A QUANTITATIVE ANALYSIS ON THE PROBABLE FACTORS AFFECTING THE SUCCESS OF E-GOVERNMENT TRANSFORMATION IN TURKEY: A STUDY BASED ON THE DATA OF INTERNAL AND EXTERNAL STAKEHOLDERS

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF INFORMATICS
OF
THE MIDDLE EAST TECHNICAL UNIVERSITY

BY

GÖKHAN İSKENDER

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN
THE DEPARTMENT OF INFORMATION SYSTEMS

JULY 2013

A QUANTITATIVE ANALYSIS ON THE PROBABLE FACTORS AFFECTING THE SUCCESS OF E-GOVERNMENT TRANSFORMATION IN TURKEY: A STUDY BASED ON THE DATA OF INTERNAL AND EXTERNAL STAKEHOLDERS

Submitted by **Gökhan İskender** in partial fulfillment of the requirements for the degree of **Doctor of Philosophy in Information Systems, Middle East Technical University** by,

Prof. Dr. Nazife BAYKAL
Director, **Informatics Institute** _____

Prof. Dr. Yasemin YARDIMCI ÇETİN
Head of Department, **Information Systems** _____

Assoc. Prof. Dr. Sevgi ÖZKAN YILDIRIM
Supervisor, **Information Systems** _____

Examining Committee Members:

Prof. Dr. Uğur SOYTAŞ
Business Administration, METU _____

Assoc. Prof. Dr. Sevgi ÖZKAN YILDIRIM
Information Systems, METU _____

Prof. Dr. Ali ALP
Business Administration, TOBB ETU _____

Assoc. Prof. Dr. Aysu Betin CAN
Information Systems, METU _____

Assoc. Prof. Dr. ALTAN KOÇYİĞİT
Information Systems, METU _____

Date: **02.07.2013**

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I fully cited and referenced all material and results that are not original to this work.

Name, Last Name : Gökhan İSKENDER

Signature : _____

ABSTRACT

A QUANTITATIVE ANALYSIS ON THE PROBABLE FACTORS AFFECTING THE SUCCESS OF E-GOVERNMENT TRANSFORMATION IN TURKEY: A STUDY BASED ON THE DATA OF INTERNAL AND EXTERNAL STAKEHOLDERS

İSKENDER, Gökhan
Ph.D., Department of Information Systems
Supervisor: Assoc. Prof. Dr. Sevgi ÖZKAN YILDIRIM

July 2013, 111 pages

This study analyses the relationship between the e-government transformation success in Turkey and the eighteen success factors commonly assumed to be the causes of the success in the literature by using the data collected from four central and four local Turkish public institutions. It uses a quantitative methodology, which considers the e-government transformation success as the dependent variable and the eighteen success factors as the independent variables in a relational model. Apart from the similar studies in the literature, this study is a multidimensional quantitative one considering technical, social, organizational, economic, political and legal dimensions of the subject concurrently and it uses the data of not only external stakeholders (people using the e-government services) but also internal stakeholders (people working in the public institutions to provide the e-government services) while doing its analyses. The study collects more than 400 responses with a common survey from each stakeholder group and evaluates the possible relationships between the dependent variable and the independent variables by using the correlation, the regression and the factor analyses. The main results of these analyses show that even though there are significant and positive relationships between the probable success factors and the transformation success, these relationships are not cause and effect relationships as assumed in the other qualitative studies in the literature.

Keywords: Turkey, e-government, transformation, success, stakeholder.

ÖZ

TÜRKİYE'DE E-DEVLET DÖNÜŞÜMÜNÜN BAŞARISINI ETKİLEYEN OLASI FAKTÖRLER ÜZERİNE SAYISAL BİR ANALİZ: İÇ VE DIŞ PAYDAŞ VERİLERİNE DAYALI BİR ARAŞTIRMA

İSKENDER, Gökhan
Doktora, Bilişim Sistemleri Bölümü
Tez Yöneticisi: Doç. Dr. Sevgi ÖZKAN YILDIRIM

Temmuz 2013, 111 sayfa

Bu çalışma Türkiye'de e-devlet dönüşümünün başarısı ile literatürde bu başarının nedeni olduğu varsayılan on sekiz başarı faktörü arasındaki ilişkiyi dört merkezi ve dört yerel kamu kurumundan toplanılan veriyi kullanarak incelemektedir. Çalışma e-devlet dönüşüm başarısını bağımlı değişken, on sekiz başarı faktörünü bağımsız değişken olarak kabul eden ilişkisel bir model kullanmaktadır. Çalışma literatürdeki benzer çalışmalardan farklı olarak konunun teknik, sosyal, organizasyonel, ekonomik, politik ve hukuki boyutlarını eş zamanlı inceleyen ve analizlerini gerçekleştirirken sadece dış paydaşların (e-devlet hizmetini kullanan insanlar) verilerini değil iç paydaşların (kamu kurumlarında e-devlet hizmeti sunmak için çalışan insanlar) verilerini de kullanan çok boyutlu ve sayısal bir çalışmadır. Çalışma ortak bir anketle her bir paydaş grubundan 400'den fazla cevap toplamakta ve bağımlı değişken ile bağımsız değişkenler arasındaki muhtemel ilişkileri korelasyon, regresyon ve faktör analizleri yoluyla araştırmaktadır. Bu analizlerin temel sonuçlarına göre muhtemel başarı faktörleri ile dönüşüm başarısı arasında güçlü ve pozitif ilişkiler var olmasına rağmen bu ilişkilerin hiçbiri literatürdeki diğer sözel çalışmalarda varsayıldığı gibi neden sonuç ilişkisi değildir.

Anahtar Kelimeler: Türkiye, e-devlet, dönüşüm, başarı, paydaş.

To my family and friends

ACKNOWLEDGEMENTS

The success of any study depends largely on the encouragement and the guidelines of many other people apart from the researcher. As a result of this, I would like to thank these people for helping me to successfuly complete this Ph.D. thesis.

Foremost, I specially thank my supervisor, Assoc. Prof. Dr. Sevgi ÖZKAN YILDIRIM for her excellent caring, patience and generous sponsorship along the way.

Besides my supervisor, I am very grateful to Prof. Dr. Uğur SOYTAŞ and Assoc. Prof. Dr. Aysu BETİN CAN for their endless support and invaluable comments in each step of the research.

I thank all my family members who supported me though the best and worst of times; my sister who proceeded before me and my parents who encouraged me to continue my graduate studies in the best university of Turkey.

Finally, I'm also grateful to all my friends for their brilliant ideas and advices when I needed them.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

CPI1	:	Central Public Institution Number 1
CPI2	:	Central Public Institution Number 2
CPI3	:	Central Public Institution Number 3
CPI4	:	Central Public Institution Number 4
CA	:	Cronbach's Alpha
CAIID	:	Cronbach's Alpha if Item Deleted
DV	:	Dependent Variable
D&M ISSM	:	The Delone and McLean Information Systems Success Model
ICT	:	Information and Communication Technologies
IS	:	Information Systems
IT	:	Information Technology
IV	:	Independent Variable
LPI1	:	Local Public Institution Number 1
LPI2	:	Local Public Institution Number 2
LPI3	:	Local Public Institution Number 3
LPI4	:	Local Public Institution Number 4
SEM	:	Structural Equation Modeling
UNPAN	:	United Nations Online Networking Public Administration

CHAPTER 1

INTRODUCTION

Electronic government (e-government) is a multidisciplinary concept, which has connections with many sciences including technical, social, organizational, economic, political and legal ones. Because of this multidisciplinary structure, the literature contains many different definitions based on the specific focuses of the existing researches and it is relatively hard to provide a common definition for the concept. A good method to solve this common definition problem is to consider the ultimate aim of e-government rather than its connections with the different disciplines and to focus on its output rather than its inputs.

The ultimate aim of e-government is to facilitate the governmental procedures like all other "e-" concepts and the output of e-government is better governmental services than the traditional ones. As a result of this, using the definition of Srivastava, which explains the e-government concept as "…the use of information and communication technologies (ICTs) for enhancing the access to and the delivery of government services for the benefit of citizens, businesses, and also employees" (Srivastava, 2011) is an ideal choice to define the concept of e-Government.

While it is relatively hard to define the concept of e-government, it is relatively easy to define the concept of transformation. The word transformation means "a complete change in the appearance or character of something or someone, especially so that they are improved" (Cambridge Dictionary: Transformation, 2012).

This Ph.D. thesis analyzes the relationships between the probable success factors and the e-government transformation success in Turkey. Considering this research focus, the question of "What is e-government transformation?" needs be answered before starting the intended analyses and the answer can be formed by combining the main essences of these two definitions above. According to this combination, e-government transformation is a complete change in the governmental structure by means of information and communication technologies for enhancing the access to and the delivery of government services for the benefit of citizens, businesses, and also employees. The term e-government transformation will be used parallel to this definition after this point in this study.

1.1. The Problem Statement

The literature contains many studies analyzing the e-government transformation success and the probable factors affecting it. Some of these studies focus on the specific problems to be solved while some others analyze the subject from a broader perspective. Although the motivation, the rationale and the scope of each study are different, there are two common characteristics applicable to all of them.

The first common characteristic is the tendency to consider external stakeholders (citizens using the e-government services) as the sole sample group for collecting data to assess the e-government transformation success. During our literature review for this study, we noticed that nearly all of the studies collecting data from potential users of e-government services exclude an important sample group, which are internal stakeholders (workers of the public institutions providing the e-government services) while doing their analyses. We believe it is necessary to integrate this sample group to the analyses as the workers of the public institutions are also the users of the same services and their opinions about the transformation success is as important as external stakeholders since the success is dependent upon not only the external factors but also the internal ones.

The second common characteristic is the tendency to do qualitative analyses when the scope of the study is broader and quantitative analyses when it is narrower. Again during our literature review, we noticed that nearly all of the qualitative studies cover many success factors generally gathered under one or more dimensions while the quantitative ones are limited to one or at most a couple of success factors.

It is natural to see these two characteristics in the current studies because defining the probable set of all success factors is hard as the subject is related to many different disciplines. Because of this, researchers generally focus on specific areas rather than trying to analyze the whole set. In addition to this, it is harder to collect quantitative data for all of the probable success factors even though data set is well defined and this hardness increases when the researchers need data of public institutions since collecting data from public institutions requires additional bureaucracy and permissions.

Although it is hard to deal with the problems stated above, we believe it is a necessity to understand the dynamics of the transformation success correctly and completely. As result of this necessity, this Ph.D. thesis not only evaluates all of the probable success factors assumed to be effective on the e-government transformation success in the literature but also considers the internal stakeholders parallel to the external stakeholders while forming its sample group. In addition to this, it collects quantitative data from both stakeholder groups and analyzes this quantitative data with the help of statistical techniques instead of using qualitative judgments or assessments.

1.2. The Research Phases

The research done in this Ph.D. thesis has six main phases:

The first phase defines the need for the research by presenting the problem statement and establishes the theoretical base for the intended discussion by completing the literature review.

The second phase develops the methodology and the tool to be used in the research. This phase contains eight consecutive steps. The first three initial steps decide on the research type, the model to be used, the subcomponents of the dependent variable, the independent variables and the calculation methods for the mathematical values. The remaining five steps clarify the variables by using Delphi Analyses, build the draft survey, establish the connections with the potential public institutions, define the sample and sample size and finalize the survey by applying validity analyses.

The third phase focuses on building the hypotheses and the initial model related to the probable relationships between the variables. This phase contains three main questions focusing on the relationships and three different sets of hypotheses formed for these questions.

The fourth phase decides on the types of statistical analyses to be used, collects the real data, organizes it by removing the erronous and incomplete results and forms the comparable data sets from the organized data.

The fifth phase applies the previously decided statistical analyses on the organized data and presents the results of these analyses for the upcoming discussions.

The sixth phase presents and discusses the core results and the final model of the research in addition to its additional results, contributions, limitations and potential to establish a base for the future researches.

1.3. Thesis Outline

This Ph.D. thesis has eight chapters except the references and the appendices. The first chapter presents the introduction while the second one contains the literature review. The third chapter explains the methodology and the tool (survey) developed for the study while the fourth one forms the hypotheses and the initial model. The fifth chapter decides on the proper statistical analyses to be applied on the data while the sixth one focuses on the collection of these data from the intended stakeholder groups. The seventh chapter processes the collected data by using the previously decided analyses while the eighth one presents the discussions, the conclusions and the final model in addition to the contributions, the limitations and the potential. The thesis outline is presented in the figure below.

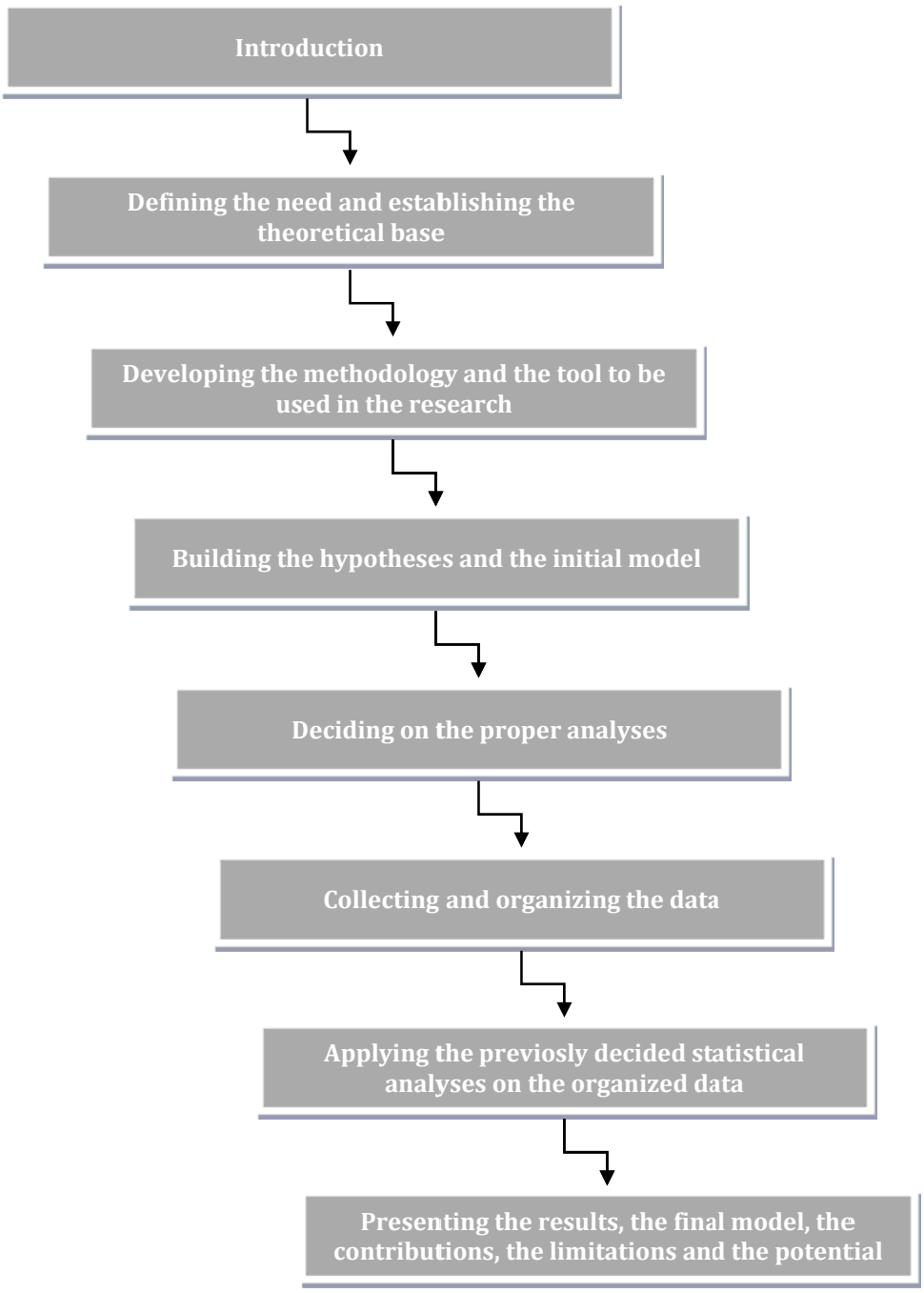


Figure 1: Thesis Outline

CHAPTER 2

LITERATURE REVIEW

The studies prepared on the e-government transformation success analyze many different aspects of the concept. Some studies try to evaluate the technical needs of the transformation while some others discuss the acceptance of this transformation in the society; some others assess the legal or the political harmonization while some others consider the organizational factors. As the subject is an interdisciplinary one, it is popular among many different researchers having different backgrounds and there are many detailed or specific studies in the literature. We reviewed 100 studies analyzing the e-government transformation success and we noticed that all these studies could be classified under four main groups according to their focuses in general:

- The first group of studies analyzes the effects of the dimensions on the transformation success. These dimensions are the main bases aggregating similar success factors under the common headings. During our literature search, we mainly came up with six different dimensions, which were technical, social, organizational, economic, political and legal ones. Some studies in this group try to cover all of the dimensions while some others only analyze one or two of them. Well-known examples of this type of studies are the study of Komito on the political and the legal dimensions (Komito, 2005); the study of Janssen and Veenstra on the social and the organizational dimensions (Janssen & Veenstra, 2005); the study of Wu on the technical dimension (Wu, 2007) and the study of Gil-Garcia and Pardo on all dimensions (Gil-García & Pardo, 2005). The table below presents the other studies we classified under this category during our literature review:

Table 1: Studies Analyzing the Dimensions

Studies
Heintze & Bretschneider, 2000
Layne & Lee, 2001
Stiftung & Hamilton, 2001

Table 1 (continued)

Studies
Burbridge, 2002
Reffat, 2003
Gilbert, Balestrini, & Littleboy, 2004
Hwang, Li, Shen, & Chu, 2004
Becker, Niehaves, Algermissen, Delfmann, & Falk, 2004
Borras, 2004
Carbo & Williams, 2004
Aichholzer, 2004
Eddowes, 2004
Carter & Belanger, 2004
Lam, 2005
Al-adawi, Yousafzai, & Pallister, 2005
Adamal, Lanvin, & Schware, 2005
Gil-García, 2005
Davison, Wagner, & Ma, 2005
Alpar & Olbrich, 2005
Scholl, 2005b
Khosrow-Pour, 2005
Heeks, 2006
King & Burgess, 2006
Vaidya, Sajeev, & Callender, 2006
Altameem, Zairi, & Alshawi, 2006
Reece, 2006
Kamal, 2006
Kumar, Mukerji, Butt, & Persaud, 2007
Pardo & Tayi, 2007

Table 1 (continued)

Studies
Beynon-Davies, 2007
Ebbers & Van Dijk, 2007
Hussein, Karim, & Selamat, 2007
Ghapanchi, Albadvi, & Zarei, 2008
Trimi & Sheng, 2008
Koh, Prybutok, & Zhang, 2008
Coursey & Norris, 2008
Verdegem & Verleye, 2009
Díez & McIntosh, 2009
Schwester, 2009
Mahadeo, 2009
Helbig, Gil-García , & Ferro, 2009
Yoon & Chae, 2009
Al-Rashidi, 2009
Almarabeh & AbuAli, 2010
Rose & Grant, 2010
Furlong & Al-Karaghouli, 2010
Angelopoulos, Kitsios, & Papadopoulos, 2010
Shareef, Kumar, Kumar, & Dwivedi, 2011
Yang & Maxwell, 2011
Srivastava, 2011
Kimball, 2011
Papadomichelaki & Mentzas, 2012
Scholl, Kubicek, Cimander, & Klischewski, 2012

- The second group of studies analyzes the effects of a single success factor on the transformation success rather than analyzing the effects of multiple factors aggregated under the dimensions. These single success factors are generally related to specific problems to be solved to increase the success level. Well-known examples of this type of studies are the study of Fasanghari on IT investment (Fasanghari, 2009); the study of Abuali, Alawneh and Mohammad on ease of use (Abuali, Alawneh, & Mohammad, 2010); the study of Bradley on institutional culture (Bradley, 2008) and the study of Lean, Zailani, Ramayah and Fernando on intention (Lean, Zailani, Ramayah, & Fernando, 2009). The table below presents the other studies we classified under this category during our literature review:

Table 2: Studies Analyzing a Single Success Factor

Studies
Gagnon, 2001
Mullen & Horner, 2004
Gil-García, 2004
Evangelidis, 2005
Scholl, 2005a
Heeks & Bailur, 2007
Gorla & Lin, 2010
Ferro, Helbig, & Gil-García, 2011

- The third group of studies analyzes the countries or the regions rather than the dimensions or the factors. These studies generally have broader scopes and contain case or benchmark analyses about the success or the failure story of the analyzed country or region. Well-known examples of this type of studies are the study of Heeks in Africa (Heeks, 2002); the study of Luk on Hong Kong (Luk, 2009); the study of Nfuka and Rusu on Tanzania (Nfuka & Rusu, 2010) and the study of Reddick and Turner on Canada (Reddick & Turner, 2012). The table below presents the other studies we classified under this category during our literature review:

Table 3: Studies Analyzing the Countries or the Regions

Studies
Evangelidis, Akomode, Taleb-Bendiab, & Taylor, 2002
Clark, 2003
Basu, 2004
Hung, Chang, & Yu, 2006
Dada, 2006
Carter & Weerakkody, 2008
Mengistu, 2009
Yun & Opheim, 2010
Floropoulos, Spathis, Halvatzis, & Tsipouridou, 2010
Navarrete, Pardo, Mellouli, Gil-García & Scholl, 2010
Sharifi & Manian, 2010
Al-Azri, Al-Salti, & Al-Karaghouli, 2010
Olalere & Lazar, 2011
Rehman, Esichaikul, & Kamal, 2012
Klischewski & Askar, 2012

- The fourth and the last group of studies analyzes the local e-government efforts rather than the central e-government initiatives. These studies generally have narrower scopes and contain case or benchmark analyses about the success or the failure story of an analyzed institution in a country or a region. Well-known examples of this kind of studies are the study of Ganapati and Reddick on U.S. local government (Ganapati & Reddick, 2012); the study of Schuppan on German local government (Schuppan, 2009); the study of Weerakkody and Dhillon on U.K. local government (Weerakkody & Dhillon, 2008) and the study of Asgarkhani on New Zealand local government (Asgarkhani, 2005). The table below presents the other studies we classified under this category during our literature review:

Table 4: Studies Analyzing the Local e-Government Efforts

Studies
Smith, Campbell, Subramanian, Bird, & Nelson, 2001
Brown, 2001
Chen & Gant, 2001
Tat-Kei Ho, 2002
Fletcher, Norris, & Holden, 2003
Chutimaskul & Chongsuphajaisiddhi, 2004
Norris, & Moon, 2005
Reinwald & Kraemmergaard, 2012

As it can be seen from the tables above, the number of the studies analyzing the dimensions is significantly higher than the number of the other studies. It is natural to see this type of a trend because the concept of e-government is in connection with many different disciplines and this property of it forces the researchers to cover as many factors as possible in their researches to explain the relationships better. However, this leads to the problem explained in the previous chapter because when the number of analyzed factors increases, the research type shifts towards qualitative rather than quantitative and it becomes harder to collect objective and comparable data to prove the existence, the direction and the type of the probable relationships between the success factors and the transformation success.

This type of a problem is seen less in the other type of studies since they are focusing on more specific issues. However, the coverages of them are very low when compared to those of the ones analyzing multiple success factors and this leads to the problem of providing specific results that are insufficient to understand the dynamics of e-government transformation completely.

We solved the first problem by designing a methodology to collect comparable quantitative data from the stakeholders of the sample public institutions and by applying this metholodogy consistently in each sample institution with the help of supportive contact points.

We solved the second problem by identifying each analyzed success factor in each study classified under each group and by forming our set of independent variables from these identified success factors.

The details of the methodology development are explained in Chapter 3 while the identified independent variables of each study are presented in Appendix A.

CHAPTER 3

THE DEVELOPMENT OF THE METHODOLOGY AND THE SURVEY

To develop the methodology and the survey used in this study, we followed a step-by-step approach and we used the outputs of the previous step as the inputs of the next step. These steps are explained below:

3.1. The Research Type and the Model

As the main focus of this Ph.D. thesis was to analyze the e-government transformation success in Turkey and the probable success factors which might be effective on it, our first step was to decide on the type of the research we would prefer to use in our study. To do this, we began to work by searching the literature for the main distinction between quantitative and qualitative research. A good distinction between these two categories belongs to Taylor. According to Taylor quantitative research is generally used in cases where it's possible to measure numerical data about the research subject while the qualitative one is generally used in cases where it is impossible to get numerical data (Taylor, 2010). Following this distinction, we searched the literature for the properties of the probable models used in either types of researches and we created the two tables below from the study of Armstrong and Shapiro in addition to the study of Heise and Durig.

Table 5: Models of Quantitative Research (Armstrong & Shapiro, 1974)

Quantitative Research	
Descriptive Models	Physical, conceptual or mathematical models that describe the situations as they are or as they actually appear.
Relational Models	Physical, conceptual or mathematical models that search the existence and the direction of the relations between the variables affecting the same group.

Table 5 (continued)

Experimental Models	Physical, conceptual or mathematical models that search the existence and the direction of a relation dependent on the same variable affecting two or more groups.
Historical Models	Physical, conceptual or mathematical models that search the existence and the direction of a relation dependent on the same variable affecting the same group in different times.
Comparison Models	Physical, conceptual or mathematical models that search the similarities and the differences of a relation dependent on the same variable affecting two or more groups.

Table 6: Models of Qualitative Research (Heise & Durig, 2001)

Qualitative Research	
Case Models	Conceptual models that document the evidence of a particular issue or a situation by using the case studies.
Field & Observation Models	Conceptual models that document the evidence of a particular issue or a situation by using field trips and observations.
Embedded Truth Models	Conceptual models that provide a way for the researchers to shape the model from the collected data instead of developing the model first and collecting the data to prove it later.
Ethnographic Models	Conceptual models that use the individual judgments after asking questions about the problem (inquiring) and finding answers to those questions (discovering).
Phenomenological Models	Conceptual models that use the experience or the consciousness.

We noticed in the literature search that, although it is not a necessity, models of the quantitative research are generally used by physical sciences while those of the qualitative one are the important tools of social sciences. The main reason for this difference is the human factor. As most of the physical sciences do not analyze the human factor, it is rather easy to collect objective numeric data about the research area and apply quantitative models to prove connections. On the other hand, social sciences need to analyze the human factor so the lack of objective numeric data is compensated by using the outputs of other mechanisms like case studies, field trips, inquiries or experiences while assessing the situation by using qualitative models.

While the human factor generally defines the type of the model to be used, it is not a necessity as stated in the beginning of previous paragraph. Some types of scientific

research analyzing the human factor may use quantitative models while some others not analyzing it may use the qualitative ones.

As the main idea behind this research was analyzing the e-government transformation success and the probable factors that might be affecting it and as the concept of e-government transformation was an interdisciplinary area, where physical and social sciences intersect, etiher quantitative or qualitative research was preferable. In reality, the studies on the concept of e-government transformation in the literature are mostly qualitative because of the fact that it is harder to obtain numeric data about the human side of the subject. When compared to the qualitative researches there is relatively smaller number of quantitative researches that mainly focus on limited number of non-human factors. Because of this, preferring a quantitative research to analyze all of the probable success factors including the human and the non-human ones provides a diferent perspective and establishes an objective and a solid base for the further studies in the field.

After preferring to do a quantitative research, we started to discuss on the type of quantitative model to be used. To do this, we carefully analyzed the information presented in Table 5 and decided to use a relational model because relational models are designed to search the existence and direction of relations between variables affecting the same group (Armstrong & Shapiro, 1974) and this property of them perfectly fitted with our aim as we would be searching the existence and direction of some success factors assumed to be effective on the e-government transformation success in Turkey.

The next question to be answered at this point was the type of the relational model we would use in our analyses and context of our research directed us towards the cause an effect models since nearly all of the studies we analyzed in the literature were assuming the success factors as the causes and the e-government transformation success as the effect. Consistent with this structure, we decided to define and distinguish the dependent and the independent variable(s) of this cause and effect relation. An additional step needed to be completed after defining the variables was to decide on the calculation method for the proper mathematical values for each variable group, as we would use them in the statistical analyses.

3.2. The Dependent Variable and the Calculation Method of Mathematical Values

After deciding to analyze the e-government transformation success and the probable factors that might be affecting it as a cause and effect relationship; our next step was to define the dependent variable of this relationship (effect) and to distinguish the subcomponents forming it. Defining the dependent variable was relatively easy because the only candidate consistent with the research context was “the e-government transformation success in Turkey” however distinguishing the subcomponents forming it was harder because when we analyzed the different studies on the success issue; we came up with two different approaches. Some studies

were considering the same variables as the independent variables of the transformation success while some others were using them as the subcomponents of the dependent variable according to the research context.

The most widely accepted study, which proposes a solution to this problem is the study of DeLone and McLean published in 1992. This study considers the success as the dependent variable of the information system projects and it proposes a generic model named as "The Delone and McLean Information Systems Success Model" (D&M ISSM) to distinguish the subcomponents of this dependent variable from the independent variables (DeLone & McLean, 1992). D&M ISSM analyses the previous studies in the literature, which focus on finding the success indicators of the IS projects and suggests a taxonomy positing six major dimensions or categories of the IS success (dependent variable), which are information quality, system quality, user satisfaction, use, organizational impact and individual impact (DeLone & McLean, 1992). A ten-year update of this study was published by same authors in 2003 and the model was updated by considering the newer studies and criticisms on the subject. According to this updated study, the new taxonomy was presented as information quality, systems quality, service quality, user satisfaction, use (intention to use) and net benefits (DeLone & McLean, 2003).

The orginal D&M ISSM provides guidance to interested researchers by merging previous research on IS success into a more systematic body of knowledge (DeLone & McLean, 1992). The ten year update on other hand did some minor modifications to the original model without touching the main essence of it. The updated model developed according to this new taxonomy is presented below (DeLone & McLean, 2003):

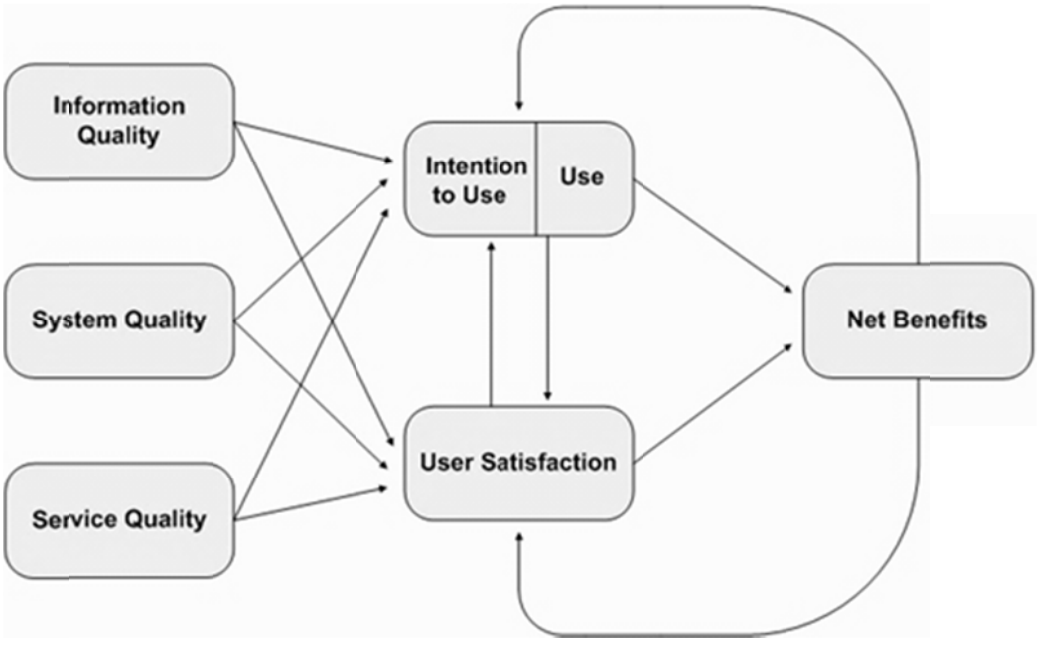


Figure 2: Updated D&M ISSM (DeLone & McLean, 2003)

As this model defines the generic success indicators and their interconnections in IS projects and as the existence of these generic success indicators and the interconnections between them are proved in many studies in the literature, we decided to use these six dimensions as the subcomponents of our dependent variable.

The most important distinction at this point was the fact that, we were trying to analyze the relationships between our dependent variable and the independent variables, not the relationships between subcomponents of the dependent variable. In other words, we accepted the model as a proved model classifying the subcomponents of dependent variable and distinguishing these subcomponents from the independent variables of the problem and we left the interrelations between these subcomponents outside the boundaries of our research. However, any interested reader might review the literature for the researches focusing on these interrelations.

The ten-year update contains an e-commerce project table developed to assess the success of the e-commerce projects as an example. We used this table as a framework to prepare a similar table for our success subcomponents. The original table and the prepared table are presented below:

Table 7: e-Commerce Project Table (DeLone & McLean, 2003)

Information Quality	Systems Quality	Service Quality	User Satisfaction	Use	Net Benefits
Completeness	Adaptability	Assurance	Repeat purchases	Nature of use	Cost savings
Ease of understanding	Availability	Empathy	Repeat visits	Navigation patterns	Expanded markets
Personalization	Reliability	Responsiveness	User surveys	Number of site visits	Incremental additional sales
Relevance	Response time			Number of transactions executed	Reduced search costs
Security	Usability				Time savings

Table 8: e-Government Success Subcomponents

Information Quality	Systems Quality	Service Quality	User Satisfaction	Use	Net Benefits
Completeness	Adaptability	Assurance	**Repeat use of e-government services**	Nature of use	**Cost savings in public institutions**
Ease of understanding	Availability	Empathy	Repeat visits	Navigation patterns	**Expanded ways to reach stakeholders**
Personalization	Reliability	Responsiveness	User surveys	Number of site visits	**Additional services provided to stakeholders**
Relevance	Response time			Number of transactions executed	**Reduced search costs for information**
Security	Usability				**Time savings for stakeholders**

While preparing Table 8, we only updated the headings that were specific to e-commerce like expanded market or increased sales and we transformed these headings to governmental alternatives (in bold) because the remaining ones were universal and also applicable to e-government transformation. Our next step was to decide on the way of collecting quantitative data for all of the subcomponents presented in Table 8 and finding a way to calculate a single numeric value from the collected quantitative data. The obvious method to do this was to use a survey to collect user ratings given to the each subcomponent presented in Table 8 but the question of calculating a single score from these ratings was still needed to be answered. A good approach might be collecting the individual scores of each subcomponent by using the same scale for instance 5, 10 or 100 for the top score and calculating the average of them. However, this approach might be criticized because it was giving equal weight to each dimension and some of these dimensions might not be very important for the respondents. A better way was to assign some weights for the dimensions and this brought the question of how again. The solution was obvious. We decided to ask same stakeholders the weights of the dimensions concurrently with the scores of the subcomponents. While doing this, we decided to use a five point Likert Scale to keep the calculations simple and manageable.

3.3. The Independent Variables and the Calculation Method of Mathematical Values

Although there were very limited studies for generically defining the dependent variables of IS success, we could find a generally accepted one that helped us to define the dependent variable and to distinguish the subcomponents forming it for our research. The situation was opposite in the independent variables. There were many studies focusing on different independent variables but there was not any generally accepted one. In fact, it was in the nature of the scientific research to disagree on the set of independent variables. In other words if there had been any study which generically defined and proved the independent variables of e-government transformation success, we would not be doing this research on the subject. Because of this, we prepared an initial set of probable candidates by analyzing 100 studies we used in the literature review for the probable independent variables and we crosschecked the independent variables in this initial set with the subcomponents stated in Table 8 to remove the ones that had already been stated as a subcomponent of the dependent variable. We did this to prevent potential conflicts and to identify which variable was in which set. The studies analyzing the probable success factors in e-government transformation was focusing on six main dimensions of the subject which are technical, social, organizational, economic, political and legal dimensions but we decided to use a four dimensional approach in this research. We created these four dimensions by merging the economic and the organizational dimensions into one base in addition to merging the political and the legal dimensions into another. We merged them because they were interrelated and inseparable dimensions originating from the same sources for the context of our study. We grouped the crosschecked independent variables under these four dimensions and prepared a table containing the independent variables of our research. This table is presented below and the list of identified independent variables in each study is presented in Appendix A.

Table 9: The Independent Variables

Technical Dimension	Social Dimension	Organizational Dimension	Political & Legal Dimension
Compatibility	Awareness among Stakeholders	Visionary Leaders	Political Support
Accessibility	Intention among Stakeholders	Accountability	Macro Transformation Plans
Standards	Education among Stakeholders	Organizational Transformation Plans	Consistent Regulatory Framework
Interoperability	Digital Divide	Management Support	
Integrity	Riskless Environment	Institutional Support	
Maintainability		Institutional Culture	
Ease of Use		IT Investment	
		Transparency	
		Being Citizen Centric	

At this point, it is important to emphasize the distinction between subcomponents and independent variables. Many of the studies in the literature consider some of the subcomponents stated in the previous section of this thesis as the independent variables of e-government transformation success and try to quest their effects on the dependent variable. Although all of them might be considered as the independent variables, the idea of considering the reliability and the usability as the independent variables is more common when compared to the other ones. DeLone and McLean discuss this situation in their first paper (DeLone & McLean, 1992) and their following ten-year update (DeLone & McLean, 2003) and they reach a conclusion that they are the subcomponents of the dependent variable. Many studies done over the study of DeLone and McLean also prove that they are the subcomponents of the dependent variable instead of independent variables. Because of this, considering these subcomponents as the independent variables of the relationship was not a reliable way so we removed the original and transposed definitions of subcomponents that had been stated as the success factors in some of the other studies when we prepared the independent variables table.

Our next step was again to decide on the way of collecting quantitative data for all of the independent variables presented in Table 9 and finding a way to calculate single numeric values from the collected quantitative data but this time it was easy since each independent variable was a separate entity in the model and the data collected for any independent variable would be directly reflecting the actual opinion of the respondent about that independent variable without doing any further calculation. As a result of this, we decided to form a new section in our survey to collect the data for the independent variables. This section would be designed to collect the score of each independent variable from each respondent by using the same five point Likert Scale. We preferred to use the same scale to provide consistency and comparability with the scores of the dependent variable. The approach of using the same survey for the subcomponents, the weights and the independent variables was also ideal to collect the correct opinions of the same respondents about the causes and the effect concurrently since it was risky to use two questionnaires because of the probability of not reaching the same respondents at different times.

3.4. Delphi Analysis

Before preparing the survey to collect the data from stakeholders, we decided to do Delphi Analysis to get the evaluations of the experts about our subcomponents, independent variables and dimensions. To do this, we contacted twelve experts. Five of them were academicians who had significant researches and enough experiences about the e-government transformation while the remaining seven were public administrators working in the e-government transformation projects. All of these experts were aware of the fact that they were attending a Delphi group but none of them had any idea about the identities of the other group members since covering the identities of the attendees was necessary to prevent potential bias and to provide objectivity in an effective Delphi Analysis. We used an e-mail mechanism to act as a moderator and we removed the identity information from the e-mails when

transferring the ideas of any expert to the rest of the group. The Delphi Analysis finished in three rounds and the experts reached a consensus on the dependent variable subcomponents, the independent variables and the dimensions. According to this consensus, they removed one subcomponent and six independent variables from the initial tables but they did not propose any change in the dimensions.

According to the explanations of the experts, "Navigation Patterns" was removed from the subcomponents table because the correct data for this subcomponent could only be collected from the institutions rather than the stakeholders and the institutions might try to alter the data to show themselves more successful if it was requested from them. Experts also explained the removal of the six independent variables, which were compatibility, maintainability, digital divide, transparency, being citizen centric and accountability. According to their explanations, these independent variables had already been presented as the other independent variables in the table. They were either under the scope of the other independent variables or they were the transposed forms of them.[1] The updated tables are presented below:

[1] Independent variables in the text and appendices were referenced according to the updates of the experts. For instance, a study containing the independent variable "compatibility" was considered as a study containing the independent variable "existence of standards" since the latter one provides the former.

Table 10: Updated e-Government Success Subcomponents

Information Quality	Systems Quality	Service Quality	User Satisfaction	Use	Net Benefits
Completeness	Adaptability	Assurance	Repeat use of e-Government services	Nature of use	Cost savings in public institutions
Ease of understanding	Availability	Empathy	~~Navigation patterns~~	Number of site visits	Expanded ways to reach stakeholders
Personalization	Reliability	Responsiveness	Repeat visits	Number of transactions executed	Additional services provided to stakeholders
Relevance	Response time		User surveys		Reduced search costs for information
Security	Usability				Time savings for stakeholders

Table 11: Updated Independent Variables

Technical Dimension	Social Dimension	Organizational Dimension	Political & Legal Dimension
~~Compatibility~~	Awareness among Stakeholders	Visionary Leaders	Political Support
Accessibility	Intention among Stakeholders	~~Accountability~~	Macro Transformation Plans
Standards	Education among Stakeholders	Organizational Transformation Plans	Consistent Regulatory Framework
Interoperability	~~Digital Divide~~	Management Support	
Integrity	Riskless Environment	Institutional Support	
~~Maintainability~~		Institutional Culture	
Ease of Use		IT Investment	
		~~Transparency~~	
		~~Being Citizen Centric~~	

3.5. The Draft Survey

After the Delphi Analysis, we were ready to prepare our draft survey to be used in the pilot study. We designed a draft survey having four different sections by using the updated tables containing the subcomponents of the dependent variable and the independent variables. The first section was designed to serve the purpose of collecting non-personal demographic information to eliminate the people who were not in the research sample. The essence of collecting non-personal information was to eliminate the fears and the biases of the potential respondents since they were in relation with the evaluated public institutions. The function of the second section was to collect the scores of the subcomponents forming the dependent variable while the function of the third one was to collect the scores of the independent variables. These two sections were intentionally positioned before the fourth section because the function of the fourth section was to collect the weights of the dimensions and collecting these weights before the scores of the subcomponents might create a risk of giving higher scores to the subcomponents classified under the higher rated dimensions with or without noticing it. As stated earlier, the questions in the last three sections were designed to use same five point Likert Scale to ensure consistency and comparability in the collected data.

3.6. The Connections with the Potential Public Institutions

With a draft survey on hand, our next step was to find our potential respondents and the most convenient way of reaching them was to establish connections with the public institutions since we needed the data of not only the external stakeholders but also the internal ones. We selected four central and four local public institutions to reflect the Turkish governmental structure because it consists of not only central but also local public institutions. The selection was dependent on two prerequisites. The first of them was to have at least one working e-government application and the second of them was to have an e-government maturity level between enhanced presence and interactive presence according to the classification scale of United Nations Online Networking Public Administration (UNPAN)[2] (Jayashree & Marthandan, 2010).

We contacted middle to upper managers in the selected institutions and we requested their help by explaining the focus of our research. All of the contact points stated that they would be happy to support us and promised to provide the maximum assistance. However, they requested confidentiality not only for their own names but also for the names of their institutions. These requests were again originated from anxiety and fear.

[2] We refer the interested readers to (Jayashree & Marthandan, 2010) for the details of UNPAN's suggested e-government model.

There were two reasons of the anxiety and fear. The first of them was the possibility of unfolding the success levels in their institutions and the probability of losing their positions if the success was lower than expected. The second of them was the possibility of being subject to administrative penalties as there was not any regulation related to sharing information and resources with the researchers for the scientific studies in public institutions. These reasons were legitimate from the perspectives of the managers. So establishing confidentiality in the research became necessary for us.

Providing confidentiality was also beneficial for us because of the fact that officially declaring a manager's name or a public institution's name in a Ph.D. thesis that might be accessed by many parties could create legal problems especially when the success level was low.

Because of these possibilities discussed above, we coded the public institutions by using abbreviations and numbers instead of using their original names in this research. Abbreviation (CPI) was used for the central public institutions while the abbreviation (LPI) was used for the local ones and the numbers 1, 2, 3 and 4 were used to distinguish the public institutions in each group. The table formed by using this coding scheme is presented below to show the types of the institutions used in the study:

Table 12: Selected Public Institutions as the Sample of the Research

Central Public Institutions	Local Public Institutions
CPI1: Indepedendent Regulator	LPI1: Greater Municipality
CPI2: Indepedendent Regulator	LPI2: Local Municipality
CPI3: Ministry	LPI3: Governorship
CPI4: Ministry	LPI4: Administrative District

Providing confidentially to the contact points supported the anonymity effect and helped us to collect data that are more objective but there was another type of anonymity to be considered for the better objectivity in our research. This anonymity was the anonymity of stakeholders. In the previous section, we emphasized that the first section of the survey would collect non-personal demographic information. The idea behind collecting non-personal information was to provide anonymity to the stakeholders because not only external stakeholders but also the internal ones had connections with the institutions providing e-government services and if the anonymity was not assured, they might give falsified information because of these connections. In other words, they might also develop fear or anxiety, which in turn might create an information diversion. Because of this, we preferred to collect non-personal information that was only related to research context in the survey.

3.7. The Sample and the Sample Size

After establishing the connections with the potential public institutions and assuring that we would have enough assistance from the contact points, there remained two steps to complete before passing to the validity analyses and finalizing the survey.

The first step was related to the content of the respondent groups for the pilot study and the actual research. In the previous chapters, we discussed on the issue of considering the internal stakeholders parallel to the external stakeholders as the analyses on the former one was missing in the existing studies. As a result of this, we decided to collect data from both sample groups (external and internal) in the selected public institutions. To do this, we planned to send online and printed versions of our survey to the public institutions (online to be filled by the internal and printed to be filled by the external stakeholders since the external stakeholders visiting the public institutions to get governmental services might not access computer).

The second step was related to the sizes of the respondent groups for the pilot study and the actual research. While doing our literature search, we frequently came up with the approach of using 10% of the actual sample size for the pilot study sample. We decided to use the same approach so we needed to calculate the actual sample size first.

Calculating the exact sample size was easy when the analyzed population was a relatively small population with a known number of members. However our population size was immeasurable since it was containing the people who might have probability to use e-government services of the analyzed public institutions. Although there were some demographic data about the internet users or their usage areas in Turkey, it was impossible to reach an exact number by using these statistics. Fortunately, there was an effective method applied in classic statistics to deal with this type of a problem. This was choosing a bigger confidence interval in the immeasurable populations to make the population size irrelevant for the sample size estimations. To do this, the ideal value of the confidence level to be chosen was 95% and the confidence interval to be chosen was 0.05 (Land, 1981). By using the same values, we calculated the least actual sample size as 384 for each stakeholder group. As 384 was the least number, we chose 400 which was a manageable number bigger than the minimum requirement. By selecting 400 as the actual sample size and by following the same approach of using 10% of the actual sample size for the pilot study, we calculated the pilot study sample size as 40 for each stakeholder group.

3.8. The Validity Analyses and the Final Survey

We needed to check the validity of the survey before finalizing it and applying it to the stakeholders to collect the real data. Our first step was to check the content validity. To do this, we used “Think-Aloud” method developed by Newell and Simon (Newell & Simon, 1972). We found 20 volunteers having sufficient knowledge about the e-

government transformation and gave them our draft survey. Each volunteer read it aloud and shared his/her ideas about each part of the survey. The main essence of applying this method was to understand whether the intended content was reflected well to the survey. After analyzing their responses, we became certain that we assured the content validity because the responses of the volunteers about each part of the survey were parallel and all of them understood the questions related to these parts clearly.

Our second step was to check the construct validity. The most convenient way of doing this was to send the draft survey to the selected public institutions for a pilot study. As discussed in the previous section, we sent online and printed versions of the draft survey to 8 public institutions and we demanded at least 5 responses from each stakeholder group in each institution expecting a total of nearly 80 responses. The pilot study lasted for two months and we collected 43 responses from the internal stakeholders while 41 responses from the external ones. As the common method of checking the construct validity was to calculate Cronbach's Alpha (CA) and Cronbach's Alpha if Item Deleted (CAIID) values for each stakeholder group, we calculated the CA values of the each part in the survey first and noticed that they were between 0.7 and 0.9 for both stakeholder groups . High CA values assured that the survey was reliable and construct validity was achieved. As a next step, we calculated the CAIID values to see whether the removal of any question from the draft survey was increasing the reliability. According to CAIID values if the question about the subcomponent "User Surveys" was removed from the draft survey, the reliability of the internal stakeholders was increasing and the reliability of external stakeholders was not changing. We removed this question from the survey to keep its structure as applicable to both stakeholder groups. The final tables used to prepare the final survey are presented below and the final survey is presented in Appendix B.

Table 13: Final e-Government Success Subcomponents

Information Quality	Systems Quality	Service Quality	User Satisfaction	Use	Net Benefits
Completeness	Adaptability	Assurance	Repeat use of e-Government services	Nature of use	Cost savings in public institutions
Ease of understanding	Availability	Empathy	~~Navigation patterns~~	Number of site visits	Expanded ways to reach stakeholders
Personalization	Reliability	Responsiveness	Repeat visits	Number of transactions executed	Additional services provided to stakeholders
Relevance	Response time		~~User surveys~~		Reduced search costs for information
Security	Usability				Time savings for stakeholders

Table 14: Final Independent Variables

Technical Dimension	Social Dimension	Organizational Dimension	Political & Legal Dimension
~~Compatibility~~	Awareness among Stakeholders	Visionary Leaders	Political Support
Accessibility	Intention among Stakeholders	~~Accountability~~	Macro Transformation Plans
Standards	Education among Stakeholders	Organizational Transformation Plans	Consistent Regulatory Framework
Interoperability	~~Digital Divide~~	Management Support	
Integrity	Riskless Environment	Institutional Support	
~~Maintainability~~		Institutional Culture	
Ease of Use		IT Investment	
		~~Transparency~~	
		~~Being Citizen Centric~~	

CHAPTER 4

THE HYPOTHESES AND THE INITIAL MODEL

Since the hypotheses and the model of any scientific research should be defined at the beginning of that research, one could think that we were a little bit late to form our hypotheses and to present the initial model at this point. However, the actual beginning of the research was this point because our main focus was to analyze the probable success factors which might be effective on the e-government transformation success in Turkey. As a natural consequence of this, we first did a literature search to define these probable success factors in addition to the probable success subcomponents and then we clarified these two sets by applying different methods like Delphi Analysis and validity analyses. In other words, all of the studies before forming the hypotheses and presenting the initial model were done to clarify what to hypothesize and what to model.

4.1. The Hypotheses

We were ready to form our hypotheses about the relationships between the probable success factors and the e-government transformation success in Turkey by finalizing the survey and clarifying the dependent variable in addition to the independent variables.

Our hypotheses were based on three main questions. These questions were:

- Are the success factors significantly and positively correlated to the success?
- Are there any cause and effect relationships between the success factors and the success?
- Is it statistically meaningful to classify similar success factors under common dimensions to search for the probable relationships between these dimensions and the success?

We formed three different sets of hypotheses to answer the questions stated above. Each set contains the hypotheses and the alternate hypotheses for the analyzed relation between each success factor and the success.

4.1.1. The Hypotheses Formed for the Question 1

The hypotheses formed for the question 1 are presented below[3]:

$HQ1_{I1\text{-}D}1$: Accessibility and e-government transformation success are significantly and positively correlated.

$HQ1_{I1\text{-}D}0$: Accessibility and e-government transformation success are not significantly and positively correlated.

$HQ1_{I2\text{-}D}1$: Standards and e-government transformation success are significantly and positively correlated.

$HQ1_{I2\text{-}D}0$: Standards and e-government transformation success are not significantly and positively correlated.

$HQ1_{I3\text{-}D}1$: Interoperability and e-government transformation success are significantly and positively correlated.

$HQ1_{I3\text{-}D}0$: Interoperability and e-government transformation success are not significantly and positively correlated.

$HQ1_{I4\text{-}D}1$: Integrity and e-government transformation success are significantly and positively correlated.

$HQ1_{I4\text{-}D}0$: Integrity and e-government transformation success are not significantly and positively correlated.

$HQ1_{I5\text{-}D}1$: Ease of use and e-government transformation success are significantly and positively correlated.

$HQ1_{I5\text{-}D}0$: Ease of use and e-government transformation success are not significantly and positively correlated.

$HQ1_{I6\text{-}D}1$: Awareness among stakeholders and e-government transformation success are significantly and positively correlated.

$HQ1_{I6\text{-}D}0$: Awareness among stakeholders and e-government transformation success are not significantly and positively correlated.

[3] The naming convention used for hypotheses contains brief information related to the content of the hypotheses. (Q1) indicates that the hypotheses are related to question 1 and the subscripted letters are the abbreviations of investigated relation. (I) is used for the independent variables while (D) is used for the dependent one. The subscripted number is the number of the related independent variable while the normal number indicates whether it is a hypothesis or alternate hypothesis. $HQ1_{I1\text{-}D}0$ means alternate hypothesis of question 1 formed for the independent variable 1 and the dependent variable.

$HQ1_{I7\text{-}D}1$: Intention among stakeholders and e-government transformation success are significantly and positively correlated.

$HQ1_{I7\text{-}D}0$: Intention among stakeholders and e-government transformation success are not significantly and positively correlated.

$HQ1_{I8\text{-}D}1$: Education among stakeholders and e-government transformation success are significantly and positively correlated.

$HQ1_{I8\text{-}D}0$: Education among stakeholders and e-government transformation success are not significantly and positively correlated.

$HQ1_{I9\text{-}D}1$: Riskless environment and e-government transformation success are significantly and positively correlated.

$HQ1_{I9\text{-}D}0$: Riskless environment and e-government transformation success are not significantly and positively correlated.

$HQ1_{I10\text{-}D}1$: Visionary leaders and e-government transformation success are significantly and positively correlated.

$HQ1_{I10\text{-}D}0$: Visionary leaders and e-government transformation success are not significantly and positively correlated.

$HQ1_{I11\text{-}D}1$: Organizational transformation plans and e-government transformation success are significantly and positively correlated.

$HQ1_{I11\text{-}D}0$: Organizational transformation plans and e-government transformation success are not significantly and positively correlated.

$HQ1_{I12\text{-}D}1$: Management support and e-government transformation success are significantly and positively correlated.

$HQ1_{I12\text{-}D}0$: Management support and e-government transformation success are not significantly and positively correlated.

$HQ1_{I13\text{-}D}1$: Institutional support and e-government transformation success are significantly and positively correlated.

$HQ1_{I13\text{-}D}0$: Institutional support and e-government transformation success are not significantly and positively correlated.

$HQ1_{I14\text{-}D}1$: Institutional culture and e-government transformation success are significantly and positively correlated.

$HQ1_{I14\text{-}D}0$: Institutional culture and e-government transformation success are not significantly and positively correlated.

$HQ1_{I15\text{-}D}1$: IT investment and e-government transformation success are significantly and positively correlated.

$HQ1_{I15\text{-}D}0$: IT investment and e-government transformation success are not significantly and positively correlated.

$HQ1_{I16\text{-}D}1$: Political support and e-government transformation success are significantly and positively correlated.

$HQ1_{I16\text{-}D}0$: Political support and e-government transformation success are not significantly and positively correlated.

$HQ1_{I17\text{-}D}1$: Macro transformation plans and e-government transformation success are significantly and positively correlated.

$HQ1_{I17\text{-}D}0$: Macro transformation plans and e-government transformation success are not significantly and positively correlated.

$HQ1_{I18\text{-}D}1$: Consistent regulatory framework and e-government transformation success are significantly and positively correlated.

$HQ1_{I18\text{-}D}0$: Consistent regulatory framework and e-government transformation success are not significantly and positively correlated.

4.1.2. The Hypotheses Formed for the Question 2

The hypotheses formed for the question 2 are presented below:

$HQ2_{I1\text{-}D}1$: Accessibility increases e-government transformation success.

$HQ2_{I1\text{-}D}0$: Accessibility does not increase e-government transformation success.

$HQ2_{I2\text{-}D}1$: Standards increase e-government transformation success.

$HQ2_{I2\text{-}D}0$: Standards do not increase e-government transformation success.

$HQ2_{I3\text{-}D}1$: Interoperability increases e-government transformation success.

$HQ2_{I3\text{-}D}0$: Interoperability does not increase e-government transformation success.

$HQ2_{I4\text{-}D}1$: Integrity increases e-government transformation success.

$HQ2_{I4\text{-}D}0$: Integrity does not increase e-government transformation success.

$HQ2_{I5\text{-}D}1$: Ease of use increases e-government transformation success.

$HQ2_{I5\text{-}D}0$: Ease of use does not increase e-government transformation success.

$HQ2_{I6\text{-}D}1$: Awareness among stakeholders increases e-government transformation success.

$HQ2_{I6\text{-}D}0$: Awareness among stakeholders does not increase e-government transformation success.

$HQ2_{I7\text{-}D}1$: Intention among stakeholders increases e-government transformation success.

$HQ2_{I7\text{-}D}0$: Intention among stakeholders does not increase e-government transformation success.

$HQ2_{I8\text{-}D}1$: Education among stakeholders increases e-government transformation success.

$HQ2_{I8\text{-}D}0$: Education among stakeholders does not increase e-government transformation success.

$HQ2_{I9\text{-}D}1$: Riskless environment increases e-government transformation success.

$HQ2_{I9\text{-}D}0$: Riskless environment does not increase e-government transformation success.

$HQ2_{I10\text{-}D}1$: Visionary leaders increase e-government transformation success.

$HQ2_{I10\text{-}D}0$: Visionary leaders do not increase e-government transformation success.

$HQ2_{I11\text{-}D}1$: Organizational transformation plans increase e-government transformation success.

$HQ2_{I11\text{-}D}0$: Organizational transformation plans do not increase e-government transformation success.

$HQ2_{I12\text{-}D}1$: Management support increases e-government transformation success.

$HQ2_{I12\text{-}D}0$: Management support does not increase e-government transformation success.

$HQ2_{I13\text{-}D}1$: Institutional support increases e-government transformation success.

$HQ2_{I13\text{-}D}0$: Institutional support does not increase e-government transformation success.

$HQ2_{I14\text{-}D}1$: Institutional culture increases e-government transformation success.

$HQ2_{I14\text{-}D}0$: Institutional culture does not increase e-government transformation success.

$HQ2_{I15\text{-}D}1$: IT investment increases e-government transformation success.

$HQ2_{I15\text{-}D}0$: IT investment does not increase e-government transformation success.

$HQ2_{I16\text{-}D}1$: Political support increases e-government transformation success.

$HQ2_{I16\text{-}D}0$: Political support does not increase e-government transformation success.

$HQ2_{I17\text{-}D}1$: Macro transformation plans increase e-government transformation success.

$HQ2_{I17\text{-}D}0$: Macro transformation plans do not increase e-government transformation success.

$HQ2_{I18\text{-}D}1$: Consistent regulatory framework increases e-government transformation success.

$HQ2_{I18\text{-}D}0$: Consistent regulatory framework does not increase e-government transformation success.

4.1.3. The Hypotheses Formed for the Question 3

The hypotheses formed for the question 3 are presented below:

$HQ3_{G1\text{-}D}1$: Classifying similar success factors under common dimensions to search for the probable relationships is statistically meaningful.

$HQ3_{G1\text{-}D}0$: Classifying similar success factors under common dimensions to search for the probable relationships is not statistically meaningful.

4.2. The Initial Model

Our next step was to form our initial model showing the probable relationships stated in the hypotheses above. The figure below presents this initial model. The dashed single lines represent the hypotheses formed for the question 1; the solid single lines with the arrows represent the hypotheses formed for the question 2 and the dashed double lines with the arrows represent the hypotheses formed for the question 3 in the model.

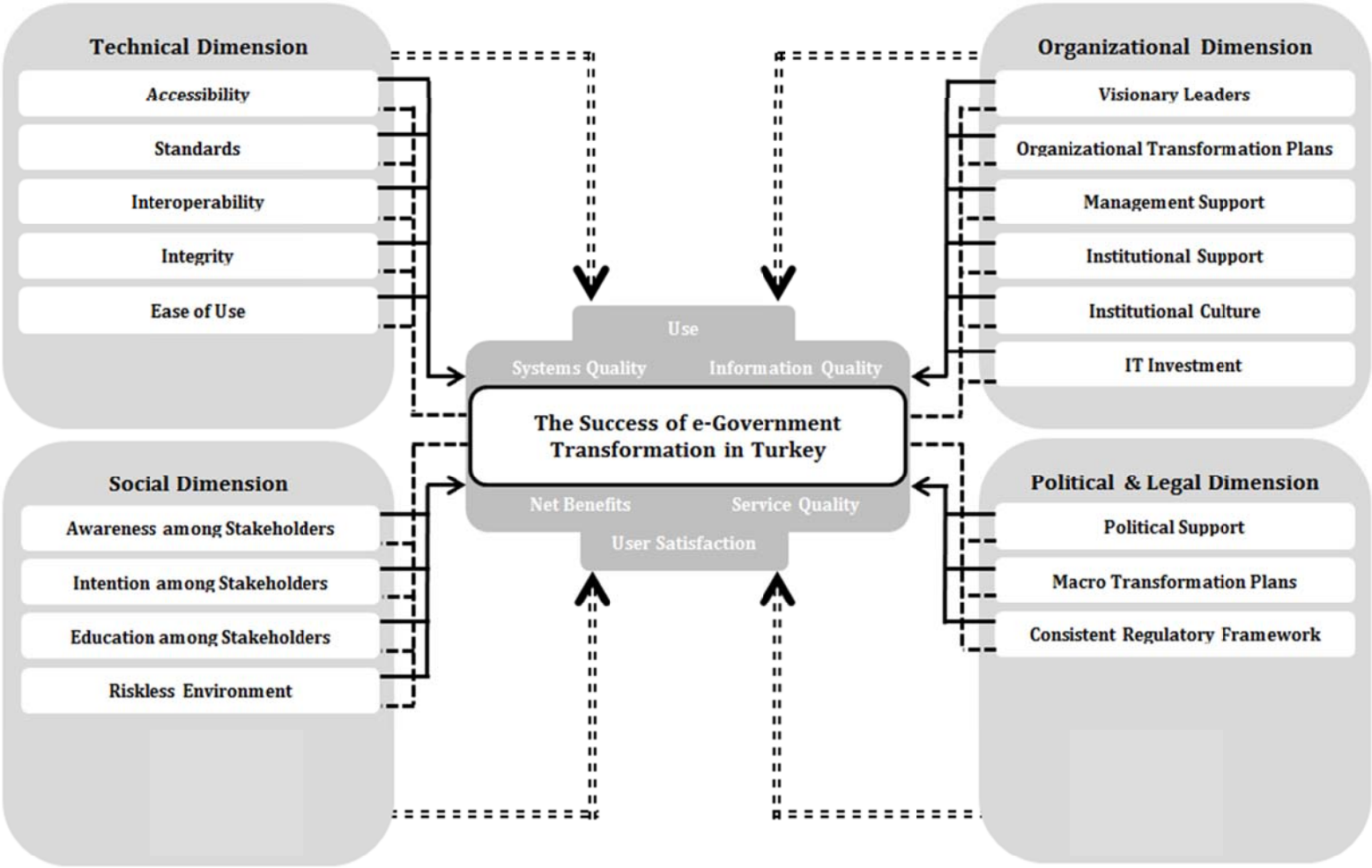


Figure 3: The Initial Model

CHAPTER 5

DECIDING ON THE PROPER ANALYSES

After forming the hypotheses and presenting the initial model, we needed to decide on the way of associating the success factors and the success in mathematically accepted ways to test each group of hypotheses.

For the hypotheses formed for the question 1, we planned to search the existence, the power and the direction of the relationships between each success factor and the success. The obvious method to do this was to use correlation analyses and using correlation analyses as a first step was also helpful to eliminate statistically insignificant success factors from the further analyses if there were any.

For the hypotheses formed for the question 2, we planned to search the cause and effect relationships between each success factor which was proved to have a relation with the success and the success itself. There were two different types of analyses in the literature to do this and we needed to decide on which one we would use:

- The first type of the analyses was the regression analyses. Regression analyses try to measure the effect of change in one or more variables that is causing change on other variables (Wikipedia: Regression Analysis, 2013). These analyses are generally used to prove the hypotheses of a research subject that has clear independent variables and clear dependent variables in addition to clear relations. In other words if the researcher can find a chance to clarify the research variables by using other mechanisms or by a strong literature support and if the relations between these variables are obvious to hypothesize then regression analyses are sufficient to analyze the probable relations.

- The second type the analyses was Structural Equation Modeling (SEM). SEM contains two parts, which are structural model and measurement model (Gefen, Straub, & Boudreau, 2000). Structural model performs the same function with regression analyses and measurement model tries to integrate measurement errors to the analyses in addition to defining obvious and hidden interrelations between variables. In other words, the model framework, the dependent variables, the independent variables, the latent variables (variables that are not directly observed), the measurement errors and data analyses are all considered synchronously in SEM (Gefen, Straub, & Boudreau, 2000). SEM provides an effective way for the researchers who

cannot find a chance to clearly define their variables and the relations between them.

The choice of the methodology differs according to the research context. If it is easy to identify dependent and independent variables in addition to their relations, a regression analysis will be sufficient to analyze the cause and effect relationships. On the other hand, if it is hard to identify dependent and independent variables in addition to their relations, SEM shall be used to clarify the fuzzy parts with its measurement model and do the analyses with its structural model.

The variables were clear in our research because we defined our dependent variable as the e-government transformation success in Turkey and we used the taxonomy of an accepted model to define the subcomponents of it. In addition to this, we defined our independent variables as the probable success factors and we gathered the most common alternatives analyzed in the literature. In addition to this, we updated and finalized our variable sets by using Delphi Analysis and validity tests. As we were trying to find a cause and effect relationship between each success factor and the success of transformation, the probable relations were also clear. Because of this clear structure, using regression analyses instead of SEM was a better choice for the context of research.

For the hypotheses formed for the question 3, we planned to search whether it was statistically meaningful to classify similar success factors under common dimensions. One approach to do this was to use the dimensions directly in the statistical analyses instead of single factors and to observe whether they had significant effects on the dependent variable. This approach of directly using dimensions without questioning their validity was common among the researchers dealing with the subject but we preferred a better and a more scientific approach and we planned to do factor analyses as the main outputs of these analyses were statistically meaningful subgroups containing one or more independent variables related to each other. By doing the factor analyses, we were expecting not only to assess the hypotheses formed for the question 3 but also to compare and contrast the newly formed subgroups with the dimensions stated in the previous sections of this research.

CHAPTER 6

COLLECTING THE REAL DATA

Our next step was to collect the real data from each stakeholder group and to use the collected data to test our hypotheses with the predefined statistical analyses. At this step, we sent online and printed versions of the finalized survey to same 8 public institutions again and we demanded at least 60 responses from each stakeholder group in each institution expecting a total of nearly 960 responses. Although the targeted number was 800 (400 for internal and 400 for external stakeholders) we intentionally requested 60 responses instead of 50 to provide flexibility for the erroneous and incomplete data since there was a possibility of collecting some unusable responses in such a large group of the respondents. Our idea behind sending the surveys to the same public institutions was to assure the consistency between the pilot and actual study and we again preferred the approach of using online version for the internal stakeholders (workers of the public institutions providing the services) and printed version for the external stakeholders (citizens using the services provided by the institutions) since the external stakeholders might not have access to computer.

We coded the institutions by using the same scheme and used the same abbreviations again instead of the real names because of the previous discussion on the anonymity requirements in the research.

We started to organize the collected data at the end of data collection period that lasted for four months. The responses given to the online version of the survey (responses of internal stakeholders) were downloaded and converted to spread sheets while the responses given to the printed version of the survey (responses of external stakeholders) were transferred to digital environment manually by using same spread sheet format with the online version. The essence of preparing similar spreadsheets for both stakeholder groups was to transform the data into a manageable and comparable format.

The total number responses given to our survey was 1084 before the removal of the erroneous and the incomplete responses. We collected 563 of them from the external stakeholders while the remaining 521 from the internal ones. According to an alternative classification, we collected 537 of them from the central public institutions while the remaining 547 from the local ones. Our next step was to evaluate this set response by response to remove the erroneous and the incomplete ones. When we completed this step, the total number we reached for the correct and the complete

responses was 823. We collected 415 of them from the external stakeholders while the remaining 408 from the internal ones. According to an alternative classification, we collected 411 of them from the central public institutions while the remaining 412 from the local ones. Brief summary of the responses collected from each stakeholder group in each institution are presented in the table below:

Table 15: Responses Classified According to the Institutions

Institution & Stakeholder	***Responses***
CPI1 Internal	63 responses collected, 51 were correct and complete
CPI1 External	68 responses collected, 50 were correct and complete
CPI2 Internal	64 responses collected, 50 were correct and complete
CPI2 External	66 responses collected, 52 were correct and complete
CPI3 Internal	61 responses collected, 51 were correct and complete
CPI3 External	69 responses collected, 54 were correct and complete
CPI4 Internal	72 responses collected, 52 were correct and complete
CPI4 External	74 responses collected, 51 were correct and complete
LPI1 Internal	65 responses collected, 50 were correct and complete
LPI1 External	77 responses collected, 53 were correct and complete
LPI2 Internal	65 responses collected, 52 were correct and complete
LPI2 External	71 responses collected, 51 were correct and complete
LPI3 Internal	66 responses collected, 50 were correct and complete
LPI3 External	74 responses collected, 53 were correct and complete
LPI4 Internal	65 responses collected, 52 were correct and complete
LPI4 External	64 responses collected, 51 were correct and complete

After analyzing these 823 correct and complete responses, we prepared 16 data sets for 8 public institutions. 8 of these data sets were the data sets of central public institutions and the remaining 8 were the data sets of the local ones. Each institution in either half had two data sets. One of them was containing the responses of the internal stakeholders and the other was containing the responses of the external stakeholders in that institution. We calculated the single numeric values for the success scores by applying the previously explained methodology in each data set and prepared 16 success score sheets. Each sheet was containing the calculated success

scores and the scores of independent variables for each answer given by each respondent. A sample success score sheet containing five sample responses is presented in the table below:

Table 16: A Sample Success Score Sheet

Variables	**Values**				
Success Score (DV)	3.4825	2.8926	3.5022	3.3708	3.1625
Accessibility (IV)	4	3	4	4	3
Standards (IV)	2	3	3	4	3
Interoperability (IV)	4	3	3	2	3
Integrity (IV)	4	4	4	3	3
Ease of Use (IV)	3	2	3	4	2
Awareness (IV)	3	2	3	3	3
Intention (IV)	4	2	3	2	4
Education (IV)	4	4	4	3	4
Riskless Environment (IV)	3	3	3	3	2
Visionary Leaders (IV)	3	3	3	3	4
Org. Transformation Plans (IV)	2	4	4	2	3
Management Support (IV)	2	4	3	3	4
Institutional Support (IV)	2	4	3	4	3
Institutional Culture (IV)	2	4	4	4	4
IT Investment (IV)	2	4	4	3	2
Political Support (IV)	3	3	4	2	4
Mac. Transformation Plans (IV)	3	3	5	2	4
Cons. Reg. Framework (IV)	4	2	4	4	4

To present a visible example of the previously explained methodology, Table 17 shows the calculation of the first success score (3.4825) in Table 16 by providing the responses given by the same respondent for the subcomponents and the dimensions in the survey:

Table 17: The Success Score Calculation

Information Quality (4) Weight 1: 0.1904 4/(4+4+2+4+4+3)	**Systems Quality (4) Weight 2: 0.1904 4/(4+4+2+4+4+3)**	**Service Quality (2) Weight 3: 0.0952 2/(4+4+2+4+4+3)**	**User Satisfaction (4) Weight 4: 0.1904 4/(4+4+2+4+4+3)**	**Use (4) Weight 5: 0.1904 4/(4+4+2+4+4+3)**	**Net Benefits (3) Weight 6: 0.1428 3/(4+4+2+4+4+3)**
Completeness (3) Ease of understanding (3) Personalization (5) Relevance (3) Security (5)	Adaptability (3) Availability (4) Reliability (5) Response time (3) Usability (2)	Assurance (2) Empathy (4) Responsiveness (4)	Repeat use of e-Government services (3) Repeat visits (4)	Nature of use (4) Number of site visits (5) Number of transactions Executed (2)	Cost savings in public institutions (3) Expanded ways to reach stakeholders (3) Additional services provided to stakeholders (5) Reduced search costs for information (3) Time savings for stakeholders (1)
Avarage 1: 3.80 (3+3+5+3+5)/5	**Avarage 2: 3.40** (3+4+5+3+2)/5	**Avarage 3: 3.33** (2+4+4)/3	**Avarage 4: 3.50** (3+4)/2	**Avarage 5: 3.66** (4+5+2)/3	**Avarage 6: 3.00** (3+3+5+3+1)/5

Success Score = (W1 x A1) + (W2 x A2) + (W3 x A3) + (W4 x A4) + (W5 x A5) + + (W6 x A6)

Success Score = (0.1904 x 3.80) + (0.1904 x 3.40) + (0.0952 x 3.33) + (0.1904 x 3.50) + (0.1904 x 3.66) + (0.1428 x 3.00) = 3.4825

CHAPTER 7

PROCESSING THE REAL DATA

To process the real data, we formed 8 bigger data sets by merging 16 individual data sets. These data sets are explained below:

- **Data Set 1:** The scores of all external stakeholders in central public institutions.
- **Data Set 2:** The scores of all internal stakeholders in central public institutions.
- **Data Set 3:** The scores of all external stakeholders in local public institutions.
- **Data Set 4:** The scores of all internal stakeholders in local public institutions.
- **Data Set 5:** The scores of all external and internal stakeholders in central public institutions.
- **Data Set 6:** The scores of all external and internal stakeholders in local public institutions.
- **Data Set 7:** The scores of all external stakeholders in central and local public institutions.
- **Data Set 8:** The scores of all internal stakeholders in central and local public institutions.

We did correlation analyses on each of these data sets to search for the existence, the power and the direction of the relationships between each success factor and the success. The main aim of these analyses was to test the hypotheses formed for the question 1 and the results of these analyses are presented in Appendix C.

We reached two usual and expected results proving all of the hypotheses formed for the question 1, when we assessed the tables presented in Appendix C:

- All of the success factors were correlated to the transformation success significantly in each data set.

- All of these significant correlations were positive correlations and the scores of the success factors and the transformation success were increasing or decreasing together in the same direction.

These two results were very important because they constituted a strong proof for the opinions of the external and the internal stakeholder groups in any type of public institution. According to the data collected from both stakeholder groups in each institution, all of the analyzed success factors were significantly and positively correlated to the transformation success in Turkey and these results eliminated the possibility of removing any success factor from the independent variables set.

After proving the existence of the significant and positive correlations between each success factor and the transformation success, our next step was to do the regression analyses to evaluate whether these correlations could be attributed to the cause and effect relationships. The main aim of these analyses was to test the hypotheses formed for the question 2 and the results of these analyses are presented in Appendix D.

We reached two unusual and unexpected results proving all of the alternate hypotheses formed for the question 2, when we assessed the tables presented in Appendix D:

- Although there was a significant and positive correlation between each individual success factor and the transformation success, none of these correlations could be attributed to a cause and effect relationship since the p-values were too high for the independent variables in the regression tables.

- Although there was a significant and positive correlation between each individual success factor and the transformation success, some of the independent variable coefficients in the regression tables were so low or even negative.

These two results were more important than the previous results because they constituted a strong proof for the fact that the probable success factors assumed as the causes of e-government transformation success in Turkey were not the causes of it in reality and furthermore these success factors were affecting each other negatively because most of them had low or even negative coefficients in the regression tables.

In the regression analyses, the effect of one independent variable over another one or over a couple of other ones has a special name known as suppression. A special type of suppression named reciprocal suppression means the effect of two or more independent variables on each other, which decreases their total effect on dependent variable. For this type of suppression also known as suppressing confounders, the independent variables are positively correlated to the dependent variable but they are negatively correlated to each other (Pandey & Elliott 2010).

The necessity to check the hypotheses related to question 3 and the possibility of experiencing reciprocal suppression when trying to analyze the individual cause and effect of each success factor on the transformation success diverted our focus to analyze the relationships between the subgroups formed from the success factors and the transformation success rather than the relationships between individual success factors and the transformation success.

We formed a total data set by merging the 8 data sets into one and we used this data set to do the factor analyses because we were in need of using the same subgroups of success factors in each stakeholder group to compare and contrast the results. The results of these analyses are presented in Appendix E.

We reached an additional result proving the alternate hypothesis related to question 3, which was more unusual and more unexpected compared to the previous results when we assessed the tables presented in Appendix E:

- Although the independent variables were organized under some common dimensions in the literature it was impossible to create statistically meaningful subgroups from the independent variable set since the component matrix formed by the factor analyses had only one column and the component number in the total variance explained table was 1.

This result was even more important than the previous results because it constituted a strong proof for the fact that it was not statistically meaningful to classify similar success factors under the common dimensions to search for the probable relationships between these dimensions and the e-government transformation success in Turkey.

CHAPTER 8

THE DISCUSSIONS, THE CONCLUSIONS AND THE FINAL MODEL

8.1. The Core Results

This study has three core results that can be used as a strong base for the following researches in the field. The first of them is an expected one proving the significant and positive correlations between each success factor and the e-government transformation success in Turkey as assumed in the other qualitative studies on the subject. The second of them is an unexpected one proving that none of these correlations is a cause and effect relationship as assumed in the same studies again. The third of them is a more unexpected one proving that classifying similar probable success factors under common dimensions to search for the probable relationships is not statistically meaningful.

The interpretation of these three results indicates that although there are significant and positive correlations between the probable success factors and the e-government transformation success in Turkey, these success factors are not the causes of success and classifying them under the common headings or dimensions to search for the probable relationships is not a correct approach since the correlation, the regression and the factor analyses mathematically prove the results stated in the previous paragraph.

8.2. The Final Model

According to the core results stated above, the statistical analyses prove only the hypotheses formed for the question 1. As a result of this, the initial model transforms to the model presented in the figure below. The dashed single lines without the arrows in this final model represent the correlations between each success factor and the success of transformation. The arrows are not used since there is no cause and effect relationship and the independent variables are not grouped under any dimensions since it is not statistically meaningful.

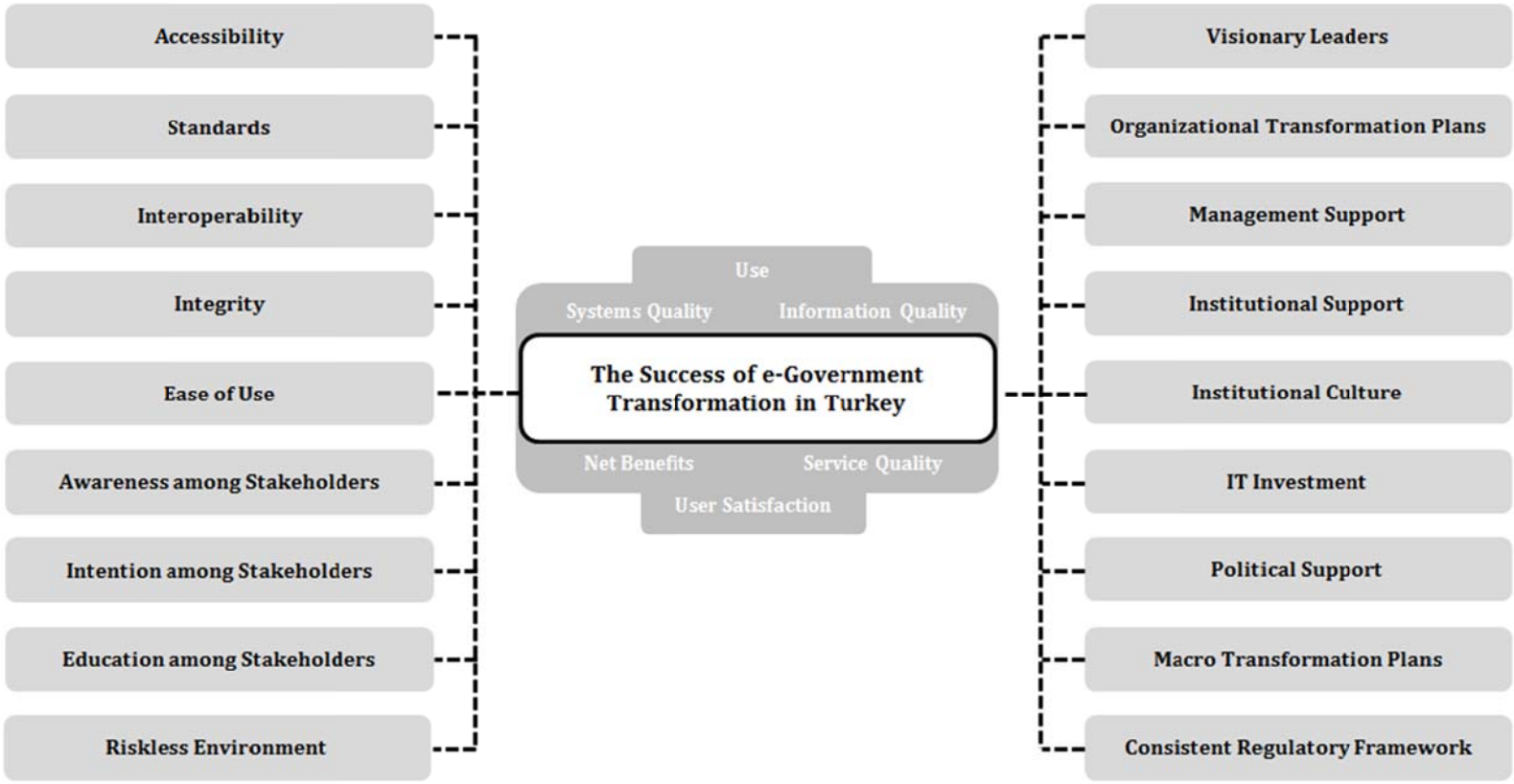


Figure 4: The Final Model

8.3. The Additional Results

The findings of this study are not limited to the core results and the final model presented above because the correlation analyses provide us valuable insights about the ideas of different stakeholder groups in different institutions. The below comparisons are assessing the impact of individual success factors on the e-government transformation success in Turkey by using the results of correlation analyses:

- **The External and the Internal Stakeholders in Central Public Institutions:** The external stakeholders in central public institutions believe that the most correlated factor to the e-government transformation success is "Management Support" while the least correlated one is "Riskless Environment". On the other hand, the internal stakeholders in central public institutions believe that the most correlated factor to the e-government transformation success is "Institutional Support" while the least correlated one is "Interoperability".

- **The External and the Internal Stakeholders in Local Public Institutions:** The external stakeholders in local public institutions believe that the most correlated factor to the e-government transformation success is "Riskless Environment" while the least correlated one is "Visionary Leaders". On the other hand, the internal stakeholders in local public institutions believe that the most correlated factor to the e-government transformation success is "Organizational Transformation Plans" while the least correlated one is "Standards".

- **The Stakeholders in Central and Local Public Institutions Apart from the Stakeholder Types:** Both types of the stakeholders in central public institutions believe that the most correlated factor to the e-government transformation success is "Political Support" while the least correlated one is "Riskless Environment". On the other hand, both types of the stakeholders in local public institutions believe that the most correlated factor to the e-government transformation success is "Accessibility" while the least correlated one is "Political Support".

- **The External and the Internal Stakeholders Apart from the Institution Types:** The external stakeholders in both types of public institutions believe that the most correlated factor to the e-government transformation success is "Management Support" while the least correlated one is "Integrity". On the other hand, the internal stakeholders in both types of public institutions believe that the most correlated factor to the e-government transformation success is "Management Support" while the least correlated one is "Interoperability".

These four comparisons clearly show that same group of stakeholders in different groups of public institutions or different groups of stakeholders in same groups of

public institutions are associating the e-government transformation success neither with the exactly different nor with the exactly same factors. There exist some factors like "Riskless Environment" which were considered exactly opposite by different groups while there also exist some other factors like "Management Support" which were considered exactly same by the other ones. The interpretation of the four comparisons together provides us three additional results:

- Although classifying success factors under dimensions is not statistically meaningful, the independent variables classified under "Organizational Dimension" and "Political & Legal Dimension" are associated with the success more by the stakeholders of central public institutions while the independent variables classified under "Technical Dimension" are associated with the success more by the stakeholders of local ones.

- The only success factor which is not classified under the dimensions stated above is "Riskless Environment" and the ideas of the stakeholders in two different types of public institutions are nearly opposite for this success factor.

- The key phrase for a better e-government transformation is the "support" for the whole sample since different types of support like "Management Support", "Institutional Support" or "Political Support" are commonly stated as the most associated factor in the comparisons rather than the other factors.

8.4. The Contributions

Although the main and the additional results of this study are serving to complete same mission which is assessing the e-government transformation success in Turkey and the probable success factors affecting it, the contributions of these two categories to the literature are totally different and unique.

The contribution of the main results to the literature is forming a solid base for the future studies which will try to evaluate the existence and the power of the cause and effect relationships between the e-government transformation success and probable factors affecting it since this study is one of the limited number of studies analyzing the problem in a quantitative but a multi-dimensional way. The contribution of the additional results to the literature is forming another solid base for the future discussions on the opinions of the different stakeholder groups for the e-government transformation success by integrating internal stakeholders to the analyses first time.

8.5. The Limitations and the Future Research

In addition to its two contributions to the literature, the study also has a limitation because neither the main nor the additional results of this study are universal since they are achieved by using the data of internal and the external stakeholders of the

analyzed Turkish public institutions. However, we believe it is an advantage rather than a disadvantage because the developed methodology is a generic one even though the results achieved by using it are dependent on the selected public institutions. As a result of this, our methodology can be used by the interested researchers to collect and analyze the data of other stakeholders in different Turkish public institutions and to compare their results with our results.

Instead of using the data of alternative Turkish public institutions, interested researchers can also use our generic methodology with the data of other countries or regions and compare their results with the results of Turkey.

Another alternative is using our data set instead of our methodology since it is a well organized, error free data set and it has sufficient number of quantitative responses. Any interested researcher might prefer to do alternative statistical analyses on our data set to analyze the dynamics of e-government transformation success in Turkey from a different perspective.

As a last alternative, our study can be repeated with the same sample group by using the same methodology but it might be repeated after a reasonable time to analyze the trends and the changes in the opinions of Turkish stakeholders in the future.

REFERENCES

Abuali, A., Alawneh, A., & Mohammad, H. (2010). Factors and rules effecting in e-government. *European Journal of Scientific Research, 39(2),* 169–175.

Adamal, A., Lanvin, B., & Schware, R. (2005). *e-Strategies monitoring and evaluation toolkit.* Retrieved from The World Bank website: http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/estrategiesToolkit0Jan2005.pdf

Aichholzer, G. (2004). Scenarios of e-government in 2010 and implications for strategy design. *Electronic Journal of e-Government, 2(1),* 1–10.

Al-adawi, Z., Yousafzai, S., & Pallister, J. (2005). Conceptual model of citizen adoption of e-government. *Proceedings of the Second International Conference on Innovations in Information Technology* (pp. 1–10).

Al-Azri, A., Al-Salti, Z., & Al-Karaghouli, W. (2010). The successful implementation of e-government transformation: A case study in Oman. *Proceedings of the European, Mediterranean & Middle Eastern Conference on Information Systems* (pp. 1–11).

Al-Rashidi, H. (2009). Examining internal challenges to e-government implementation from system users perspective. *Proceedings of the European and Mediterranean Conference on Information Systems* (pp. 1–8).

Almarabeh, T., & AbuAli, A. (2010). A general framework for e-government: Definition maturity challenges, opportunities, and success. *European Journal of Scientific Research, 39(1),* 29–42.

Alpar, P., & Olbrich, S. (2005). Legal requirements and modeling of processes in e-government. *Electronic Journal of e-Government, 3(3),* 107–116.

Altameem, T., Zairi, M., & Alshawi, S. (2006). Critical success factors of e-government: A proposed model for e-government implementation. *Proceedings of the Innovations in Information Technology* (pp. 1–5).

Angelopoulos, S., Kitsios, F., & Papadopoulos, T. (2010). New service development in e-government: Identifying critical success factors. *Transforming Government: People, Process and Policy, 4(1),* 95–118.

Armstrong, J. S., & Shapiro, A. C. (1974). *Analyzing Quantitative Models. Journal of Marketing, 38(2),* 61–66.

Asgarkhani, M. (2005). The Effectiveness of e-Service in Local Government : A Case Study. *Electronic Journal of e-Government, 3(4),* 185–192.

Basu, S. (2004). e-Government and developing countries: An overview. *International Review of Law Computers & Technology, 18(1),* 109–132.

Becker, J., Niehaves, B., Algermissen, L., Delfmann, P., & Falk, T. (2004). e-Government success factors. *Lecture Notes in Computer Science Volume 3183* (pp. 503–506). Berlin, Heidelberg: Springer Berlin Heidelberg.

Beynon-Davies, P. (2007). Models for e-government. *Transforming Government: People, Process and Policy, 1(1),* 7–28.

Borras, J. (2004). International technical standards for e-government. *Electronic Journal of e-Government, 2(2),* 139–146.

Bradley, J. (2008). Management based critical success factors in the implementation of enterprise resource planning systems. *International Journal of Accounting Information Systems, 9(3),* 175–200.

Brown, M. M. (2001). The benefits and costs of information technology innovations: An empirical assessment of a local government agency. *Public Performance & Management Review, 24(4),* 351–366.

Burbridge, L. (2002). Accountability and MIS. *Public Performance & Management Review, 25(4),* 421–423.

Cambridge Dictionary: Transformation. Retrieved April 16, 2012, from http://dictionary.cambridge.org/dictionary/british/transformation?q=transformation

Carbo, T., & Williams, J. G. (2004). Models and metrics for evaluating local electronic government systems and services. *Electronic Journal of e-Government, 2(2),* 95–104.

Carter, L., & Belanger, F. (2004). The influence of perceived characteristics of innovating on e-government adoption. *Electronic Journal of e-Government, 2(1),* 11–20.

Carter, L., & Weerakkody, V. (2008). e-Government adoption: A cultural comparison. *Information Systems Frontiers, 10(4),* 473–482.

Chen, Y.-C., & Gant, J. (2001). Transforming local e-government services: The use of application service providers. *Government Information Quarterly, 18(4),* 343–355.

Chutimaskul, W., & Chongsuphajaisiddhi, V. (2004). A framework for developing local e-government. *Lecture Notes in Computer Science Volume 3035* (pp. 335–340). Berlin, Heidelberg: Springer Berlin Heidelberg.

Clark, E. (2003). Managing the transformation to e-government: An Australian perspective. *Thunderbird International Business Review, 45(4),* 377–397.

Coursey, D., & Norris, D. F. (2008). Models of e-government: Are they correct? An empirical assessment. *Public Administration Review, 68(3),* 523–536.

Dada, D. (2006). The failure of e-government in developing countries. *The Electronic Journal on Information Systems in Developing Countries, 26(7),* 1–10.

Davison, R. M., Wagner, C., & Ma, L. C. K. (2005). From government to e-government: A transition model. *Information Technology & People, 18(3),* 280–299.

DeLone, W. H., & McLean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable. *Information Systems Research, 3(1),* 60–95.

DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success : A ten-year update. *Journal of Management Information Systems, 19(4),* 9–30.

Díez, E., & McIntosh, B. S. (2009). A review of the factors which influence the use and usefulness of information systems. *Environmental Modeling & Software, 24(5),* 588–602.

Ebbers, W. E., & Van Dijk, J. A. G. M. (2007). Resistance and support to electronic government, building a model of innovation. *Government Information Quarterly, 24(3),* 554–575.

Eddowes, L. A. (2004). The application of methodologies in e-government. *Electronic Journal of e-Government, 2(2),* 115–126.

Evangelidis, A. (2005). FRAMES - A risk assessment framework for e-services. *Electronic Journal of e-Government, 2(1),* 21–30.

Evangelidis, A., Akomode, J., Taleb-Bendiab, A., & Taylor, M. (2002). Risk assessment & success factors for e-government in a UK establishment. *Lecture Notes in Computer Science Volume 2456* (pp. 395–402). Berlin, Heidelberg: Springer Berlin Heidelberg.

Fasanghari, M. (2009). A novel framework for m-government implementation. *Proceedings of the International Conference on Future Computer and Communication* (pp. 627 – 631).

Ferro, E., Helbig, N. C., & Gil-García, J. R. (2011). The role of IT literacy in defining digital divide policy needs. *Government Information Quarterly, 28(1),* 3–10.

Floropoulos, J., Spathis, C., Halvatzis, D., & Tsipouridou, M. (2010). Measuring the success of the Greek taxation information system. *International Journal of Information Management, 30(1),* 47–56.

Furlong, S., & Al-Karaghouli, W. (2010). Delivering professional projects: The effectiveness of project management in transformational e-government initiatives. *Transforming Government: People, Process and Policy, 4(1),* 73–94.

Gagnon, Y.-C. (2001). The behavior of public managers in adopting new technologies. *Public Performance & Management Review, 24(4),* 337–350.

Ganapati, S., & Reddick, C. G. (2012). Open e-government in U.S. state governments: Survey evidence from chief information officers. *Government Information Quarterly, 29(2),* 115–122.

Gefen, D., Straub, D. W., & Boudreau, M.-C. (2000). Structural Equation Modeling and Regression: Guidelines for Research Practice. *Communications of AIS, 7(7),* 1–78.

Ghapanchi, A., Albadvi, A., & Zarei, B. (2008). A framework for e-government planning and implementation. *Electronic Government, An International Journal, 5(1),* 71–90.

Gil-García, J. R., & Martinez-Moyano, I. J. (2007). Understanding the evolution of e-government: The influence of systems of rules on public sector dynamics. *Government Information Quarterly, 24(2),* 266–290.

Gil-García, J. R. (2004). Information technology policies and standards: A comparative review of the states. *Journal of Government Information, 30(5-6),* 548–560.

Gil-García, J. R. (2005). Exploring the success factors of state website functionality: An empirical investigation. *Proceedings of the 2005 National Conference on Digital Government Research* (pp. 121–130).

Gil-García, J. R., & Pardo, T. A. (2005). e-Government success factors: Mapping practical tools to theoretical foundations. *Government Information Quarterly, 22(2),* 187–216.

Gilbert, D., Balestrini, P., & Littleboy, D. (2004). Barriers and benefits in the adoption of e-government. *International Journal of Public Sector Management, 17(4),* 286–301.

Gorla, N., & Lin, S.-C. (2010). Determinants of software quality: A survey of information systems project managers. *Information and Software Technology, 52(6),* 602–610.

Heeks, R. (2002). e-Government in Africa: Promise and practice. *Information Polity, 7(2,3),* 97–114.

Heeks, R. (2006). *Benchmarking e-government: Improving the national and international measurement, evaluation and comparison of e-government* (Institute for Development Policy and Management Working Paper No. 18). Retrieved from Institute for Development Policy and Management website: http://www.sed.manchester.ac.uk/idpm/research/publications/wp/igovernment/documents/iGWkPpr18.pdf

Heeks, R., & Bailur, S. (2007). Analyzing e-government research: Perspectives, philosophies, theories, methods, and practice. *Government Information Quarterly, 24(2),* 243–265.

Heintze, T., & Bretschneider, S. (2000). Information technology and restructuring in public organizations: Does adoption of information technology affect organizational structures, communications, and decision making? *Journal of Public Administration Research and Theory, 10(4),* 801–830.

Heise, R. D., & Durig, A. (2001). *Qualitative Models.* Encyclopedia of Sociology. Macmillan.

Helbig, N., Gil-García, J. R., & Ferro, E. (2009). Understanding the complexity of electronic government: Implications from the digital divide literature. *Government Information Quarterly, 26(1),* 89–97.

Holden, S. H., Norris, D. F., & Fletcher, P. D. (2003). Electronic government at the local level: Progress to date and future issues. *Public Performance & Management Review, 26(4),* 325–344.

Hung, S.-Y., Chang, C.-M., & Yu, T.-J. (2006). Determinants of user acceptance of the e-government services: The case of online tax filing and payment system. *Government Information Quarterly, 23(1),* 97–122.

Hussein, R., Karim, N. S. A., & Selamat, M. H. (2007). The impact of technological factors on information systems success in the electronic-government context. *Business Process Management Journal, 13(5),* 613–627.

Hwang, M. S., Li, C. T., Shen, J. J., & Chu, P. Y. (2004). Challenges in e-government and security of information. *Information & Security. An International Journal, 15(1),* 9–20.

Janssen, M., & Veenstra, A. F. van. (2005). Stages of growth in e-government: An architectural approach. *Electronic Journal of e-Government, 3(4),* 193–200.

Jayashree, S., & Marthandan, G. (2010). Government to e-government to e-society. *Journal of Applied Sciences, 10(19),* 2205–2210.

Kamal, M. M. (2006). IT innovation adoption in the government sector: Identifying the critical success factors. *Journal of Enterprise Information Management, 19(2),* 192–222.

Khosrow-Pour, M. (Ed.). (2005). *Practicing e-government : A global perspective*. Hershey, PA: Idea Group Publishing.

Kimball, M. B. (2011). Mandated state-level open government training programs. *Government Information Quarterly, 28(4),* 474–483.

King, S. F., & Burgess, T. F. (2006). Beyond critical success factors: A dynamic model of enterprise system innovation. *International Journal of Information Management, 26(1),* 59–69.

Klischewski, R., & Askar, E. (2012). Linking service development methods to interoperability governance: The case of Egypt. *Government Information Quarterly, 29(Supplement 1),* 22–31.

Koh, C. E., Prybutok, V. R., & Zhang, X. (2008). Measuring e-government readiness. *Information & Management, 45(8),* 540–546.

Komito, L. (2005). e-Participation and governance: Widening the net. *Electronic Journal of e-Government, 3(1),* 39–48.

Kumar, V., Mukerji, B., Butt, I., & Persaud, A. (2007). Factors for successful e-government adoption: A conceptual framework. *Electronic Journal of e-Government, 5(1),* 63–76.

Lam, W. (2005). Barriers to e-government integration. *Journal of Enterprise Information Management, 18(5),* 511–530.

Land, C. E. (1981). Statistical limitations in relation to sample size. *Environmental Health Perspectives, 42(December),* 15–21.

Layne, K., & Lee, J. (2001). Developing fully functional e-government: A four stage model. *Government Information Quarterly, 18(2),* 122–136.

Lean, O. K., Zailani, S., Ramayah, T., & Fernando, Y. (2009). Factors influencing intention to use e-government services among citizens in Malaysia. *International Journal of Information Management, 29(6),* 458–475.

Luk, S. C. Y. (2009). The impact of leadership and stakeholders on the success/failure of e-government service: Using the case study of e-stamping service in Hong Kong. *Government Information Quarterly, 26(4), 594–604.*

Mahadeo, J. D. (2009). Towards an understanding of the factors influencing the acceptance and diffusion of e-government services. *Electronic Journal of e-Government, 7(4),* 391–402.

Mengistu, D. (2009). m-Government: Opportunities and challenges to deliver mobile government services in developing countries. *Proceedings of the Fourth International Conference on Computer Sciences and Convergence Information Technology* (pp. 1445–1450).

Mullen, H., & Horner, D. S. (2004). Ethical problems for e-government: An evaluative framework. *Electronic Journal of e-Government, 2(3),* 187–196.

Navarrete, C., Pardo, T. A., Mellouli, S., Gil-García, J. R., & Scholl, J. (2010). Multinational e-government collaboration, information sharing, and interoperability: An integrative model. *Proceedings of the 43rd Annual Hawaii International Conference on System Sciences* (pp. 1–10).

Newell, A., & Simon, H. A. (1972). *Human problem solving.* H. A. Simon (Ed.). Englewood Cliffs, NJ: Prentice-Hall.

Nfuka, E. N., & Rusu, L. (2010). Critical success factors for effective it governance in the public sector organizations in a developing country: The case of Tanzania. *Proceedings of the 18th European Conference on Information Systems* (pp. 1–15).

Norris, D. F., & Moon, M. J. (2005). Does managerial orientation matter? The adoption of reinventing government and e-government at the municipal level. *Information Systems Journal, 15(1),* 43–60.

Olalere, A., & Lazar, J. (2011). Accessibility of U.S. federal government home pages: Section 508 compliance and site accessibility statements. *Government Information Quarterly, 28(3),* 303–309.

Pandey, S., & Elliott, W. (2010). Suppressor variables in social work research: Ways to identify in multiple regression models. *Journal of the Society for Social Work and Research, 1(1),* 28–40.

Papadomichelaki, X., & Mentzas, G. (2012). e-GovQual: A multiple-item scale for assessing e-government service quality. *Government Information Quarterly, 29(1),* 98–109.

Pardo, T. A., & Tayi, G. K. (2007). Interorganizational information integration: A key enabler for digital government. *Government Information Quarterly, 24(4),* 691–715.

Park, R. (2008). Measuring factors that influence the success of e-government initiatives. *Proceedings of the 41st Annual Hawaii International Conference on System Sciences* (pp. 1–10).

Poon, P., & Wagner, C. (2001). Critical success factors revisited: Success and failure cases of information systems for senior executives. *Decision Support Systems, 30(4),* 393–418.

Reddick, C. G., & Turner, M. (2012). Channel choice and public service delivery in Canada: Comparing e-government to traditional service delivery. *Government Information Quarterly, 29(1),* 1–11.

Reece, B. (2006). e-Government literature review. *Journal of e-Government, 3(1),* 69–110.

Reffat, R. M. (2003). Developing a successful e-government. *Proceedings of the Symposium on e-Government: Opportunities and Challenges* (pp. 1–13).

Rehman, M., Esichaikul, V., & Kamal, M. (2012). Factors influencing e-government adoption in Pakistan. *Transforming Government: People, Process and Policy, 6(3),* 258–282.

Reinwald, A., & Kraemmergaard, P. (2012). Managing stakeholders in transformational government - A case study in a Danish local government. *Government Information Quarterly, 29(2),* 133–141.

Rose, W. R., & Grant, G. G. (2010). Critical issues pertaining to the planning and implementation of e-government initiatives. *Government Information Quarterly, 27(1),* 26–33.

Scholl, H. J. (2005a). Interoperability in e-government: More than just smart middleware. *Proceedings of the 38th Annual Hawaii International Conference on System Sciences* (pp. 1–10).

Scholl, H. J. (2005b). Organizational transformation through e-government: Myth or reality? *Lecture Notes in Computer Science Volume 3591* (pp. 1–11). Berlin, Heidelberg: Springer Berlin Heidelberg.

Scholl, H. J., Kubicek, H., Cimander, R., & Klischewski, R. (2012). Process integration, information sharing, and system interoperation in government: A comparative case analysis. *Government Information Quarterly, 29(3),* 313–323.

Schuppan, T. (2009). Local Level Structural Change and e-Government in Germany. In C. G. Reddick (Ed.), *Handbook of Research on Strategies for Local e-Government Adoption and Implementation* (pp. 17–36). IGI Global.

Schwester, R. (2009). Examining the barriers to e-government adoption. *Electronic Journal of e-Government, 7(1),* 113–122.

Shareef, M. A., Kumar, V., Kumar, U., & Dwivedi, Y. K. (2011). e-Government adoption model (GAM): Differing service maturity levels. *Government Information Quarterly, 28(1),* 17–35.

Sharifi, M., & Manian, A. (2010). The study of the success indicators for pre-implementation activities of Iran's e-government development projects. *Government Information Quarterly, 27(1),* 63–69.

Smith, L. D., Campbell, J. F., Subramanian, A., Bird, D. A., & Nelson, A. C. (2001). Strategic planning for municipal information systems: Some lessons from a large U.S. city. *The American Review of Public Administration, 31(2),* 139–157.

Srivastava, S. C. (2011). Is e-government providing the promised returns?: A value framework for assessing e-government impact. *Transforming Government: People, Process and Policy, 5(2),* 107–113.

Stiftung, B., & Hamilton, B. A. (2001). *e-Government - Connecting efficient administration and responsive democracy.* Retrieved from Bertelsman Foundation website: http://www.bertelsmann-stiftung.de

Tat-Kei Ho, A. (2002). Reinventing local governments and the e-government initiative. *Public Administration Review, 62(4),* 434–444.

Taylor, G. R. (Ed.). (2010). *Integrating Quantitative and Qualitative Methods in Research* (Third Ed.), pp. 1–246. Lanham, MD: University Press of America.

Trimi, S., & Sheng, H. (2008). Emerging trends in m-government. *Communications of the ACM, 51(5),* 53–58.

Vaidya, K., Sajeev, A. S. M., & Callender, G. (2006). Critical factors that influence e-procurement implementation success in the public sector. *Journal of Public Procurement, 6(1-3),* 70–99.

Verdegem, P., & Verleye, G. (2009). User-centered e-government in practice: A comprehensive model for measuring user satisfaction. *Government Information Quarterly, 26(3),* 487–497.

Weerakkody, V., & Dhillon, G. (2008). Moving from e-Government to t-Government. *International Journal of Electronic Government Research, 4(4),* 1–16.

Wikipedia: Regression Analysis. Retrieved February 12, 2013, from http://en.wikipedia.org/wiki/Regression_analysis.

Wu, R. C.-Y. (2007). Enterprise integration in e-government. *Transforming Government: People, Process and Policy, 1(1),* 89–99.

Yang, T.-M., & Maxwell, T. A. (2011). Information-sharing in public organizations: A literature review of interpersonal, intra-organizational and inter-organizational success factors. *Government Information Quarterly, 28(2),* 164–175.

Yoon, J., & Chae, M. (2009). Varying criticality of key success factors of national e-strategy along the status of economic development of nations. *Government Information Quarterly, 26(1),* 25–34.

Yun, H. J., & Opheim, C. (2010). Building on success: The diffusion of e-government in the American states. *Electronic Journal of e-Government, 8(1),* 71–82.

APPENDICES

Appendix A: The Identified Independent Variables

Table A.1: The Identified Independent Variables in the Analyzed Studies

Studies	**Independent Variable(s)**
Heintze & Bretschneider, 2000	Management Support, Political Support
Poon & Wagner, 2001	Accessibility, Ease of Use, Management Support, Institutional Support
Layne & Lee, 2001	Accessibility, Ease of Use, Institutional Support, Risks
Stiftung & Hamilton, 2001	Ease of Use, Institutional Culture, Macro Transformation Plans, Management Support, Organizational Transformation Plans, Standards
Smith, Campbell, Subramanian, Bird, & Nelson, 2001	Institutional Culture, IT Investment, Management Support, Regulatory Framework
Gagnon, 2001	Management Support
Brown, 2001	Accessibility, Education
Chen & Gant, 2001	Accessibility, IT Investment, Management Support, Regulatory Framework
Burbridge, 2002	Education, Institutional Support
Tat-Kei Ho, 2002	Institutional Support
Evangelidis, Akomode, Taleb-Bendiab, & Taylor, 2002	Risks

Table A.1 (continued)

Studies	Independent Variable(s)
Heeks, 2002	Accessibility, Education, Institutional Support, Political Support, Regulatory Framework
Reffat, 2003	Education, Integrity, Interoperability, Political Support, Regulatory Framework, Risks, Standards
Fletcher, Norris, & Holden, 2003	Education, IT Investment, Macro Transformation Plans, Political Support, Risks
Clark, 2003	IT Investment, Political Support, Regulatory Framework, Risks, Visionary Leaders
Chutimaskul & Chongsuphajaisiddhi, 2004	Education, Institutional Support, IT Investment, Management Support, Organizational Transformation Plans, Political Support, Regulatory Framework, Standards, Visionary Leaders
Gilbert, Balestrini, & Littleboy, 2004	Ease of Use, Risks
Hwang, Li, Shen, & Chu, 2004	Accessibility, Awareness, Education, Ease of Use, Integrity, Political, Support, Regulatory Framework, Risks, Standards
Basu, 2004	Education, Intention, Political Support, Regulatory Framework, Risks
Becker, Niehaves, Algermissen, Delfmann, & Falk, 2004	Awareness, Institutional Support, IT Investment, Organizational Transformation Plans
Mullen & Horner, 2004	Education
Gil-García, 2004	Standards
Borras, 2004	Interoperability, Standards

Table A.1 (continued)

Studies	Independent Variable(s)
Carbo & Williams, 2004	Accessibility, Education, Political Support, Standards
Aichholzer, 2004	Ease of Use, Macro Transformation Plans, Risks
Eddowes, 2004	Education, Organizational Transformation Plans, Macro Transformation Plans
Carter & Belanger, 2004	Ease of Use, Intention
Lam, 2005	Institutional Support, Interoperability, Integrity, IT Investment, Macro Transformation Plans, Management Support, Political Support, Risks, Standards, Visionary Leaders
Al-adawi, Yousafzai, & Pallister, 2005	Intention, Ease of Use, Risks
Norris &, Moon, 2005	IT Investment, Management Support, Political Support
Gil-García and Pardo, 2005	Education, Interoperability, Institutional Culture, Institutional Support, IT Investment, Management Support, Organizational Transformation Plans, Political Support, Regulatory Framework, Risks, Standards
Komito, 2005	Political Support, Regulatory Framework
Adamal, Lanvin, & Schware, 2005	Accessibility, Education, IT Investment
Gil-García, 2005	Education, Political Support
Evangelidis, 2005	Risks
Davison, Wagner, & Ma, 2005	Awareness, Macro Transformation Plans, Risks
Scholl, 2005a	Interoperability

Table A.1 (continued)

Studies	Independent Variable(s)
Alpar & Olbrich, 2005	Macro Transformation Plans, Political Support, Regulatory Framework
Scholl, 2005b	Institutional Support, Management Support, Organizational Transformation Plans
Khosrow-Pour, 2005	Education, Interoperability, Institutional Culture, Institutional Support, IT Investment, Management Support, Organizational Transformation Plans, Political Support, Regulatory Framework, Risks, Standards
Janssen & Veenstra, 2005	Intention, Management Support, Political Support, Visionary Leaders
Heeks, 2006	Awareness, Education, Macro Transformation Plans, Political Support, Regulatory Framework
King & Burgess, 2006	Institutional Support, Management Support, Organizational Transformation Plans, Visionary Leaders
Vaidya, Sajeev, & Callender, 2006	Education, Integrity, Institutional Support, Macro Transformation Plans, Management Support, Organizational Transformation Plans, Risks, Standards
Altameem, Zairi, & Alshawi, 2006	Awareness, Accessibility, Education, Institutional Culture, IT Investment, Macro Transformation Plans, Management Support, Political Support, Regulatory Framework, Risks, Standards, Visionary Leaders
Hung, Chang, & Yu, 2006	Ease of Use, Intention

Table A.1 (continued)

Studies	Independent Variable(s)
Reece, 2006	Awareness, Accessibility, Education, Institutional Culture, Institutional Support, Intention, Macro Transformation Plans, Management Support, Political Support, Visionary Leaders
Kamal, 2006	Awareness, Management Support, Interoperability, Institutional Support, Intention, IT Investment, Standards
Dada, 2006	Education, Intention, Management Support
Heeks & Bailur, 2007	Institutional Culture
Wu, 2007	Integrity, Interoperability, Standards
Kumar, Mukerji, Butt, & Persaud, 2007	Ease of Use, Risks
Pardo & Tayi, 2007	Interoperability, Integrity
Beynon-Davies, 2007	Accessibility, Ease of Use, Integrity, Risks, Standards
Ebbers & Van Dijk, 2007	Institutional Support, Management Support, Organizational Transformation Plans, Political Support, Regulatory Framework, Standards
Hussein, Karim, & Selamat, 2007	Ease of Use, Institutional Support, Integrity, IT Investment
Gil-García & Martinez-Moyano, 2007	Political Support, Visionary Leaders
Ghapanchi, Albadvi, & Zarei, 2008	Education, Integrity, Institutional Culture, Institutional Support, IT Investment, Macro Transformation Plans, Political Support, Regulatory Framework, Standards, Visionary Leaders
Carter & Weerakkody, 2008	Accessibility, Intention, Risks

Table A.1 (continued)

Studies	Independent Variable(s)
Trimi & Sheng, 2008	Interoperability, Political Support, Regulatory Framework, Risks
Bradley, 2008	Institutional Culture
Koh, Prybutok, & Zhang, 2008	Interoperability, Macro Transformation Plans, Political Support, Standards
Park, 2008	Accessibility, Awareness
Coursey & Norris, 2008	Education, Institutional Culture, Institutional Support, IT Investment, Management Support, Political Support, Regulatory Framework, Risks
Fasanghari, 2009	IT Investment
Verdegem & Verleye, 2009	Awareness, Intention
Díez & McIntosh, 2009	Ease of Use, Intention
Schwester, 2009	Institutional Support, IT Investment, Political Support, Risks
Lean, Zailani, Ramayah, & Fernando, 2009	Intention
Mengistu, 2009	Institutional Support, Intention, Interoperability, Risks, Regulatory Framework, Standards
Luk, 2009	Visionary Leaders
Mahadeo, 2009	Awareness, Ease of Use, Intention, Interoperability, Institutional Culture, Risks
Helbig, Gil-García , & Ferro, 2009	Education, IT Investment
Yoon & Chae, 2009	Accessibility, Education, Institutional Culture, Institutional Support, IT Investment, Regulatory Framework, Risks, Visionary Leaders

Table A.1 (continued)

Studies	Independent Variable(s)
Al-Rashidi, 2009	Awareness, Intention
Almarabeh & AbuAli, 2010	Accessibility, Awareness, Education, Interoperability, Institutional Support, IT Investment, Organizational Transformation Plans, Regulatory Framework, Risks
Yun & Opheim, 2010	Management Support, Political Support, Visionary Leaders
Rose & Grant, 2010	Interoperability, Education, Management Support, Political Support, Regulatory Framework, Standards, Visionary Leaders
Nfuka & Rusu, 2010	Accessibility, Awareness, Education, Macro Transformation Plans, Management Support, Risks, Standards, Visionary Leaders
Furlong & Al-Karaghouli, 2010	Integrity, Risks
Gorla & Lin, 2010	Ease of Use
Abuali, Alawneh, & Mohammad, 2010	Ease of Use
Floropoulos, Spathis, Halvatzis, & Tsipouridou, 2010	Ease of Use, Intention
Navarrete, Pardo, Mellouli, Gil-García, & Scholl, 2010	Institutional Culture, IT Investment, Political Support, Regulatory Framework, Visionary Leaders
Angelopoulos, Kitsios, & Papadopoulos, 2010	Awareness, Ease of Use
Sharifi & Manian, 2010	Accessibility, IT Investment, Political Support
Al-Azri, Al-Salti, & Al-Karaghouli, 2010	Accessibility, Awareness, Ease of Use, Education, Institutional Culture, Management Support, Risks, Visionary Leaders

Table A.1 (continued)

Studies	Independent Variable(s)
Olalere & Lazar, 2011	Accessibility, Ease of Use
Shareef, Kumar, Kumar, & Dwivedi, 2011	Awareness, Ease of Use, Risks
Yang & Maxwell, 2011	Intention, Institutional Culture, Institutional Support, Management Support, Political Support, Regulatory Framework, Risks, Visionary Leaders
Srivastava, 2011	Macro Transformation Plans, Political Support, Regulatory Framework
Kimball, 2011	Education, Institutional Culture, Regulatory Framework
Ferro, Helbig, & Gil-García, 2011	Education
Reddick & Turner, 2012	Education
Papadomichelaki & Mentzas, 2012	Accessibility, Ease of Use, Risks
Rehman, Esichaikul, & Kamal, 2012	Awareness, Ease of Use, Education, IT Investment, Risks
Klischewski & Askar, 2012	Interoperability
Reinwald & Kraemmergaard, 2012	Institutional Support, Management Support, Political Support
Ganapati & Reddick, 2012	Management Support, Political Support, Regulatory Framework
Scholl, Kubicek, Cimander, & Klischewski, 2012	IT Investment, Interoperability

Appendix B: The Final Survey

E-DEVLET ANKETİ

Hizmet Aldığınız/Çalışanı Olduğunuz Kurum:

Açıklama

Türkiye'de e-devlet dönüşümünün başarı seviyesi ile bu başarıda etkili olduğu düşünülen faktörler arasındaki ilişkileri ortaya çıkartmak amacıyla bir doktora tezi hazırlanmaktadır.

Bu anket, tez yazarına yapacağı çalışmalarda yukarıda bahsi geçen konuda veri sağlamak amacıyla hazırlanmıştır.

Yöntem

Lütfen sorulara mümkün olduğunca açık cevaplar veriniz. Yukarıda belirtilen amaca yönelik olarak, sorulara vereceğiniz yanıtlarla ilgili faydalı olacağını düşündüğünüz tüm hususları anketin sonunda yer alan **Görüş ve Öneriler** bölümüne ekleyebilirsiniz.

Anket 18 yaşını aşmış her kesimden Türk vatandaşlarına yönelik olarak hazırlanmış ve ortalama **5 ila 10** dakika arası cevaplanacak şekilde tasarlanmıştır. **Ankette ankete katılanların kimliğini, yaşını, gelir durumunu ve mesleki bilgileri gibi demografik bilgilerini belirlemeye yönelik herhangi bir soru bulunmamaktadır.**

Sizden alacağımız bilgi ve görüşlerin zenginliği ve doğruluğu hem çalışmanın başarısına büyük ölçüde katkı sağlayacak hem de ülkemizde e-Devlet dönüşümü hakkında yapılacak diğer çalışmalar için önemli bir kaynak oluşturacaktır. Yardımlarınız ve katılımınız için şimdiden teşekkür ederiz.

Anketin Tamamlanması ve Geri Dönüşü

Anketi kağıt üzerinde tamamladığınızda lütfen anketöre iletiniz. Eğer anketi internet sitesi üzerinde tamamladıysanız ek bir şey yapmanıza gerek yoktur.

Gökhan İskender

1. İnternet kullanıyor musunuz? (***Cevabınız Hayırsa lütfen 3. sorudan devam ediniz.***)

   ☐ Evet
   ☐ Hayır

2. İnternet üzerinden resmi işlemler (vergi, nüfus, pasaport, sınav, dilekçe işlemleri gibi) yapıyor musunuz?

   ☐ Evet
   ☐ Hayır

3. e-Devlet kavramını duydunuz mu? (***Cevabınız Hayırsa lütfen anketi sonlandırınız.***)

   ☐ Evet
   ☐ Hayır

4. Bu anketi size ulaştıran hizmet aldığınız/mensubu bulunduğunuz Kamu Kurumundaki e-Devlet uygulamalarıyla ilgili olarak aşağıdaki faktörleri derecelendiriniz. (Derecelendirme ölçeği aşağıda belirtilmiştir)

   1: Kesinlikle katılmıyorum
   2: Katılmıyorum
   3: Kararsızım
   4: Katılıyorum
   5: Kesinlikle katılıyorum

Hizmet aldığım/mensubu bulunduğum Kamu Kurumundaki e-Devlet uygulamalarında kullanılan sistem

Farklı ihtiyaçlarımı karşılayabilmektedir	1	2	3	4	5
İhtiyacım olduğunda kullanılabilir durumdadır.	1	2		4	5
Güvenilirdir.	1	2	3	4	5
İhtiyaçlarıma hızlı cevap vermektedir.	1	2	3	4	5
Resmi yazışmayla işletilen gerçek sistemle uyumludur.	1	2	3	4	5

Hizmet aldığım/mensubu bulunduğum Kamu Kurumundaki e-Devlet uygulamalarında kullanılan sistemin çıktıları

Eksiksizdir.	1	2	3	4	5
Kolay anlaşılabilir bir formdadır.	1	2	3	4	5
Bana özel olarak kişiselleştirilebilmektedir.	1	2	3	4	5
Talep ettiğim konularla alakalıdır.	1	2	3	4	5
Güvenli bir yoldan bana ulaşmaktadır.	1	2	3	4	5

Hizmet aldığım/mensubu bulunduğum Kamu Kurumundaki e-Devlet uygulamaları

Bana güven vermektedir.	1	2	3	4	5
Benim tarafımdan tasarlamış olsa aynı şekilde hizmet veriyor olurdu.	1	2	3	4	5
İhtiyaçlarıma duyarlıdır.	1	2	3	4	5
Kurumun hizmet vermek için yaptığı harcamaları düşürmektedir.	1	2	3	4	5
Vatandaşlara ulaşmak için yeni yöntemler sağlamaktadır.	1	2	3	4	5
Normalde olmayan hizmetlerin verilmesine olanak sağlamaktadır.	1	2		4	5
Bilgiye ulaşma maliyetini düşürmektedir	1	2	3	4	5
Hem bana hem de kamu kurumuna zaman kazandırmaktadır.	1	2	3	4	5

Hizmet aldığım/mensubu bulunduğum Kamu Kurumundaki e-Devlet uygulamalarını

Resmi yazışmayla işletilen gerçek sistem yerine rahatlıkla kullanabilirim.	1	2	3	4	5
Sıklıkla kullanırım.	1	2	3	4	5

Birçok değişik iş için kullanabilirim.	1	2	3	4	5
Tekrar kullanmak isterim.	1	2	3	4	5

Hizmet aldığım/mensubu bulunduğum Kamu Kurumundaki e-Devlet uygulamalarının sunulduğu internet sitesi(ni)

Tekrar ziyaret etmek isterim.	1	2	3	4	5

5. Sizce bu anketi size ulaştıran hizmet aldığınız/mensubu bulunduğunuz Kamu Kurumundaki e-Devlet uygulamalarının başarısının arttırılmasında aşağıda sıralanan faktörler ne derecede etkilidir? (Derecelendirme ölçeği aşağıda belirtilmiştir)

   1: Hiç etkili değil
   2: Az etkili
   3: Orta derecede etkili
   4: Etkili
   5: Çok etkili

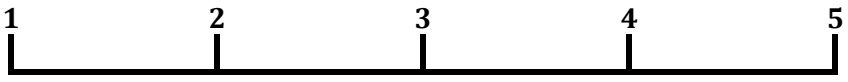
Uygulamadan kurum içinde ve kurum dışında yararlanması muhtemel kişilerin uygulamaya erişebilirlik seviyesinin arttırılması.	1	2	3	4	5
Uygulamayla ilgili standartların oluşturulması.	1	2	3	4	5
Uygulamanın diğer kamu kurumlarının e-devlet uygulamalarıyla birlikte çalışabilirliğinin sağlanması.	1	2	3	4	5
Uygulamayla verilen kamu hizmetlerinin diğer kamu hizmetleriyle bütünlük sağlaması.	1	2	3	4	5
Uygulamanın kullanımının kolaylaştırılması.	1	2	3	4	5

Uygulamadan kurum içinde ve kurum dışında yararlanması muhtemel kişilerin uygulamayla ilgili farkındalık seviyesinin arttırılması.	1	2	3	4	5
Uygulamadan kurum içinde ve kurum dışında yararlanması muhtemel kişilerin kullanmaya niyeti olması.	1	2	3	4	5
Uygulamadan kurum içinde ve kurum dışında yararlanması muhtemel kişilerin bilgisayar okur-yazarlığının arttırılması.	1	2	3	4	5
Uygulamayla ilgili risklerin azaltılması.	1	2	3	4	
Uygulamayı sağlayan Kurumların yöneticilerinin vizyon sahibi olması.	1	2	3	4	5
Uygulamayı sağlayan Kurumların e-Devlet dönüşüm planları olması	1	2	3	4	5
Uygulamayı sağlayan Kurumların yöneticilerinin uygulamaya destek seviyesinin artması.	1	2	3		5
Uygulamayı sağlayan Kurumların çalışanlarının uygulamaya destek seviyesinin artması.	1	2	3	4	5
Uygulamayı sağlayan Kurumların uygulamayla uyumlu iş kültürlerinin olması	1	2	3	4	5
Uygulamayı sağlayan Kurumların uygulama için yaptıkları yatırımın miktarının arttırılması	1	2	3	4	5

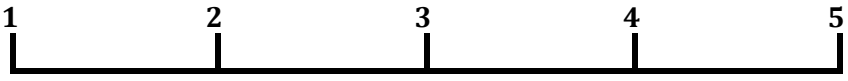
Politik desteğin varlığı	1 2 3 4 5
Devletin genel e-Devlet dönüşüm planları olması	1 2 3 4 5
e-Dönüşüm ile ilgili tutarlı ve uyumlu bir hukuki altyapının olması.	1 2 3 4 5

6. Sizce bir e-Devlet uygulamasının başarılı sayılabilmesi için aşağıda sıralanan özellikler ne oranda önemlidir? (Sizce en uygun seçeneğin altındaki çizginin üstüne (X) işareti koyunuz)

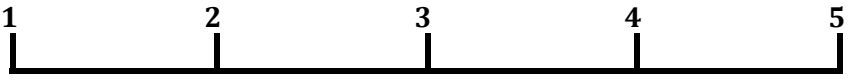
   1: Hiç önemli değil
   2: Az önemli
   3: Orta derecede önemli
   4: Önemli
   5: Çok önemli



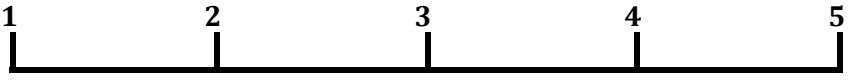
Uygulama sonucu elde edilen çıktının eksiksiz, kolay anlaşılabilir, konuyla ilgili olması ve güvenli bir yoldan elde edilmesi.



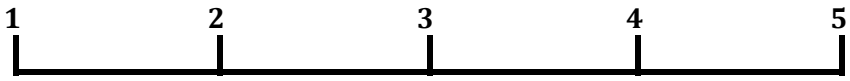
Uygulamanın kullanıcılara güven vermesi, kullanıcıların isteklerine duyarlı olması ve olayları kullanıcıların gözüyle değerlendirebilmesi.



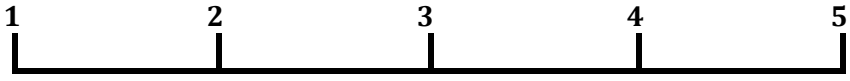
Uygulamanın kullanıcılarca sıklıkla kullanılması ve çok sayıda fonksiyon içermesi.



Uygulamanın kullanıcıları tatmin etmesi, tekrar kullanma isteği uyandırması, iyileştirmeler için kullanıcıların görüşlerini alması



Uygulamanın yeni hizmetlerin sağlanmasına imkân vermesi, daha önce ulaşılamayan kullanıcılara ulaşmak için yeni bir yol sağlaması, kamu kurumları ve kullanıcılar için zaman ve paradan tasarruf sağlaması



Varsa Eklemek İstediğiniz Görüş ve Öneriler

Yardımlarınız ve katılımınız için tekrar teşekkür ederiz.

Appendix C: The Correlation Analyses

Table C.1: Correlation Analyses (DS1 and DS2)

DS1			**DS2**		
Success Score	P. C.	1	Success Score	P. C.	1
	S. (2-t)			S. (2-t)	
	N	207		N	204
Accessibility	P. C.	.294(**)	Accessibility	P. C.	.428(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Standards	P. C.	.250(**)	Standards	P. C.	.406(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Interoperability	P. C.	.238(**)	Interoperability	P. C.	.368(**)
	S. (2-t)	.001		S. (2-t)	.000
	N	207		N	204
Integrity	P. C.	.235(**)	Integrity	P. C.	.426(**)
	S. (2-t)	.001		S. (2-t)	.000
	N	207		N	204
Ease of Use	P. C.	.282(**)	Ease of Use	P. C.	.447(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Awareness	P. C.	.265(**)	Awareness	P. C.	.421(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Intention	P. C.	.351(**)	Intention	P. C.	.440(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Education	P. C.	.234(**)	Education	P. C.	.427(**)
	S. (2-t)	.001		S. (2-t)	.000
	N	207		N	204

Table C.1 (continued)

DS1			**DS2**		
Riskless Environment	P. C.	.174(*)	Riskless Environment	P. C.	.399(**)
	S. (2-t)	.012		S. (2-t)	.000
	N	207		N	204
Visionary Leaders	P. C.	.309(**)	Visionary Leaders	P. C.	.454(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Organizational Transformation Plans	P. C.	.319(**)	Organizational Transformation Plans	P. C.	.397(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Management Support	P. C.	.421(**)	Management Support	P. C.	.469(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Institutional Support	P. C.	.230(**)	Institutional Support	P. C.	.485(**)
	S. (2-t)	.001		S. (2-t)	.000
	N	207		N	204
Institutional Culture	P. C.	.302(**)	Institutional Culture	P. C.	.409(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
IT Investment	P. C.	.340(**)	IT Investment	P. C.	.415(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Political Support	P. C.	.416(**)	Political Support	P. C.	.474(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Macro Transformation Plans	P. C.	.338(**)	Macro Transformation Plans	P. C.	.466(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204
Consistent Regulatory Framework	P. C.	.307(**)	Consistent Regulatory Framework	P. C.	.430(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	207		N	204

P. C.: Pearson Correlation
S. (2-t): Significant (2-tailed)

** corr. is sign. at the 0.01 lev. (2-t)
* corr. is sign. at the 0.05 lev. (2-t)

Table C.2: Correlation Analyses (DS3 and DS4)

DS3			**DS4**		
Success Score	P. C.	1	Success Score	P. C.	1
	S. (2-t)			S. (2-t)	
	N	208		N	204
Accessibility	P. C.	.401(**)	Accessibility	P. C.	.419(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Standards	P. C.	.357(**)	Standards	P. C.	.250(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Interoperability	P. C.	.304(**)	Interoperability	P. C.	.297(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Integrity	P. C.	.264(**)	Integrity	P. C.	.387(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Ease of Use	P. C.	.309(**)	Ease of Use	P. C.	.406(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Awareness	P. C.	.309(**)	Awareness	P. C.	.362(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Intention	P. C.	.366(**)	Intention	P. C.	.290(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Education	P. C.	.306(**)	Education	P. C.	.297(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Riskless Environment	P. C.	.417(**)	Riskless Environment	P. C.	.312(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204

Table C.2 (continued)

DS3			**DS4**		
Visionary Leaders	P. C.	.254(**)	Visionary Leaders	P. C.	.378(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Organizational Transformation Plans	P. C.	.319(**)	Organizational Transformation Plans	P. C.	.422(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Management Support	P. C.	.367(**)	Management Support	P. C.	.405(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Institutional Support	P. C.	.307(**)	Institutional Support	P. C.	.367(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Institutional Culture	P. C.	.329(**)	Institutional Culture	P. C.	.309(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
IT Investment	P. C.	.367(**)	IT Investment	P. C.	.281(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Political Support	P. C.	.290(**)	Political Support	P. C.	.270(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Macro Transformation Plans	P. C.	.288(**)	Macro Transformation Plans	P. C.	.285(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204
Consistent Regulatory Framework	P. C.	.329(**)	Consistent Regulatory Framework	P. C.	.342(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	208		N	204

P. C.: Pearson Correlation
S. (2-t): Significant (2-tailed)

** corr. is sign. at the 0.01 lev. (2-t)

Table C.3: Correlation Analyses (DS5 and DS6)

DS5			**DS6**		
Success Score	P. C.	1	Success Score	P. C.	1
	S. (2-t)			S. (2-t)	
	N	411		N	412
Accessibility	P. C.	.365(**)	Accessibility	P. C.	.407(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Standards	P. C.	.337(**)	Standards	P. C.	.310(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Interoperability	P. C.	.307(**)	Interoperability	P. C.	.307(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Integrity	P. C.	.338(**)	Integrity	P. C.	.330(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Ease of Use	P. C.	.376(**)	Ease of Use	P. C.	.357(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Awareness	P. C.	.349(**)	Awareness	P. C.	.341(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Intention	P. C.	.399(**)	Intention	P. C.	.330(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Education	P. C.	.348(**)	Education	P. C.	.301(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Riskless Environment	P. C.	.300(**)	Riskless Environment	P. C.	.365(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412

Table C.3 (continued)

DS5			**DS6**		
Visionary Leaders	P. C.	.390(**)	Visionary Leaders	P. C.	.322(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Organizational Transformation Plans	P. C.	.360(**)	Organizational Transformation Plans	P. C.	.373(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Management Support	P. C.	.444(**)	Management Support	P. C.	.385(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Institutional Support	P. C.	.374(**)	Institutional Support	P. C.	.333(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Institutional Culture	P. C.	.361(**)	Institutional Culture	P. C.	.322(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
IT Investment	P. C.	.382(**)	IT Investment	P. C.	.322(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Political Support	P. C.	.448(**)	Political Support	P. C.	.279(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Macro Transformation Plans	P. C.	.406(**)	Macro Transformation Plans	P. C.	.285(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412
Consistent Regulatory Framework	P. C.	.374(**)	Consistent Regulatory Framework	P. C.	.337(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	411		N	412

P. C.: Pearson Correlation
S. (2-t): Significant (2-tailed)

** corr. is sign. at the 0.01 lev. (2-t).

Table C.4: Correlation Analyses (DS7 and DS8)

DS7			**DS8**		
Success Score	P. C.	1	Success Score	P. C.	1
	S. (2-t)			S. (2-t)	
	N	415		N	408
Accessibility	P. C.	.351(**)	Accessibility	P. C.	.422(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Standards	P. C.	.305(**)	Standards	P. C.	.339(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Interoperability	P. C.	.270(**)	Interoperability	P. C.	.334(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Integrity	P. C.	.250(**)	Integrity	P. C.	.407(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Ease of Use	P. C.	.296(**)	Ease of Use	P. C.	.425(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Awareness	P. C.	.287(**)	Awareness	P. C.	.394(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Intention	P. C.	.359(**)	Intention	P. C.	.374(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Education	P. C.	.272(**)	Education	P. C.	.367(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Riskless Environment	P. C.	.303(**)	Riskless Environment	P. C.	.359(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408

Table C.4 (continued)

DS7			**DS8**		
Visionary Leaders	P. C.	.282(**)	Visionary Leaders	P. C.	.420(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Organizational Transformation Plans	P. C.	.319(**)	Organizational Transformation Plans	P. C.	.407(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Management Support	P. C.	.395(**)	Management Support	P. C.	.441(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Institutional Support	P. C.	.269(**)	Institutional Support	P. C.	.434(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Institutional Culture	P. C.	.315(**)	Institutional Culture	P. C.	.368(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
IT Investment	P. C.	.352(**)	IT Investment	P. C.	.356(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Political Support	P. C.	.353(**)	Political Support	P. C.	.386(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408
Macro Transformation Plans	P. C.	.313(**)		P. C.	.386(**)
	S. (2-t)	.000	Macro Transformation Plans	S. (2-t)	.000
	N	415		N	408
Consistent Regulatory Framework	P. C.	.319(**)	Consistent Regulatory Framework	P. C.	.391(**)
	S. (2-t)	.000		S. (2-t)	.000
	N	415		N	408

P. C.: Pearson Correlation
S. (2-t): Significant (2-tailed)

** corr. is sign. at the 0.01 lev. (2-t).

Appendix D: The Regression Analyses

External Stakeholders in Central Public Institutions

Table D.1: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.666(a)	.444	.390	.2706901

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.2: AN.(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	10.979	18	.610	8.324	.000(a)
Residual	13.775	188	.073		
Total	24.754	206			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.3: Co.(a)

Mod.	Uns. Co.		St. Co.	t	Sig.
	B	**St. Error**	**Beta**		
(Constant)	1.438	.149		9.676	.000
Accessibility	.044	.024	.109	1.833	.068
Standards	.019	.023	.048	.816	.416
Interoperability	-.006	.024	-.014	-.234	.815
Integrity	.032	.025	.078	1.306	.193
Ease of Use	.035	.023	.091	1.557	.121
Awareness	.006	.023	.016	.252	.802
Intention	.031	.024	.078	1.257	.210
Education	.013	.025	.032	.541	.589
Riskless Environment	.008	.023	.021	.362	.718
Visionary Leaders	.033	.023	.088	1.458	.147
Org. Transformation Plans	.049	.023	.127	2.136	.034
Management Support	.065	.023	.178	2.805	.006
Institutional Support	-.010	.023	-.026	-.423	.673
Institutional Culture	.024	.023	.064	1.034	.303
IT Investment	.029	.023	.077	1.247	.214
Political Support	.056	.024	.150	2.343	.020
Macro Transformation Plans	.045	.023	.121	1.936	.054
Cons. Regulatory Framework	.038	.023	.099	1.677	.095

a. DV: success score

Table D.4: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.775(a)	.601	.562	.2869717

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.5: AN(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	22,919	18	1.273	15.461	.000(a)
Residual	15,235	185	.082		
Total	38,154	203			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.6: Co.(a)

Mod.	Unst. Co.		St. Co.	t	Sig.
	B	**St. Error**	**Beta**		
(Constant)	1.174	.118		9.952	.000
Accessibility	.027	.026	.059	1.041	.299
Standards	.013	.025	.028	.507	.613
Interoperability	.005	.026	.010	.182	.856
Integrity	.026	.026	.055	1.004	.317
Ease of Use	.014	.024	.034	.594	.553
Awareness	.019	.027	.041	.724	.470
Intention	.053	.025	.116	2.150	.033
Education	.047	.025	.104	1.866	.064
Riskless Environment	.051	.025	.108	2.026	.044
Visionary Leaders	.050	.025	.111	1.999	.047
Org. Transformation Plans	.050	.026	.106	1.938	.054
Management Support	.046	.025	.106	1.832	.068
Institutional Support	.035	.025	.082	1.411	.160
Institutional Culture	.017	.024	.038	.691	.491
IT Investment	.053	.024	.119	2.226	.027
Political Support	.049	.024	.117	2.080	.039
Macro Transformation Plans	.036	.025	.084	1.468	.144
Cons. Regulatory Framework	.026	.025	.059	1.047	.296

a. DV: success score

Table D.7: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.668(a)	.446	.394	.2709485

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.8: AN(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	11.185	18	.621	8.464	.000(a)
Residual	13.875	189	.073		
Total	25.060	207			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.9: Co.(a)

Mod.	**Unst. Co.**		**St. Co.**	**t**	**Sig.**
	B	**St. Error**	**Beta**		
(Constant)	1.504	.131		11.451	.000
Accessibility	.049	.024	.136	2.085	.038
Standards	.032	.024	.085	1.365	.174
Interoperability	.004	.026	.010	.148	.882
Integrity	.023	.025	.055	.921	.358
Ease of Use	.024	.023	.063	1.036	.302
Awareness	.041	.024	.102	1.708	.089
Intention	.016	.024	.044	.671	.503
Education	.012	.024	.032	.509	.611
Riskless Environment	.034	.023	.095	1.447	.150
Visionary Leaders	-.004	.024	-.009	-.153	.879
Org. Transformation Plans	.035	.023	.093	1.525	.129
Management Support	.049	.025	.125	1.988	.048
Institutional Support	.040	.024	.100	1.622	.106
Institutional Culture	.050	.024	.128	2.119	.035
IT Investment	.053	.023	.139	2.318	.022
Political Support	.017	.024	.044	.721	.472
Macro Transformation Plans	-.004	.023	-.010	-.157	.875
Cons. Regulatory Framework	.024	.024	.063	.989	.324

a. DV: success score

Table D.10: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.712(a)	.507	.459	.2613072

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.11: AN(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	13.000	18	.722	10.577	.000(a)
Residual	12.632	185	.068		
Total	25.632	203			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.12: Co.(a)

Mod.	Unst. Co.		St. Co.	t	Sig.
	B	**St. Error**	**Beta**		
(Constant)	1.404	.132		10.614	.000
Accessibility	.060	.022	.159	2.659	.009
Standards	.003	.023	.007	.115	.909
Interoperability	.018	.022	.046	.806	.421
Integrity	.041	.023	.105	1.765	.079
Ease of Use	.035	.022	.098	1.617	.108
Awareness	.047	.024	.116	1.927	.056
Intention	.036	.022	.092	1.631	.105
Education	-.006	.023	-.014	-.245	.807
Riskless Environment	.043	.023	.108	1.882	.061
Visionary Leaders	.051	.022	.133	2.266	.025
Org. Transformation Plans	.063	.024	.161	2.665	.008
Management Support	.053	.024	.135	2.213	.028
Institutional Support	-.003	.025	-.006	-.101	.920
Institutional Culture	.051	.023	.123	2.165	.032
IT Investment	.025	.022	.066	1.168	.244
Political Support	-.005	.022	-.012	-.211	.833
Macro Transformation Plans	.009	.022	.025	.432	.666
Cons. Regulatory Framework	.018	.023	.047	.787	.432

a. DV: success score

Total Stakeholders in Central Public Organizations

Table D.13: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.724(a)	.524	.502	.2764919

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.14: AN.(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	32.993	18	1.833	23.977	.000(a)
Residual	29.968	392	.076		
Total	62.961	410			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.15: Co.(a)

Mod.	Unst. Co.		St. Co.	t	Sig.
	B	**St. Error**	**Beta**		
(Constant)	1.281	.089		14.364	.000
Accessibility	.033	.017	.077	1.956	.051
Standards	.019	.017	.044	1.124	.262
Interoperability	-.001	.017	-.002	-.056	.956
Integrity	.026	.017	.059	1.514	.131
Ease of Use	.028	.016	.069	1.750	.081
Awareness	.014	.017	.033	.828	.408
Intention	.041	.017	.097	2.435	.015
Education	.034	.017	.077	1.986	.048
Riskless Environment	.032	.017	.071	1.885	.060
Visionary Leaders	.045	.016	.108	2.733	.007
Org. Transformation Plans	.050	.017	.116	3.015	.003
Management Support	.054	.017	.133	3.225	.001
Institutional Support	.014	.017	.034	.826	.409
Institutional Culture	.020	.016	.048	1.201	.231
IT Investment	.043	.016	.102	2.616	.009
Political Support	.051	.016	.128	3.141	.002
Macro Transformation Plans	.038	.016	.094	2.322	.021
Cons. Regulatory Framework	.033	.016	.079	1.989	.047

a. DV: success score

Total Stakeholders in Local Public Organizations

Table D.16: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.683(a)	.467	.442	.2631516

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.17: AN.(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	23.798	18	1.322	19.092	.000(a)
Residual	27.215	393	.069		
Total	51.013	411			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.18: Co.(a)

Mod.	Unst. Co.		St. Co.	t	Sig.
	B	**St. Error**	**Beta**		
(Constant)	1.445	.089		16.234	.000
Accessibility	.049	.016	.133	3.142	.002
Standards	.021	.016	.055	1.352	.177
Interoperability	.015	.016	.039	.944	.346
Integrity	.034	.017	.084	2.068	.039
Ease of Use	.030	.015	.082	1.988	.048
Awareness	.045	.016	.113	2.767	.006
Intention	.022	.016	.059	1.418	.157
Education	.006	.016	.016	.395	.693
Riskless Environment	.035	.016	.094	2.231	.026
Visionary Leaders	.026	.016	.067	1.626	.105
Org. Transformation Plans	.046	.016	.119	2.885	.004
Management Support	.047	.016	.119	2.855	.005
Institutional Support	.023	.016	.058	1.386	.166
Institutional Culture	.049	.016	.121	3.045	.002
IT Investment	.038	.015	.098	2.459	.014
Political Support	.011	.015	.030	.738	.461
Macro Transformation Plans	.004	.015	.012	.284	.777
Cons. Regulatory Framework	.019	.016	.048	1.149	.251

a. DV: success score

Total External Stakeholders

Table D.19: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.654(a)	.428	.401	.2683911

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.20: AN(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	21.302	18	1.183	16.429	.000(a)
Residual	28.525	396	.072		
Total	49.828	414			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.21: Co.(a)

Mod.	Unst. Co.		St. Co.	t	Sig.
	B	**St. Error**	**Beta**		
(Constant)	1.482	.093		15.878	.000
Accessibility	.044	.016	.114	2.689	.007
Standards	.026	.016	.067	1.612	.108
Interoperability	-.003	.017	-.009	-.206	.837
Integrity	.024	.017	.057	1.421	.156
Ease of Use	.031	.016	.081	1.972	.049
Awareness	.022	.016	.057	1.374	.170
Intention	.030	.017	.078	1.793	.074
Education	.014	.017	.035	.822	.412
Riskless Environment	.022	.016	.057	1.368	.172
Visionary Leaders	.016	.016	.041	.990	.323
Org. Transformation Plans	.042	.016	.110	2.701	.007
Management Support	.056	.016	.149	3.449	.001
Institutional Support	.015	.016	.039	.925	.356
Institutional Culture	.034	.016	.088	2.115	.035
IT Investment	.044	.016	.116	2.753	.006
Political Support	.036	.016	.096	2.235	.026
Macro Transformation Plans	.022	.016	.059	1.391	.165
Cons. Regulatory Framework	.027	.016	.071	1.669	.096

a. DV: success score

Total Internal Stakeholders

Table D.22: Mod. Summ.

Mod.	R	R Sq.	Ad. R Sq.	St. Err. of the Est.
1	.742(a)	.551	.530	.2714962

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

Table D.23: AN(b)

Mod.	Sum of Sq.	df	M. Sq.	F	Sig.
Regression	35.162	18	1.953	26.502	.000(a)
Residual	28.673	389	.074		
Total	63.836	407			

a. pred.: (const.), cons. regulatory framework, integrity, standards, accessibility, riskless environment, ease of use, org. transformation plans, education, visionary leaders, institutional support, it investment, interoperability, intention, awareness, institutional culture, macro transformation plans, management support, political support

b. DV: success score

Table D.24: Co.(a)

Mod.	Unst. Co.		St. Co.	t	Sig.
	B	**St. Error**	**Beta**		
(Constant)	1.258	.085		14.737	.000
Accessibility	.045	.016	.108	2.756	.006
Standards	.013	.016	.029	.763	.446
Interoperability	.014	.017	.033	.859	.391
Integrity	.037	.017	.086	2.209	.028
Ease of Use	.024	.016	.060	1.511	.132
Awareness	.034	.017	.078	1.968	.050
Intention	.043	.016	.100	2.657	.008
Education	.021	.016	.049	1.259	.209
Riskless Environment	.045	.017	.101	2.668	.008
Visionary Leaders	.054	.016	.129	3.316	.001
Org. Transformation Plans	.049	.017	.112	2.913	.004
Management Support	.049	.017	.118	2.958	.003
Institutional Support	.022	.017	.053	1.281	.201
Institutional Culture	.033	.016	.077	2.010	.045
IT Investment	.040	.016	.095	2.534	.012
Political Support	.026	.016	.066	1.694	.091
Macro Transformation Plans	.020	.016	.050	1.274	.204
Cons. Regulatory Framework	.021	.016	.051	1.287	.199

a. DV: success score

Appendix E: The Factor Analyses

Table E.1: Comm.

	In.	**Ext.**
Accesibility	1.000	.280
Standards	1.000	.235
Interoperability	1.000	.252
Integrity	1.000	.226
Ease of Use	1.000	.279
Awareness	1.000	.260
Intention	1.000	.262
Education	1.000	.253
Riskless Environment	1.000	.234
Visionary Leaders	1.000	.247
Org. Transformation Plans	1.000	.231
Management Support	1.000	.313
Institutional Support	1.000	.305
Institutional Culture	1.000	.235
IT Investment	1.000	.211
Political Support	1.000	.284
Macro Transformation Plans	1.000	.282
Cons. Regulatory Framework	1.000	.288

ext. method: prin. comp. an.

Table E.2: Tot. Var. Exp.

	In. Eigenvalues			Ext. Sums of Sq. Load.		
Comp.	Tot.	% of V.	Cum. %	Tot.	% of V.	Cum. %
1	4.678	25.989	25.989	4.678	25.989	25.989
2	.996	5.531	31.520			
3	.958	5.322	36.842			
4	.918	5.098	41.940			
5	.886	4.920	46.860			
6	.851	4.726	51.586			
7	.826	4.590	56.176			
8	.820	4.558	60.735			
9	.786	4.364	65.099			
10	.778	4.320	69.419			
11	.766	4.254	73.673			
12	.740	4.110	77.782			
13	.722	4.013	81.795			
14	.701	3.894	85.689			
15	.662	3.678	89.368			
16	.655	3.639	93.007			
17	.646	3.589	96.596			
18	.613	3.404	100.00			

ext. method: prin. comp. an.

Table E.3: Comp. Matrix[a]

	Comp.
	1
Accesibility	.529
Standards	.485
Interoperability	.502
Integrity	.476
Ease of Use	.528
Awareness	.510
Intention	.512
Education	.503
Riskless Environment	.484
Visionary Leaders	.497
Org. Transformation Plans	.481
Management Support	.559
Institutional Support	.552
Institutional Culture	.485
IT Investment	.459
Political Support	.533
Macro Transformation Plans	.531
Cons. Regulatory Framework	.537

ext. method: prin. comp. an.

[a] 1 comp. ext.

VITA

Gökhan İSKENDER was born in Ankara in 1979. He had his B.S. degree in Business Administration and M.S. degree in Information Systems from Middle East Technical University in 2002 and 2006 respectively. In addition to this, he had another M.S. degree in Management Studies from Massachusetts Institute of Technology in 2012. Gökhan İSKENDER is currently working for Information and Communication Technologies Authority of Turkey as a senior ICT expert and his recent research interests are in e-government transformation, information economy, cyber law, technology acceptance, big data, cloud computing, social media and regulatory approaches on electronic communications.

Gökhan İSKENDER has two published and two in progress studies related to this Ph.D. thesis. The published ones are presented below:

Gokhan İSKENDER and Sevgi ÖZKAN, "Building a Methodology to Assess the e-Government Transformation Success" (July 29, 2012). AMCIS 2012 Proceedings. Paper 2.

Gökhan İSKENDER and Sevgi ÖZKAN, "e-Government Transformation Success: An Assessment Methodology and the Preliminary Results" (2013). Transforming Government: People, Process and Policy, Vol. 7 Iss. 3.

TEZ FOTOKOPİ İZİN FORMU

ENSTİTÜ

Fen Bilimleri Enstitüsü ☐

Sosyal Bilimler Enstitüsü ☐

Uygulamalı Matematik Enstitüsü ☐

Enformatik Enstitüsü ☒

Deniz Bilimleri Enstitüsü ☐

YAZARIN

Soyadı : İSKENDER
Adı : Gökhan
Bölümü : Bilişim Sistemleri

TEZİN ADI (İngilizce): A QUANTITATIVE ANALYSIS ON THE PROBABLE FACTORS AFFECTING THE SUCCESS OF E-GOVERNMENT TRANSFORMATION IN TURKEY: A STUDY BASED ON THE DATA OF INTERNAL AND EXTERNAL STAKEHOLDERS

TEZİN TÜRÜ: Yüksek Lisans ☐ Doktora ☒

1. Tezimin tamamı dünya çapında erişime açılsın ve kaynak gösterilmek şartıyla tezimin bir kısmı veya tamamının fotokopisi alınsın. ☐
2. Tezimin tamamı yalnızca Orta Doğu Teknik Üniversitesi kullanıcılarının erişimine açılsın. (Bu seçenekle tezinizin fotokopisi ya da elektronik kopyası Kütüphane aracılığı ile ODTÜ dışına dağıtılmayacaktır.) ☐
3. Tezim bir (1) yıl süreyle erişime kapalı olsun. (Bu seçenekle tezinizin fotokopisi ya da elektronik kopyası Kütüphane aracılığı ile ODTÜ dışına dağıtılmayacaktır.) ☒

Yazarın imzası ..... Tarih .....