

Nonetheless, the fact can not be denied that they are responsible for designing the future of the society in Turkey.

For this purpose, some proposals for the educational system are set forward as following by using the theories of public administration including “actor-network theory” and “contingency theory”.

1. In terms of Contingency Theory: Schools should be full-time school including flexible and full-time schedules by permitting a time frame which is decided on individually by the students and parents. Educational system should be introduced to different working methods by learning how to learn by developing creative intelligence that will generate “propositional knowledge⁸”.

⁸ It is meaningful to underline the difference between information and knowledge as different authors impose different meaning and significance on it. For example, according to David and Foray, “knowledge” endows its owners with the capacity for intellectual and physical action. “Knowledge” is in essence a matter of cognitive capability. Information, on the other hand, takes the shape of integrated and formatted data that continue passive and inactive until used by those with the knowledge needed to interpret and process them (David & Foray 2002, 4). Hence, reproducing knowledge is at the heart of many professions and traditions and of “Knowledge-Based Economy”.

2. In terms of Contingency Theory: Some schools including vocational and technical education should be promoted for differentiating between and within the schools to satisfy the needs of those students and parents with the aim of keeping up with epoch determined by “Information-Based Economy”.
3. In terms of Contingency Theory: Schools should be independent on time and place by supporting appropriate curriculum that develops the research ability and that shows the way of attaining the information⁹.
4. In terms of Network Theory: There should be more autonomy for the schools for satisfying their special needs in planning their schedules and making decisions.
5. In terms of Network Theory: Teachers' role should change from governess of children to the moderator that shows the instruction ways for the students in learning their learning processes.
6. In terms of Network Theory: Students should learn how to make decisions for their own learning processes. They should be able to make choices for their own behaviours for perceiving that school is not only a place for knowledge, but also a place for acquiring skills.

Yet, the distinction is not merely limited to “information” and “knowledge”. In addition, some authors classify “knowledge”, as well. Mokyr, for example, classifies “knowledge” as “propositional knowledge” and “prescriptive knowledge”. “Propositional knowledge” composes of “knowledge of what” such as natural phenomena and regularities. “Prescriptive knowledge” dictates certain action that establishes the exploitation of natural phenomena for “production”. “Propositional knowledge” contains formal and consensual propositional knowledge (more than science as science may be negligible subset in the history) and contains practical informal knowledge about nature such as the properties of materials, an intuitive grasp of basic mechanics, regularities of ocean currents and folk wisdoms in the “an-apple-a-day-keeps-the-doctor-away” tradition (Mokyr 2004, 2).

“Prescriptive knowledge”, on the other hand” has the form of techniques or instructions. It is the technique that is the basic element of analysis in evolutionary accounts of technology. They are sets of executable instructions for how to exploit nature. Once these instructions are put into practice, it is called as “production” (Mokyr 2004, 2). Naturally, to produce “propositional knowledge” at the hearth of “Knowledge-Based Economy” for developed countries as well as to possess “prescriptive knowledge” to produce “propositional knowledge”. For detailed discussion concerning “knowledge”, see Mokyr (2004).

⁹ Nonetheless, it should be emphasized that this issue necessitates a separate empirical study. Educational system, which is independent on time and place, can be convenient for those who participate in lifelong learning, on job training or those who attend the University for Second University Education. On the other hand, it could not be convenient for very young people for their maturing process. That is, ordinary primary schools which are dependent on time and space in particular, for example, can not be useful for children in terms of their psychological and mental development

9. CONCLUSION

Though it is accepted that educational system presents wholeness from primary education to the university education, it has been merely interested in the education under the scope of Ministry of National Education due to the questionnaire that has been conducted in the Ministry of National Education.

According to the results of questionnaire, most of the staffs in the Ministry of National Education have no systematic knowledge concerning the relation between “Information-Based Economy”, “Information Society” and “e-government”. Naturally, the results which they have concluded can be seen as meaningful in terms of interpretivist approach, for they have commented the events within their context.

Nonetheless, the reality can not be denied that they have no systematic knowledge on the relation between “Information-Based Economy”, “Information Society” and “e-government” although they are responsible for designing the future of the society.

In this context, for the Ministry of National Education the values of “Information-Based Economy” and “Information Society” appear as abstract. Moreover, “e-government” appears as a technical project for reaching at its target mass that includes students, students' parents and the other interested parties.

REFERENCES

Akdoğan, A. 1999. *Kamu Maliyesi*. Ankara: Gazi Kitabevi.

Althusser, L. 2002. *Ideology and the Ideological Apparatus of the State*. Translated by Yusuf Alp and Mahmut Özışık. İstanbul: İletişim Yayınları.

Aristoteles. 2002. *Polity*. 6th ed. Translated by Mete Tunçay. İstanbul: Remzi Kitabevi.

Çakır, T., Moğol, T., Ataç, E., Heper, F., Dönmez, R., Ataç, B., and Varcan, N. 2004. *Kamu Maliyesi*. Eskişehir: Anadolu University.

David, P. A. and Foray, D. 2002. “*Economic Fundamentals of the Knowledge Society*.” Internet: Standford University. Available from <http://www-econ.stanford.edu/faculty/workp/swp02003.pdf>; accessed 03 March 2005.

International Telecommunication Union. 2003a. “*Plan of Action*.” Internet: World Summit on the Information Society. Available from http://www.itu.int/dms_pub/itu-s/md/03/wsis/doc/S03-WSIS-DOC-0005!!MSW-E.doc; accessed 04 April 2004.

_____. 2003b. “*Declaration of Principles*.” Internet: World Summit on the Information Society. Available from http://www.itu.int/dms_pub/itu-s/md/03/wsis/doc/S03-WSIS-DOC-0004!!MSW-E.doc; accessed 04 April 2004.

Kongar, E. 1999. *21. Yüzyılda Türkiye*. İstanbul: Remzi Kitabevi.

Koyun, M. 2003. *Etkinlik ve Etkin Devlet Anlayışı Çerçevesinde E-Devlet*.

Ms. thesis, Selçuk University. Ankara: YÖK Tez Merkezi.

Ministry of National Education of Turkish Republic. 1999. *Milli Eğitim Mevzuatı*.

Ankara: Yayınlar Dairesi Başkanlığı.

Mokyr, J. 2004. "*The Knowledge Society: Theoretical and Historical*

Underpinnings." Internet: United Nations Online Network in Public Administration and Finance. Available from

<http://unpan1.un.org/intradoc/groups/public/documents/un/unpan011777.pdf>;

accessed 03 March 2005.

Official Newspaper of Turkish Republic. 2005. *e-Dönüşüm Türkiye Projesi 2005*

Eylem Planı. Ankara: Prime Ministry of Turkish Republic.

Prime Ministry of Turkish Republic. 2003. *Genelge 2003/12*. Ankara: Prime

Ministry of Turkish Republic.

Projects Coordination Center, Ministry of National Education. 2004.

Temel Eğitim Projesi. Internet: Available from

<http://projeler.meb.gov.tr/tep.htm>; accessed 20 May 2005.

Rzevski, G. 2002. "*On the Internet-Based Economy*." Internet: Brunel University.

Available from

<http://www.brunel.ac.uk/research/madira/papers/p22.pdf> ; accessed 26 August 2004.

State Planning Organization of Turkish Republic. 2003. *Acil Eylem Planı*.

Ankara: State Planning Organization.

Toft, G. S. 2002. “*Human Capital Policies for the Knowledge Economy*.” Internet:

Hudson Institute. Available from

http://www.nga.org/cda/files/1202WORKFORCE_TOFT.PPT; accessed 23 February 2005.

Üstüner, Y. 2003. “*Siyasa Oluşturma Sürecinde Ağ Yönetişim Kuramı*.” Ankara:

TODAİE.

Yerasimos, S. 1980. *Turquie:Le processus d'un sous- développement*. Translated by

Babür Kuzucu. İstanbul: Gözlem Yayınları.

See also:

<http://rega.basbakanlik.gov.tr/Eskiler/2005/04/20050401.htm>

<http://ekutup.dpt.gov.tr/plan/aep/>

<http://195.140.196.81/genelge/gbs.aspx> (Genelge 2002/20)

<http://195.140.196.81/genelge/gbs.aspx> (Genelge 2002/55)

<http://195.140.196.81/genelge/gbs.aspx> (Genelge 2003/12).

<http://egitek.meb.gov.tr/egitek/Mevzuat/EgitekKurulusYasasi.html>

<http://yasemin.meb.gov.tr/mebdata/mevzuat/aramalisteleme.asp>

Ehmann, C., Priddat, B., Putzhammer, H., Röder, W. J., Schley, C., Schwengel, H., Simon, N., Walter, J., and West, K-W. 2002. "*Manifest-Education for the Labor and Knowledge Society.*" Internet: NELP. Available from http://www.nelp.de/beitraege/05_bildung/nelp2_manifest_e.pdf; accessed 10 March 2005.