

**T.C.
YEDİTEPE UNIVERSITY
GRADUATE INSTITUTE OF SOCIAL SCIENCES**

**LOCAL LEVEL E-GOVERNMENT APPLICATION
CITY PORTALS
AND
ISTANBUL CITY PORTAL CASE STUDY**

by

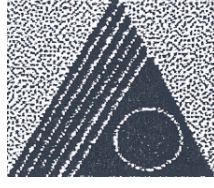
Ahmet Tolga KURU

**Submitted to the Graduate Institute of Social Sciences
In partial fulfillment of therequirements for the degree of
Master of
Business Administration**

İSTANBUL,2003

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(Supervisor)

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... Prof. Dr.....

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... Prof. Dr.....

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Date of Approval by the administrative Council of the Institute / ... / 2003

TABLE OF CONTENTS

| | Page |
|--|-----------|
| LIST OF FIGURES | iv |
| LIST OF TABLES | v |
| ABSTRACT | vi |
| ÖZET | vii |
| 1. INTRODUCTION | 1 |
| 2. DEFINITION OF E-GOVERNMENT | 2 |
| 2.1 E-GOVERNMENT AND E-COMMERCE..... | 4 |
| 2.2 E-GOVERNMENT AND E-GVERNANCE..... | 5 |
| 2.3. A TRIANGLE RELATIONSHIP MODEL AMONG GOVERNMENT, BUSINESS AND CITIZENS..... | 6 |
| 3. E-GOVERNMENT'S TYPES AND CHARACTERISTICS..... | 8 |
| 3.1 TYPES OF E-GOVERNMENT PARTNERSHIPS..... | 8 |
| 3.2 CHARACTERISTICS OF E-GOVERNMENT TYPES..... | 10 |
| 3.3 A BROAD SCHEMATIC SYSTEM FOR E-GOVERNMENT TYPE MODELS..... | 11 |
| 4. BEST PRACTICES OF E-GOVERNMENT WORLDWIDE..... | 12 |
| 4.1 DEVELOPMENT OF E-GOVERNMENT..... | 12 |
| 4.2 ENLIGHTENMENT FROM E-GOVERNMENT EXAMPLES..... | 13 |
| 4.3 A SUMMARY OF E-GOVERNMENT INITIATIVES WORLDWIDE..... | 15 |
| 5. E-GOVERNMENT RESEARCH ISSUES IN PUBLIC ADMINISTRATION..... | 19 |
| 5.1 ADMINISTRATIVE INTERFACE..... | 19 |
| 5.2 DIGITAL ADMINISTRATION..... | 21 |
| 5.3 VIRTUAL ORGANIZATION..... | 22 |
| 5.4 REDESIGNING ADMINISTRATIVE ORGANIZATIONS..... | 23 |
| 5.5 ADMINISTRATIVE, POLITICAL AND ETHIC ISSUES IN E-GOVERNMENT...24 | 24 |
| 5.6 A HOLISTIC VIEW TO ADMINISTRATIVE ISSUES IN E-GOVERNMENT..... | 24 |
| 6. E-GOVERNMENT IN USA | 26 |
| 6.1. INTRODUCTION..... | 26 |
| 6.2. OVERVIEW OF CITY E-GOVERNMENT..... | 28 |
| 6.3. ONLINE INFORMATION..... | 29 |
| 6.4. PRIVACY AND SECURITY..... | 31 |
| 6.5. DISABILITY ACCESS | 33 |
| 6.6. FOREIGN LANGUAGE ACCESS..... | 35 |
| 6.7. ADS AND USER FEES..... | 36 |
| 6.8. PUBLIC OUTREACH..... | 37 |
| 6.9. TOP E-GOVERNMENT CITIES..... | 38 |
| 6.10. CONCLUSIONS..... | 40 |

7. E-GOVERNMENT IN TURKEY44
7.1 HISTORY OF DEVELOPMENTS44
7.2. CURRENT SITUATION 47

8. PORTAL.....55
8.1. DEFINITION OF PORTAL.....55
8.2. STARTING THE PORTAL PROCESS.....56
8.3. PORTAL COMPONENTS AND TOOLS57

9.İSTANBUL CITY PORTAL..... 60
9.1. ESTABLISHMENT..... 60
9.2. CONTENT MANAGEMENT.....61
9.3. PORTAL SERVICES.....64
9.4. CITY OF İSTANBUL PORTAL RESULTS.....65

10. CONCLUSION.....67
REFERENCES.....68
CURRICULUM VITAE.....70

LIST OF FIGURES

| | Page |
|--|-------------|
| Figure 2.1: A Triangle Relationship Model among E-Government, Business and Citizens..... | 7 |
| Figure 4.1 : A Broad Schematic System for E-Government Models..... | 13 |
| Figure 5.1 Administrative Processes in the View of the SHEL Model..... | 25 |
| Figure 9.1: The Government of İstanbul's old web site-index page | 60 |
| Figure 9.2: The government of İstanbul's intranet -index page..... | 61 |
| Figure 9.3: İstanbul city portal - index page..... | 65 |
| Figure 9.4: İstanbul city portal approach..... | 66 |



LIST OF TABLES

| | |
|--|----|
| Table 3.1 : Characteristics of Types of E-Government..... | 10 |
| Table 4.1 : A Summary of E-Government Initiatives Worldwide..... | 15 |
| Table 6.1 : Percentage of City Websites Offering Publications and Databases..... | 29 |
| Table 6.2 : Top 10 Online Services..... | 30 |
| Table 6.3 : Percent of City Sites Offering Online Services..... | 31 |
| Table 6.4 : Quality of Privacy and Security Statements..... | 32 |
| Table 6.5 : Top Cities in Security Policy..... | 32 |
| Table 6.6 : Top Cities in Privacy Features..... | 33 |
| Table 6.7 : Types of Handicap Accessibility..... | 34 |
| Table 6.8 : Top Disability Access Cities..... | 34 |
| Table 6.9 : Percentage of City Government Websites Offering Public Outreach..... | 37 |
| Table 6.10 : Top E-Government Cities..... | 39 |
| Table 6.11: Differences by Branch of Government..... | 40 |
| Table 6.12: Individual City Profiles for Selected Features..... | 42 |
| Table 7.1: Current Situation of Government Organizations' Web Sites..... | 49 |
| Table 7.2: Current Situation of Provincial Government's Web Sites..... | 52 |
| Table 7.3 : Top 10 Turkish Provincial Government's Web Sites..... | 54 |
| Table 9.1: The visitors visited the İstanbul Portal per day of week..... | 66 |
| Table 9.2: İstanbul Portal Visitors per week..... | 66 |
| Table 9.3: Top 10 Domain that İstanbul Portal Visitors come from | 66 |

ABSTRACT

The waves of e-government are rising through public organizations and public administration across the world. More and more governments are using information and communication technology especially Internet or web-based network, to provide services between government agencies and citizens, businesses, employees and other nongovernmental agencies.

In this paper, E-government is defined as a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes. E-government presents a tremendous impetus to move forward in the 21st century with higher quality, cost-effective, government services and a better relationship between citizens and government. One of the most important aspects of e-government is how it brings citizens and businesses closer to their governments.

This paper outlines the e-government definitions, e-government types and characteristics, best practices of e-government worldwide, e-government research issues in public administration, e-government in USA, e-government in Turkey, portal, Istanbul portal and finally conclusions.

In this thesis, lots of local e-government application and city portals examined and results are given. According to this findings and the public survey, this thesis distinguishes itself in comparing provincial government's web sites, designing İstanbul City Portal and after establishment of the portal, indicating the statistical results of İstanbul City Portal usage.

ÖZET

Tüm dünyada kamu kurum ve kuruluşları arasında e-devletin etkileri giderek artmaktadır. Gitgide artan sayıda devlet kamu kurumlarına, vatandaşlara, iş dünyasına ve diğer kuruluşlara hizmet verirken daha yoğun bir şekilde internet yada web tabanlı ağlarda iletişim ve bilişim teknolojilerinden faydalanmaktadır.

Çalışmada e-devlet; özellikle web tabanlı internet uygulamalarının, en son iletişim ve bilişim teknolojilerinin kullanılarak, devlet tarafından sunulan hizmetin kalitesinin artırılmasını, bilgi ve hizmetlere vatandaşın ve iş dünyasının erişimini kolaylaştırarak onların demokratik kurumlara ve süreçlere katılımı artırma fırsatını devletlere sağlayan bir yöntem olarak tanımlanmıştır. 21. yüzyılda daha yüksek kaliteli, daha az maliyetli devlet hizmetlerinin sunulmasını ve vatandaş-devlet ilişkilerinin geliştirilmesini müthiş güç e-devlettir. E-devletin en önemli yararlarından biriside vatandaş ve iş dünyasının devlete yaklaşmasıdır.

Çalışma e-devlet'in genel tanımını, e-devlet tür ve temel nitelikleri, dünya genelindeki başarılı e-devlet uygulamaları, kamu yönetiminde e-devlet konusundaki araştırma yayınları, Amerika Birleşik Devletleri'ndeki ve Türkiye'deki e-devlet uygulamaları, portal kavramı ve İstanbul Portalı ile sonuç bölümünden oluşmaktadır.

Bu tez çalışmasında pek çok yerel e-devlet uygulaması ve şehir portalları incelenmiş ve sonuçları verilmiştir. Elde edilen bulgular ve kamuoyu araştırması ışığında bu çalışma vilayet web siteleri, İstanbul Portalının tasarımı ve portal öncesi ve sonrası ziyaretçi istatistikleriyle kendini öne çıkarmaktadır.

1. INTRODUCTION

Governments worldwide are faced with the challenge of transformation and the need to reinvent government systems in order to deliver efficient and cost effective services, information and knowledge through information and communication technologies. Development of Information and communication technologies catalyzed and led up to E-government. As what Jim Melitski described in E-Government Page of ASPA website, “Across the world, public organizations are beginning an ‘e-government journey’ by publishing static information to the Internet and establishing an on-line presence, in the hopes that they too will experience increases in efficiency, effectiveness, and organizational performance”(Jim Melitski, 2001).

More and more attractions appeal researchers and practitioners come to search for a consensus regarding e-government diagrams and initiatives. E-government may be defined as a continuum from information provision when organizations and public agencies publish static information to the Internet to web interactive communication and E-transactions, and to one-stop integrated virtual governmental services. As e-commerce, E-government represents the introduction of a great wave of technological innovations as well as government reinvention. What is E-government? For purposes of this paper, E-government is defined as a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes. This includes transactions between government and business, government and citizen, government and employee, and among different units and levels of government. E-business and e-commerce are subsets of e-government. E-government presents a tremendous impetus to move forward in the 21st century with higher quality, cost-effective, government services and a better relationship between citizens and government. One of the most important aspects of e-government is how it brings citizens and businesses closer to their governments.

2. DEFINITION OF E-GOVERNMENT

To understand E-government, it must understand administrative development and reform on government in general. During two decades, Administrative reform and development have experienced TQM in 1980s, and Reengineering and Reinventing Government in 1990s. Government reinvention make us realized that government is actually a dynamic mixture of goals, structures and functions.

E-government initiatives are complex change efforts intended to use new and emerging technologies to support a transformation in the operation and effectiveness of government derived from government reinvention. New challenge of public administration in 2000s or 21st century is to create an E-government.

What is exactly E-Government? E-Government can be defined in narrow sense. In State of Texas' s Electronic Government Strategic Plan, (Department of Information Resources, State of Texas, January 2001), Electronic government is defined as: Government activities that take place over electronic communications among all levels of government, citizens, and the business community, including: acquiring and providing products and services; placing and receiving orders; providing and obtaining information; and completing financial transactions. Broadly defined by Gartner (2000): "E-government is the continuous optimization of service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media." This includes Government to Citizen, Government to Employee, Government to Business, and Government to Government. Recognize the implication of e-government, it can be defined as – the ability to obtain government services through nontraditional electronic means, enabling access to government information and to completion of government transaction on anywhere, any time basis and in conformance with equal access requirement. Theresa A. Pardo outlined its functions as follows:

- *Citizen access to government information.* Providing access to government information is the most common digital government initiative.

- *Facilitating general compliance.* E-government can also mean providing electronic access to services that facilitate compliance with a set of rules or regulations.
- *Citizen access to personal benefits.* Electronic benefits transfer and online application for public assistance and worker's compensation are examples of services that provide the citizen with electronic access to personal benefits.
- *Procurement including bidding, purchasing, and payment.* Procurement applications allow government agencies to reap the benefits being realized in the private sector through electronic commerce applications. Electronic vendor cataloging, bid submissions and tabulations, electronic purchasing, and payment are government-to-government and government-to-business transactions that serve both the needs of government agencies as well as their private trading partners.
- *Government-to-government information and service integration.* Integrating service delivery programs across government agencies and between levels of government requires electronic information sharing and integration.
- *Citizen participation.* Online democracy includes access to elected officials, discussion forums, "town meetings," voter registration, and ultimately online voting. These services are intended to serve the community at large. (Theresa A. Pardo, 2000)

Viewed from technical terms, E-Government is an integrated tool comprising three enabling sets of new technology: infrastructure, solutions and the exploitation of public portals. An e-government infrastructure enabling the implementation of specific applications to address specific problems and issues of government management. So when providing Internet access and email services in public portals, the most positive impact will come from the solutions and services that can be accessed from the exploitation of public portals with these communication tools. Based on internal and external governmental telecommunication and internet infrastructure, through the exploitation of public portals of governments, provide the solutions for public service delivery.

Concluded in our comprehensive view, E-government can be defined as a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes.

2.1. E-GOVERNMENT AND E-COMMERCE

Analogous to e-commerce, which allows businesses to transact with each other more efficiently (B2B) and brings customers closer to businesses (B2C), e-government aims to make the interaction between government and citizens (G2C), government and business enterprises (G2B), and interagency relationships (G2G) more friendly, convenient, transparent, and inexpensive.

It is conceivable, on the basis of the above, that the benefits of E-Government will continue to depend on the realization of technical advances in Electronic Business (E-Business) in the broadest sense. Electronic Business (E-Business) refers to a broader definition of Electronic Commerce (E-Commerce), not just buying and selling but also servicing customers and collaborating with business partners, and conducting electronic transactions within an organizational entity.

In technology, E-government and ecommerce all represent the introduction of technological innovations. However, Unlike E-Commerce, E-government is usually defined as the use of technology to enhance information sharing, service delivery, constituency and client participation, and governance by transforming internal and external relationships. This includes transactions between government and business, government and citizen, government and employee, and among different units and levels of government. In another sense, E-business and e-commerce are subsets of e-government.

2.2. E-GOVERNMENT AND E-GOVERNANCE

E-governance is beyond the scope of e-government. While e-government is defined as a mere delivery of government services and information to the public using electronic means, e-governance allows citizen direct participation of constituents in political activities going beyond government and includes E-democracy, E-voting, and participating political activity online. So, most broadly, concept of E-governance will cover government, citizens' participation, political parties and organizations, Parliament and Judiciary functions.

Blake Harris (2000) summarizes the e-governance as the following: E-governance is not just about government web site and e-mail. It is not just about service delivery over the Internet. It is not just about digital access to government information or electronic payments. It will change how citizens relate to governments as much as it changes how citizens relate to each other. It will bring forth new concepts of citizenship, both in terms of needs and responsibilities. E-governance will allow citizens to communicate with government, participate in the governments' policy-making and citizens to communicate each other and to participate in the democratic political process.

Therefore, in broadest sense, E-governance has more implications than E-Government. Understanding definition of E-Government that encapsulates a broader agenda of renewal may be more helpful to distinguish from these two different concepts but related to each other. E-Government refers to the use by government agencies of information technologies, such as web-based Networks, the Internet, and mobile computing, that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.

2.3. A TRIANGLE RELATIONSHIP MODEL AMONG GOVERNMENT, BUSINESS AND CITIZENS

View from the definitions of E-Government, a triangle relationship model among government, business and citizens can be get as follows:

- E-Government focus aspect in E-Government partnership

The processes and structures that define the relationship between central government and local governments; the processes and structures that define the relationship between organizations and departments or agencies; the processes and structures that define the relationship between government and the employees; the processes and structures that define the relationship between Legislature and the Executive.

- E-Business focus aspect in E-Government partnership

The processes and structures that define the relationship between governments and the markets; the processes and structures that define the relationship between governments and the private sector.

- E-Citizens focus aspect in E-Government partnership

The processes and structures that define the relationship between governments and citizens; The processes and structures that define the relationship between Government service delivery and citizens' needs; and The processes and structures that define the relationship between countries and International institutions. The following diagram illustrates the relationship among E-Government, E-Business, and E-Citizens in the context of the emergence of the so called "knowledge society", globalization, and sovereignty: Given the scale, scope, multi-portfolio nature, and transformational potential of e-government, it has been advocated that it should be treated as a holistic system adjunct to the area of e-commerce in the E-society.

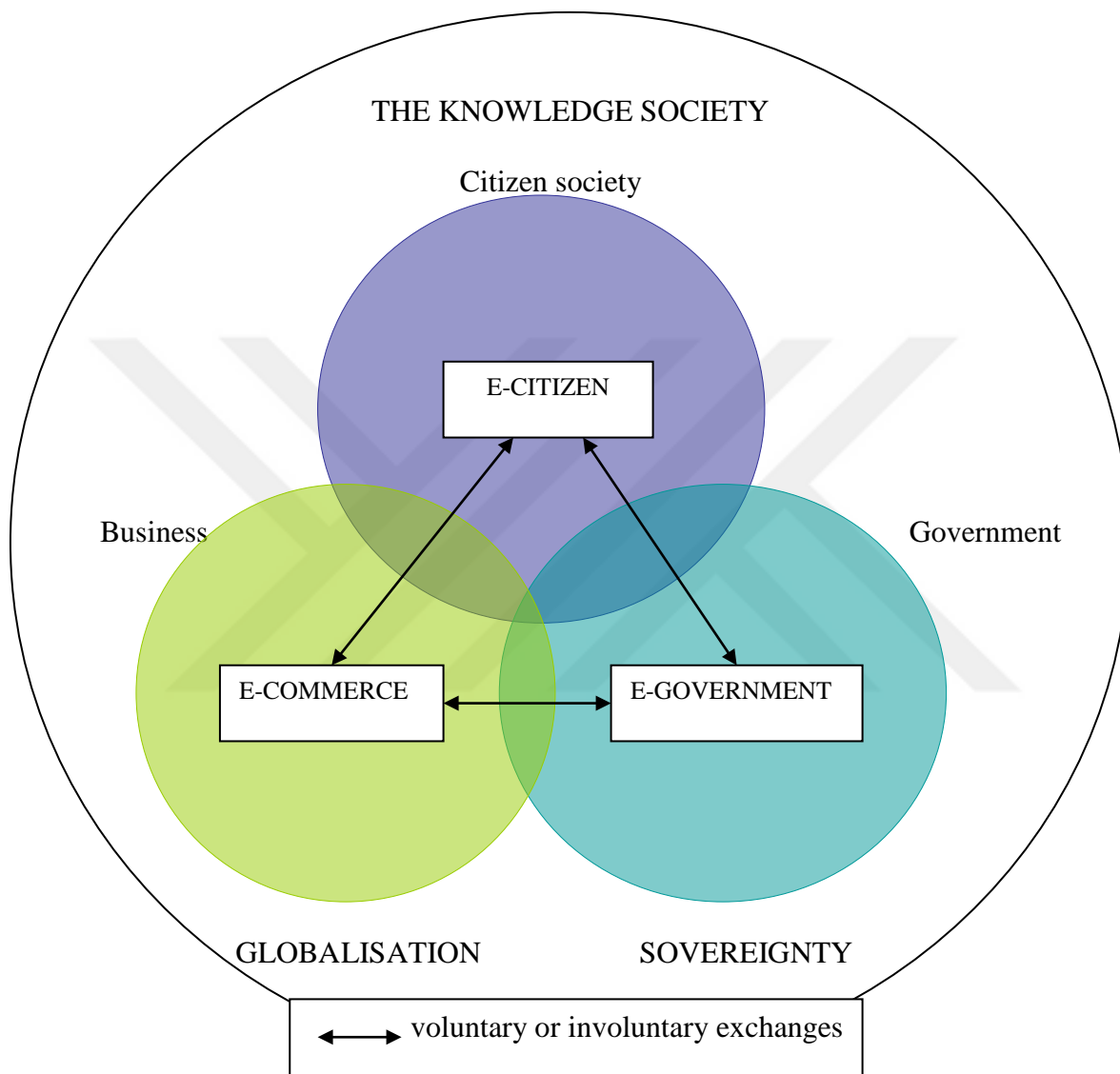


Figure 2.1: A Triangle Relationship Model among E-Government, Business and Citizens

3. E-GOVERNMENT'S TYPES AND CHARACTERISTICS

3.1 TYPES OF E-GOVERNMENT PARTNERSHIPS

E-Government, normally, government identifies and drives implementation of eight types of E-government which can bring significant benefits to the Government, citizens, business, employees and other nonprofit organizations and political and social organizations. Types of E-Government can be classified into five categories, are as follows:

1) Government-to-Citizen (G2C) and Citizen-to-Government (C2G)

Provide the momentum to put public services online, in particular through the electronic service delivery for offering information and communications;

2) Government-to-Business (G2B) and Business -to-Government (B2G)

Government-to-Business (G2B); actively drive E-transactions initiatives such as e-procurement and the development of an electronic marketplace for government purchases; and carry out Government procurement tenders through electronic means for exchange of information and commodities. Business -to-Government (B2G); Actively drive E-transactions initiatives such as e-procurement and the development of an electronic marketplace for government purchases; and carry out government procurement tenders through electronic means for sale of goods and services;

3) Government-to-Employee (G2E)

Embark on initiatives that will facilitate the management of the civil service and internal communication with governmental employees in order to make e-career applications and processing system paperless in E-office.

4) Government-to-Government (G2G)

Provide the Government's departments or agencies cooperation and communication online base on mega database of government to have an impact on efficiency and effectiveness. It also includes internal exchange of information and commodities.

5) Government-to-Nonprofit (G2N) and Nonprofit-to-Government (N2G)

Government-to-Nonprofit (G2N); government provides information and communication to nonprofit organizations, political parties and social organizations, Legislature, etc. Nonprofit-to-Government (N2G); exchange of information and communication between government and nonprofit organizations, political parties and social organizations, Legislature, etc.

From the above categories of E-government, we can sum up that E-Government initiatives should focus on five consumer-to-government relationships: Citizen-to-Government, Business-to-Government, Government-to-Nonprofit, Government-to-Government and Government-to-Employee. First, Citizen-to-Government refers to the direct consumption of public services by the individual consumer for personal use. These services include licensing and permitting for hunting, fishing, and driving privileges. This will not only include the payment of taxes, fines, and fees to state and local governments, but also the payment of refunds to taxpayers. Second, the Business-to-Government relationship model refers to those services consumed by entrepreneurs, businesses, and corporations, for a commercial purpose (profit or nonprofit). These include filing statements of incorporation, obtaining business licenses, assistance with site locations, and obtaining workforce information. Finally, Government-to-Nonprofit, Government-to-Government and Government-to-Employee refer to the coordination of both inter- and intra-agency cooperation and employees to improve services inside or outside governments. This includes travel requests, purchasing requisitions, payroll processing, intergovernmental fund transfers, and position applications, etc.

3.2 CHARACTERISTICS OF E-GOVERNMENT TYPES

With comparison and analysis of E-government types, can be concluded some characteristics as follows:

Table 3.1 Characteristics of Types of E-Government

| Items | Information | Communication Online | Transaction |
|----------------------------|---|--|---|
| G2C and C2G | Information requests of a firm or the citizen regarding taxes, business licenses, registers, laws, political programs, administrative responsibilities, etc. | Information requests and discussion regarding administrative processes and products; communication with politicians, authorities etc. | Online delivery of service and posting of results; electronic voting, providing solution online, and participation online, etc. |
| G2B and B2G | Information requests of a firm or the citizen regarding taxes, business licences, registers, laws, business programs, business policy, administrative responsibilities, etc. | Information requests and discussion regarding administrative processes for business and products; communication with politicians, authorities, etc. | Online delivery of service and posting of results; electronic transactions of accounting, e-auditing, e-procurement, e-shopping, etc. |
| G2G | Exchange of information among different authorities and different hierarchical levels, regarding administrative acts and laws, policy making, data, projects or programs, background information to decisions, etc. | Information is exchanged among different authorities and different hierarchical levels; discussion; communication in negotiation and decision making; interaction regarding administrative acts and laws, projects or programs, etc. | Inter-organizational workflow and exchange of data, exchanging policy and solution online, information and knowledge management, etc. |

| | | | |
|----------------------------|---|---|---|
| N2G and G2N | Exchange of information regarding administrative acts, administrative policy, data, registers, laws, political programs, background information to decisions etc. | Information is exchanged among different organizations and agencies; discussion ; communication in negotiation and decision making; interaction regarding administrative acts | Intra-organizational workflow, and exchange of policy and solution, data, information and knowledge management, etc. |
| G2E | Exchange of information regarding works and performance, personnel policy, data, and notice for career management and development of government employees, etc. | Information is exchanged among different department or persons; discussion; communication in negotiation and decision making; interaction regarding works and performance, etc. | Interpersonal workflow, and exchange of personnel policy and solution, data, information and knowledge management, participation online, etc. |

3.3 A BROAD SCHEMATIC SYSTEM FOR E-GOVERNMENT TYPE MODELS

Electronic Government (E-Government) refers to the processes and structures pertinent to the electronic delivery of government services to the public. Electronic Government is functionally dependent on the assertion that E-Government “internal partnership”, namely, comprising Administration, Political, Civil Service, Parliament and Judiciary functions; E-Government “external partnership”, namely, comprising Central, Provincial/State/County or Local functionality; and information sharing as a service can be effectuated within and between Governments and between Governments, the Public Sector and the Private Sector; Government is amenable to a public service deliver model of varied complexity, which takes cognizance of both the two characteristics of E-Government “internal partnership” and E-Government “external partnership”

4. BEST PRACTICES OF E-GOVERNMENT WORLDWIDE

E-government refers to the delivery of information and services online through the Internet or other digital means. Many government organizations have embraced the digital revolution and are putting a wide range of materials from publications and databases to actual government services online for citizen use.

4.1 DEVELOPMENT OF E-GOVERNMENT

Similar to the dramatic changes in e-commerce and e-trading, the e-government revolution offers the potential to reshape the public sector and remake the relationship between citizens and government. The wide variability in the extent to which web government is taking hold creates an opportunity to study how the e-government revolution affects public sector performance and democratic responsiveness. In the UN/ASPA global survey (2001), five categories of measuring a global survey, five categories of measuring a country's e-government progress have been identified. A country's e-government progress should be identified as follows:

Emerging web presence: A country may have a single or a few official national government websites that offer static information to the user and serve as public affairs tools.

Enhanced web presence: The number of government WebPages increases as information becomes more dynamic with users having more options for accessing information.

Interactive web presence: A more formal exchange between user and a government service provider takes place, i.e. forms can be downloaded; applications submitted online.

Transactional web presence: Users easily access services prioritized by their needs; conduct formal transactions online, like paying taxes; registration fees.

Fully integrated web presence: The complete integration of all online government services through a one-stop shop portal. (UN/ASPA, 2001)

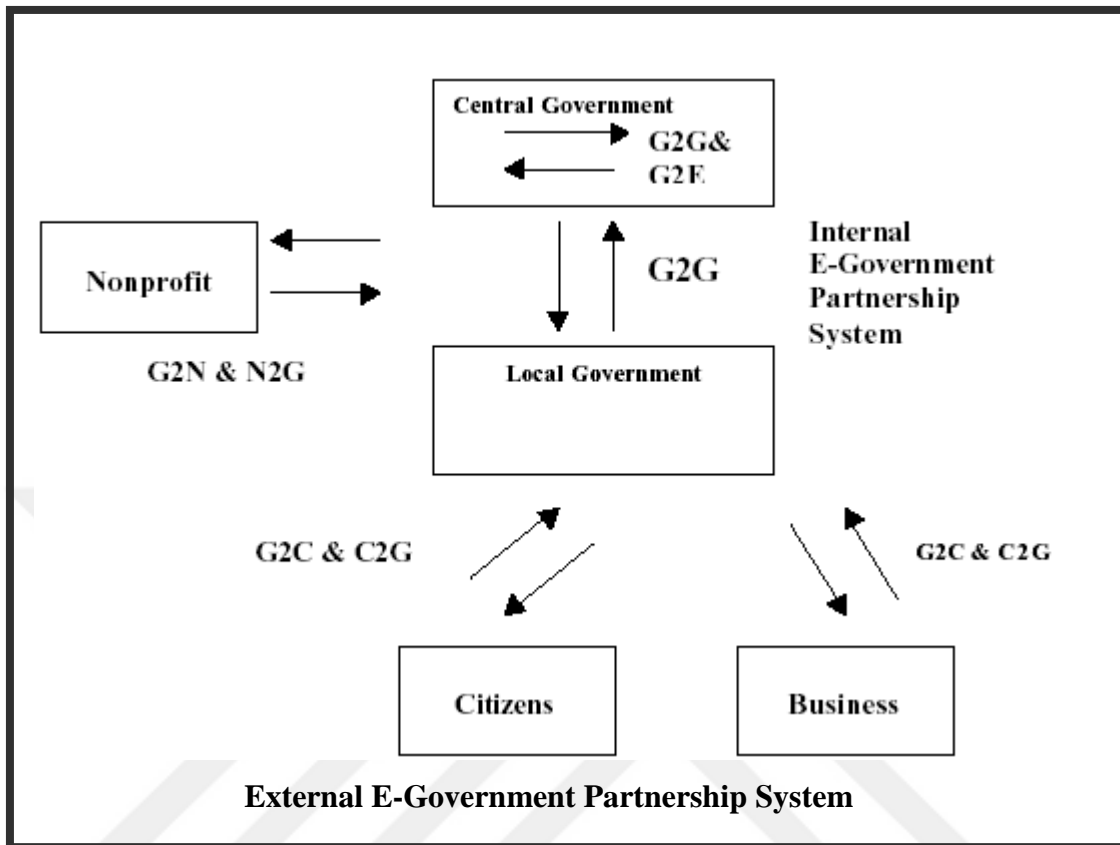


Figure 4.1 A Broad Schematic System for E-Government Models

4.2. ENLIGHTENMENT FROM E-GOVERNMENT EXAMPLES

Government can begin with developing an e-government strategy which would set out plans of how government can deliver the targets set for it in the context of the national strategic framework. To examine this process and how e-government plans and strategies is success, we may need to make more understand the take-up of the strategy across the authority as a whole.

The following features characterize countries that are successfully implementing e-government projects all over the world. E-Government should be implemented with:

- Comprehensive. To the greatest extent possible, citizens should be able to do everything they have to do or want to do with their government through one e-government portal.

- Integrated. All e-government applications should be integrated with each other, so citizens can avoid the need to provide the same data over and over and governments can save time and money by not needing to re-enter data.
- Ubiquitous. Access to a jurisdiction's e-government portal and its connected sites and applications should be available to users/citizens from any Internet-capable connection, Internet appliances.
- Transparent/Easy to Use. E-government sites should be designed and operated so that the most novices of computer users can readily find the information they need, provide the information requested by the government agencies with which they are dealing, and otherwise perform all e-government transactions.
- Accessible. The design and operation of e-government systems should, from the ground up, take into account the special needs of the disabled, and make it possible for them to use these systems as easily as the non-disabled.
- Secure. E-government systems need to protect the confidentiality of data provided by citizens, the records created and stored by government, and the content and existence of citizen-government transactions performed over the Internet.
- Private. Data about citizen government transactions, and the content of those transactions, needs to be fiercely protected by the government.
- Re-engineered. It is not enough to replicate electronically the administrative processes and procedures currently in place. It is necessary to thoroughly re-evaluate the overall mission of the jurisdiction and then design a digital structure that creates a government-citizen interface that simplifies and streamlines each transaction individually and the entire process of government administration generally.
- Interoperable. An excellent e-government site is one that provides appropriate and up-to-date links to other e-government sites, at its own and other levels in the government hierarchy. All e-government sites need to work together seamlessly.

- Be Developed to E-governance Systems. Developed from e-government, E-governance systems can just as easily implement democratic process, e-making of or policy, building up e-community. E-government serves not only as a means of administration, but also as a primary tool of collective and democratic decision-making, and participation for society.

4.3 A SUMMARY OF E-GOVERNMENT INITIATIVES WORLDWIDE

For E-governments worldwide, the digital revolution offers unprecedented opportunities for improving virtually all forms of public revolution offers unprecedented opportunities for improving virtually all forms of public service delivery. From Europe to Asia to South America to Africa, countries are taking a more innovative approach to doing business with their citizens. The use of the Internet to deliver government information and services has become a growth industry all over the world.

Table 4.1 A Summary of E-Government Initiatives Worldwide

| Country | E-Government Initiatives |
|------------------|---|
| AUSTRALIA | Specific commitments were made to: <ul style="list-style-type: none"> - Deliver all appropriate common wealth services electronically on the Internet complementing; - Establish a Government Information Center through the Office for Government Online as a main point of access to information about government services; - Establish electronic payment as the normal means for Commonwealth payments; and - Establish a government-wide intranet for secure online communication. |
| AUSTRIA | Government acts and understands itself as a partner of private industry especially in the transition process from the post-industrial service society to the |

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|----------------|---|
| | <p>information society:</p> <ul style="list-style-type: none"> - Information Retrieval Systems; EDI; Interactive Online Systems |
| CANADA | <p><i>E-Government</i> is effected through the following principles:</p> <ul style="list-style-type: none"> - Responding to public demand for better and more accessible Government; - Clarifying roles and responsibilities including (i) areas of involvement; (ii) areas of disengagement; (iii) areas of devolution; - Achieving affordable government; - Ensuing that resources are devoted to highest priority |
| CHINA | <p>The Government Online Project covers five aspects of contents:</p> <ul style="list-style-type: none"> -The first is to make known government functions online, which is to post to the Internet the functions, duties, organizational structure, administrative procedures and rules and regulations of governments and their departments. -Second, government documents, archives and databases posted online. -Third, daily activities of government departments released online, which is regarded as a channel of openness of administrative affairs. -The fourth is online administration, with an electronic center of files and documents to improve administration efficiency. -Online trading is the last to be posted online. |
| DENMARK | <p>E-Government is based on the following principles:</p> <ul style="list-style-type: none"> - Information Society for all; - Realization of the Global Research Village; - Realization of Broadband Internet for Research Institutions; - Use of Online Publications; - IT Usage in Municipalities, in Danish Companies; - Electronic Filing; - The Portable Revolution; - IT Usage in Education; - Electronic Supported Administration & Legal Roles |

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|--------------------|--|
| | - IT and the Disabled- Plan of Action |
| FINLAND | - E-Government deploys the following: - Sharing of Data between National Base Registers; - Messaging e-mail; - EDI for some applications; - E-commerce; - Telework; Smart Card Use, Kiosks and Internet Use; - One-Stop Service; - Communication and Documentation become increasingly electronic |
| FRANCE | -IT has lost its “special narrow status” in preference to being perceived as one of the necessary tools for modernizing or improving government administration |
| HONG KONG | The Government published the "2001 Digital 21 Strategy" signifying its firm commitment to lead by example in the adoption of e-business, both in conducting internal business operations and in delivering public services to the businesses and the community on an "anywhere anytime" basis. |
| JAPAN | The Millennium Project “Electronic Government” includes: - Online administrative procedures, - Basic system such as electronic authentication, - Network base, - Technological base, - Electronic public procurement, - Security measures. |
| NEW ZEALAND | Intends to be among the governments which actively manage e-technology to make life better for its people. Overall that requires government to do two things: - Create the environment where others - the private sector, communities and individuals – can make the most of e-technology, |

| | |
|-----------------------|---|
| | <ul style="list-style-type: none"> - Capitalize on e-technology to improve the way government serves New Zealanders. |
| SINGAPORE | <p>The “Singapore ONE” Initiative is one of the first implementations of multimedia broadband networks and applications in the world. The program is a national initiative that delivers a new level of interactive, multimedia applications and services to homes, businesses and schools throughout Singapore.</p> |
| UNITED KINGDOM | <p>There are four guiding principles underlying the Government’s strategy as set out in <i>E-government, a strategic framework for public services</i>.</p> <ul style="list-style-type: none"> - Building services around citizens choices, - Making government and its services more accessible, - Ensuring that new technology does not create a digital divide between those with ready access to electronic media and those without , and - Using information more effectively. |
| UNITED STATES | <p>E-Government is based on 7 principles comprising the following:</p> <ul style="list-style-type: none"> - Easy access, - Re-engineered Systems, - Automated Systems, - One-Stop Service, - Service by Customer, not Provider, - Privacy protected and embraced, - Access to the physically challenged. |

5. E-GOVERNMENT RESEARCH ISSUES IN PUBLIC ADMINISTRATION

As the E-Government initiatives become a primary access point for millions of citizens to access government, many issues need to be considered like:

- How will e-government influence the performance of public organizations?
- What are the organizational effects of e-government and information technology?
- What did E-Government change public administration, organization structure and interface in an information age?

These questions have several implications for researchers and practitioners in the field of public administration. There is already evidence to indicate that more and more baseline data needs to be collected to determine the longitudinal effects of e-government initiatives on public administration.

5.1. ADMINISTRATIVE INTERFACE

Administrative interface has been transformed from unitary people-people interface into multi-interface such as people-people interface, people-network-people interface, people-network interface, network-people interface, and system-system interface, with different interfaces characteristics, operation procedures and regulations.

In Government the transition to electronic delivery of services will not only involve changes to the systems, procedures and processes of the relevant services but will also affect the way in which the public and the business community deals with the government. Customers will no longer need to interface directly with government officials in order to secure a particular service. They also do not need to know which agency is the service provider, as the service can be obtained through a kiosk or personal computer. What is important to them is to be able to secure the required service speedily and easily. These new trends will influence the nature of government administration and management, thereby reinventing the government to make its experience seamless to the citizens. Another issue more detail in E-Government is Various User interfaces. The standard user interface and the World Wide Web browser have done much to

extend useful computing to every area of our society. The standard interface, commonly based on Microsoft Windows, flattens the learning curve needed for each new application. The Web browser's ease of use and widespread public acceptance has led to use this technology in direct public contact. However, further advances in user interfaces are likely to focus both on simplicity and increased power. Digital library technologies. Data visualization technologies allow users to manipulate large data sets to get a better understanding of the information they contain. Research into the interaction between people and machines, including speech recognition and 3D modeling, will likely lead to innovations in the way people perceive and use the information environment. Finally, Effective Service Delivery— Electronic government will be a seamless and comprehensive interface to government, designed and delivered from the citizen's perspective.

5.2. DIGITAL ADMINISTRATION

Emerging with E-Government, digitalization of public organization has happened, such as MIS and Web system, Digital Office and E-paper, Knowledge management and sharing system, Structural and Process Change, E-Citizens and E-Learning. E-government initiatives includes dozens of digital applications that can be implemented across a broad range of functional government areas – from public health and safety departments to motor vehicle and criminal justice agencies. The digital applications include:

- **Public Access Systems** that satisfy the public's need to know and right to know. These systems make information easily available over the Internet to citizens, businesses, government workers, and other government entities.
- **Knowledge Management Systems** that turn your organization's data into useful, intelligent information and deliver it over intranets, extranets, and the Internet to those who need it, thereby enhancing efficiencies and facilitating the decision making process.
- **Transaction Systems** that encompass public access and knowledge management systems, and so enable end users to submit payments and registrations, obtain certificates, and engage in other transactional processes.

- **E-Government System Infrastructure** that provides many things: session management, systems management (audit and logging), scalability, etc. Yet because the e-government space promises considerable change over the next few years, perhaps the most important quality of an e-government system infrastructure is flexibility.
- **MIS and Web Integration System** that the most effective solution for categorizing information on government Web pages would be to develop a database-driven system, where all information is automatically listed in databases as it is placed online within internet, extranet, and intranet. Web integration is the process of the standardization of data definitions and data structures by using a common conceptual schema across a collection of data sources.
- **New models for public-private partnerships and other networked organizational forms.** Given the diversity of players involved in delivering government services, developing effective IT systems often requires new coalitions of partners at all levels of government, and between government and the private and nonprofit sectors.
- **Intuitive decision support tools for public officials.** Technologies and data standards that encourage information search, selection, analysis, and sharing can strongly influence the nature and effectiveness of decision making by elected officials, senior executives, and program managers alike.
- **Archiving and electronic records management.** More and more information now resides in electronic rather than physical files, generating new issues around record definition and content, version control, public access, ongoing preservation, and the ability of government to maintain history and accountability.

The use of new tools by Texas Electronic Government Initiatives may also have implications for public administration.

5.3. VIRTUAL ORGANIZATION

In an effort to create citizen-focused government, government should create a virtual organizational structure for government services. E-Governmental system has moved the whole government onto the web and networking. Web sites need to be categorized by the function of the service rather than the agency administering them. A well designed portal to all online federal information will make citizen-government interaction more efficient and effective. The most effective solution for categorizing information on government, E-government should develop a database-driven system, where all information is automatically listed in databases as it is placed online. Implementing this type of system would allow more accurate and efficient searches.

There are a number of other applications that could be developed that would make government customer centered. Government should develop “information on request” systems to provide people with government information. In addition, government should expand and standardize the number of applications for online forms. All government forms should be publicly available and searchable on a central federal Web site. To exhibit virtual organization, the National Partnership for Reinventing Government proposed the creation of the International Trade Data System (ITDS). ITDS was intended to be a partnership of the Customs Service and a number of other regulatory agencies, including the Food and Drug Administration, the Environmental Protection Agency, and the Department of Agriculture, to accomplish a variety of trade oriented tasks without the traditional hindrances of agency boundaries. The proposed system would allow importers and exporters to essentially fill out one master form that would combine all of the information all of the various agencies may need. This process would lead to cheaper, more accurate, and more timely exchange and recording of information, and expedite the physical movement of trade by reducing the time goods are kept at the border for inspection. (Rob Atkinson, 2001)

5.4. REDESIGNING ADMINISTRATIVE ORGANIZATIONS

Given the extraordinary pace of changes in the IT industry, the term E-Government itself is somewhat new and essentially implies up gradation of the efficiency and effectiveness of the administrative machinery through the combination of information technology and sophisticated multimedia to deliver better, cost effective and speedy services to the citizens. Public Administration is, in fact, in the midst of one of the most rapidly changing periods in history.

There has been a shift in importance from the traditional inputs of a production process to the processes involved in the creation, storage, dissemination and use of information. The new technology has already had a profound impact in the manner in which large organizations function. Many of these organizations have had to restructure themselves to create a flatter – less hierarchical - structure. At the same time one of the principal efforts of all organizations have been devoted to creation and sustenance of an environment of learning in view of the quantum increases in knowledge and changes in technology. E-Organizations or E-Agencies became a key part of government organization. E-organizations like the E-Government professional department, which is a part of government networking operation entity, is in the process of conducting several e-government research projects at the state, national, and international levels to address many e-government issues, but more work is needed. The E-Government organization is currently working to build knowledge about e-government and e-governance, improve the productivity of public agencies and to give managers in public organizations the skills needed to maximize their performance in an information age. However, more baseline data needs to be collected to determine the longitudinal effects of e-government on public agencies.

There is also an ongoing academic debate regarding the structural effects of information technology on public and private organizations. Researchers have debated for long times about whether technological innovations cause centralization or decentralization in organizations. Rethinking the entire organizational structure of public sector bodies, allowing the citizens and representatives to consider and approve a new form of organization (through a popular referendum, convention, or other means), and then designing a digital or virtual network to implement these new forms is also an opportunity to reshape public administration.

5.5. ADMINISTRATIVE, POLITICAL AND ETHIC ISSUES IN E-GOVERNMENT

Some administrative, political and ethic issues derived from E-Government should be addressed here, such as security, privacy and digital divide. E-government implementations must consider security and privacy to ensure information systems and holdings are appropriately protected and individual rights are respected. Security generally refers to protection of the information systems assets and controlling access to the information itself. Application of security is specific to the situation and sensitivity of the information. For example security protection for public information, such as the minutes of council meeting on the web, is not stringent as would information specific to an individual's information. Privacy generally refers to respecting the right to have information attributed to an individual (often called nominal information) be treated with an appropriate level of protection. Information privacy protection laws are often put in place to regulate this. Another issue is Digital Divide. At the same time, concerns have already been expressed about the gap between the technology haves and have-nots, and more popularly known as "the digital divide." In order to ensure that countries avoid creating a digital divide and create conditions to ensure that growth of the knowledge economy contributes to carrying out a democratic process of efficient, equitable and sustainable development, expanded dialogue and new patterns of cooperation among public, private and civil society organizations are needed.

5.6. A HOLISTIC VIEW TO ADMINISTRATIVE ISSUES IN E-GOVERNMENT

In conclusion, addressing these administrative issue related to E-government may be complicated but can be managed so long as the issues are treated in a fair and realistic way to be key issues in E-government.

A holistic view on administration's processes, communication and information resources may think like this way:

- Electronically mediated communication
- Improving communication with the citizen
- Merging external and internal processes

- Improving co-operation between agencies
- Supporting administration and governance processes on different levels and in different stages
- Innovative organizational design
- Cooperation over distances, across organizational boundaries, across hierarchical echelons

Maria A. Wimmer's SHEL Model (Figure 5.1) for administrative processes may be a good point for understand and further studies on these issues. (Wimmer, M.A., 2001)

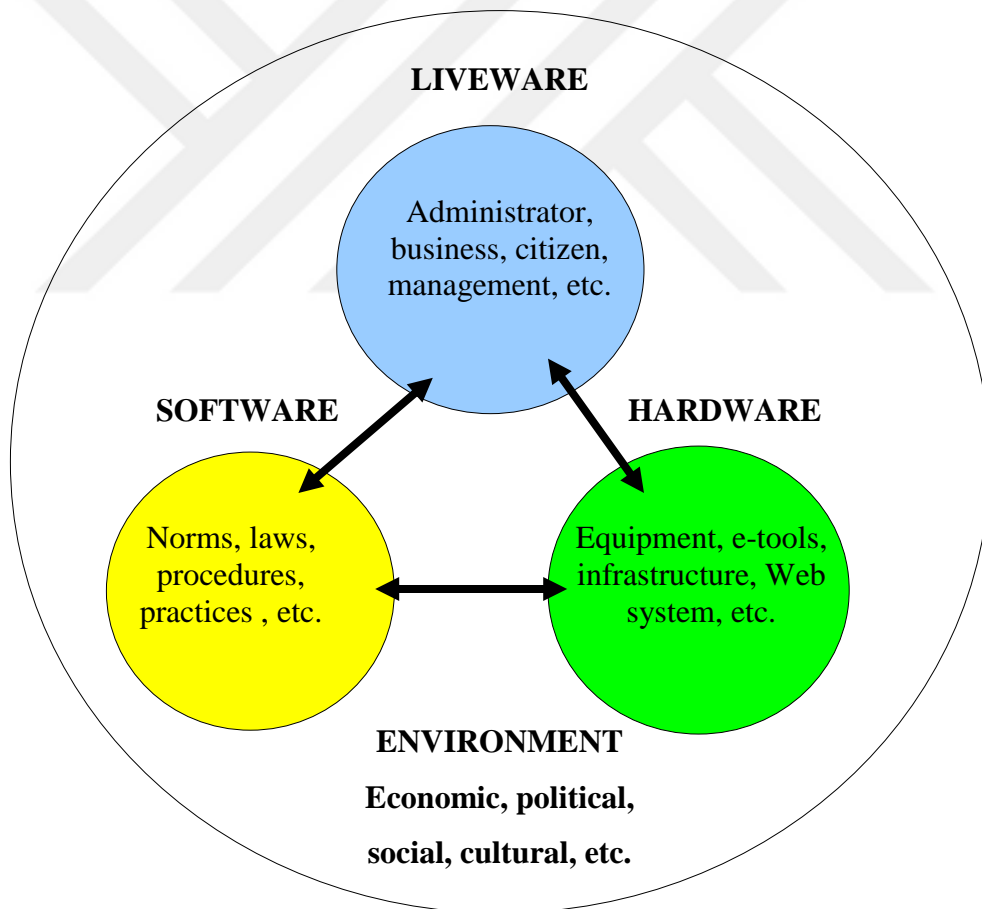


Figure 5.1 Administrative Processes in the View of the SHEL Model

6. E-GOVERNMENT IN USA

6.1. INTRODUCTION

E-government refers to the delivery of information and services online through the Internet. Many city governmental units have placed a wide range of materials on the web from publications to databases.

Using a detailed analysis of 1,506 government websites in the 70 largest metropolitan areas, the information and services that are online, chart the variations that exist across cities are measured, and how urban e-government can be improved are discussed. The list of cities assessed was based on the most populous metropolitan areas as assessed by the U.S. Census Bureau. Among the sites analyzed in each city were those of executive offices, legislative offices, and major agencies serving crucial functions of government, such as health, human services, taxation, education, economic development, administration, police, fire, transportation, tourism, and business regulation. The analysis was undertaken in 2001. Websites were evaluated for the presence of 28 features dealing with information availability, service delivery, and public access. Features assessed included type of site, name of city, branch of the world, office phone number, office address, online publications, online database, external links to non-governmental sites, audio clips, video clips, non-native languages or foreign language translation, commercial advertising, user payments or fees, subject index, various types of handicap access, various measures of privacy policy, security features, presence of online services, number of different services, links to a government services portal, digital signatures, credit card payments, email address, search capability, comment form or chat-room, broadcast of events, automatic email updates, and personalization of website.

Features were defined as services only if the entire transaction could occur online. If a citizen had to print out a form and then mail it back to the agency to obtain the service, isn't counted that as a service which could be fully executed online.

In general, it is founded that cities have made some strides toward placing information and services online. However, there is considerable variation across cities in how much material is on city government websites. Not all cities have made the same progress and a large number of cities need to address problems in the areas of privacy, security, and special needs populations such as the handicapped. Finally several practical suggestions for improving the delivery of government information and services over the Internet are given at the end of the part of this paper.

Among the more important findings of the research are:

- Only 7 percent of sites are multi-lingual, meaning that they offer two or more languages
- 25 percent of websites feature a one-stop services "portal" or have links to a government portal
- 13 percent offer services that are fully executable online
- The most frequent services are paying parking tickets online and filing complaints about street lights, rodent control, and potholes
- 64 percent of websites provide access to publications and 38 percent have links to databases
- 14 percent show privacy policies, while 8 percent have security policies
- Only 11 percent of government websites have some form of disability access, meaning access for persons with disabilities
- Less than 1 percent of sites have commercial advertising
- Cities vary enormously in their overall e-government performance based on our analysis. The most highly ranked city governments include san Diego, followed by Albuquerque, Seattle, Washington DC., salt lake city, Virginia beach, Kansas city, Denver, San Jose, and Indianapolis
- The lowest ranked cities in the study include Albany, Cleveland, Louisville, Greenville, south Carolina, and Miami, Florida

6.2. OVERVIEW OF CITY E-GOVERNMENT

The most noteworthy feature is the extent to which city e-government reflects the particular issues and challenges affecting urban America. Of the cities offering online services, the most common types are paying parking tickets and filing complaints dealing with street lights, potholes, and rodents. Surprising, in light of the multi-lingual nature of many city populations, only 7 percent of city websites offer more than one language (typically Spanish). Police departments are the most likely to offer bilingual websites (English and Spanish).

A number of cities have made progress at putting publications, forms, and databases online for citizen access. Rather than having to call or visit particular agencies, many government agencies have put material online that the public can download from city websites. A relatively small number of city websites (13 percent) provide services that are fully executable online. There is considerable variation across cities in the extent to which citizens can access government services through the Internet.

Most cities (75 percent) do not have portals that link the services of various agencies and departments. Portals offer many advantages for government offices. Having a single entry point into a government helps citizens because these portals integrate e-government service offerings across different agencies. Portals reduce the need to log on to different agency websites to order services or find information. Instead, citizens can engage in "one-stop" shopping, and find what they need at a single source.

Finally, there remains a need for continuing advancement in the areas of privacy, security, and interactive features, such as search engines. Compared to various commercial websites, the public sector lags the private sector in making full use of the technological power of the Internet to improve the lives of citizens and enhance the performance of governmental units. Given public concerns about privacy and security on the Internet, governmental agencies need to do more to reassure the public that urban e-government is safe and secure for users.

6.3. ONLINE INFORMATION

In looking at specific features of government websites, how much material was available that would help citizens contact government agencies and navigate websites. In general, contact information is quite prevalent. The vast majority of sites provide their department's telephone number (92 percent) and mailing address (83 percent). These are materials that would help an ordinary citizen needing to contact a government agency reach that office. In addition, features such as a subject area index that organize a site and tell a citizen how to navigate the site were abundant. Eighty-five percent of government sites had subject indices. In terms of the content of online material, many agencies have made extensive progress at placing information online for public access. Sixty-four percent of government websites around the world offered publications that a citizen could access, and 38 percent provided databases. Sixty-seven percent had links to external, non-governmental sites where a citizen could turn for additional information.

Table 6.1. Percentage of City Websites Offering Publications and Databases

| Offering Publications and Databases | Percentage of City Websites |
|--|------------------------------------|
| Phone Contact Info. | 92% |
| Address Info | 83 |
| Links to Other Sites | 67 |
| Publications | 64 |
| Databases | 38 |
| Index | 85 |
| Audio Clips | 1 |
| Video Clips | 3 |

As a sign of the early stage of global e-government, most public sector websites do not incorporate audio clips or video clips on their official sites. Despite the fact that these are becoming much more common features of e-commerce and private sector enterprise, only one percent of government websites provided audio clips and three percent had video clips. A common type of audio or video clip was a greeting or speech by the mayor. Fully executable, online service delivery benefits both government and its constituents. In the long run, such services have the potential to lower the costs of service delivery and make services more widely

accessible to the general public, because they no longer have to visit, write, or call an agency in order to execute a specific service. As more and more services are put online, e-government will revolutionize the relationship between government and citizens.

Of the websites examined around the country, however, only 13 percent offer services that are fully executable online. Of this group, 9 percent offer one service, 2 percent have two services, 1 percent offer three services, and 1 percent have four or more services. Eighty-seven percent have no online services. The most frequent service found online included paying parking fees and filing complaints about street lights, potholes, and rodent control.

Table 6.2: Top 10 Online Services

| Online Services | Number of Websites |
|---|---------------------------|
| Pay Parking Tickets or Traffic Violations | 30 websites |
| Complaint Filing | 27 |
| Service Request | 24 |
| Permit Applications | 18 |
| Job Application | 16 |
| Document Request | 13 |
| Pay Utility Bills | 11 |
| Request Police Documents | 10 |
| Pay Taxes | 9 |
| Report Crimes | 9 |

One feature that has slowed the development of online services has been an inability to use credit cards and digital signatures on financial transactions. On commercial sites, it is becoming a more common practice to offer goods and services online for purchase through the use of credit cards. However, of the government websites analyzed, only 4 percent accepted credit cards and two-tenths of 1 percent allowed digital signatures for financial transactions.

In general, large cities are most successful at placing services online, due to their ability to spread the costs of new technology out over a larger population and tax base. Las Vegas is first, with 45 percent of its websites providing some type of service, followed by Salt Lake City (36 percent), Albuquerque (33 percent), Indianapolis (33 percent), San Francisco (27 percent), Seattle (27

percent), Los Angeles (25 percent), New York (25 percent), Raleigh (24 percent), and Honolulu (23 percent). It is important to keep in mind that our definition of services included only those services that were fully executable online. If a citizen had to print out a form and mail or take it to a government agency to execute the service, we did not count that as an online service.

Table 6.3 : Percent of City Sites Offering Online Services

| City Sites Offering Online Services | Percent (%) |
|-------------------------------------|-------------|
| Las Vegas | 45 |
| Salt Lake City | 36 |
| Albuquerque | 33 |
| Indianapolis | 33 |
| San Francisco | 27 |
| Seattle | 27 |
| Los Angeles | 25 |
| New York | 25 |
| Raleigh | 24 |
| Honolulu | 23 |

6.4. PRIVACY AND SECURITY

The unregulated and accessible structure of the Internet has prompted many to question the privacy and security of government websites. Public opinion surveys place these areas near the top of the list of citizen concerns about e-government. Having visible statements outlining what the site is doing on privacy and security are valuable assets for reassuring a fearful population and encouraging citizens to make use of e-government services and information.

However, few global e-government sites offer policy statements dealing with these topics. Only 14 percent of examined sites have some form of privacy policy on their site, and 8 percent have a visible security policy. Both of these are areas that government officials need to take much more seriously. Unless ordinary citizens feel safe and secure in their online information and service activities, e-government is not going to grow very rapidly.

In looking at the content of privacy policies, only 10 percent prohibited the commercial marketing of visitor information, 2 percent prohibit the creation of cookies or individual profiles of visitors, and 9 percent prohibit sharing personal information without the prior consent of the user. On security statements, 4 percent indicated they use computer software to monitor network traffic.

Table 6.4 : Quality of Privacy and Security Statements

| Quality of Privacy and Security Statements | Percent |
|---|----------------|
| Prohibit Commercial Marketing | 10 |
| Prohibit Cookies | 2 |
| Prohibit Sharing Personal Information | 9 |
| Use Computer Software to Monitor Traffic | 4 |

Despite the importance of security in the virtual world, there are wide variations across cities in the percentage of websites showing a security policy. Albuquerque and San Diego were the cities most likely to show a visible security policy, with 100 percent of their sites including a statement. They were followed by Kansas City (96 percent), Salt Lake City (80 percent), Washington, D.C. (54 percent), Virginia Beach (23 percent), Houston (10 percent), Raleigh (10 percent), Los Angeles (5 percent), and Oklahoma City (5 percent).

Table 6.5 : Top Cities in Security Policy

| CITIES | PERCENT |
|------------------|----------------|
| Albuquerque | 100 |
| San Diego | 100 |
| Kansas City | 96 |
| Salt Lake City | 80 |
| Washington, D.C. | 54 |
| Los Angeles | 5 |
| Oklahoma City | 5 |
| Virginia Beach | 23 |
| Houston | 10 |
| Raleigh | 10 |

Similar to the security area, there are widespread variations across cities in providing privacy policies on their websites. The cities with the highest percentage of websites offering a visible privacy policy were Albuquerque and San Diego (100 percent), followed by Kansas City (96 percent), Denver (92 percent), Honolulu (88 percent), Tampa (87 percent), Salt Lake City (80 percent), Orlando (77 percent), Washington, D.C. (54 percent), and Virginia Beach (23 percent).

Table 6.6 : Top Cities in Privacy Features

| CITIES | PERCENT |
|------------------|----------------|
| Albuquerque | 100 |
| San Diego | 100 |
| Kansas City | 96 |
| Denver | 92 |
| Honolulu | 88 |
| Tampa | 87 |
| Salt Lake City | 80 |
| Orlando | 77 |
| Washington, D.C. | 54 |
| Virginia Beach | 23 |

6.5. DISABILITY ACCESS

Disability access is vitally important to citizens who are hearing impaired, visually impaired, or suffer from some other type of handicap. If a site is ill-equipped to provide access to individuals with disabilities, it fails in its attempt to reach out to as many people as possible. Eleven percent of government websites had some form of disability access using measures that we employed. To be recorded as accessible to the disabled, the site had to display features that would be helpful to the hearing or visually impaired. For example, TTY (Text Telephone) or TDD (Telephonic Device for the Deaf) phone numbers allow hearing-impaired individuals to contact the agency by phone. Second, the site could be "Bobby Approved," meaning that the site has been deemed disability-accessible by a non-profit group that rates Internet web sites for such accessibility (<http://www.cast.org/bobby/>). Third, the site could have web accessibility features consistent with standards mandated by groups such as the World Wide Web Consortium (W3C) or local legislative acts. Finally, if the site provided text labels for graphics or text versions of the website,

it was counting as having some degree of accessibility. In looking at particular kinds of handicap accessibility, there were variations in how cities provided access. Four percent provided TTY/TDD phone lines, 2 percent were Bobby approved, 2 percent met the standards of the World Wide Web consortium or local legislative acts, and 6 percent had text versions or text labels for graphics.

Table 6.7 : Types of Handicap Accessibility

| FEATURE | PERCENT |
|---------------------------|----------------|
| TTY/TDD | 4 |
| Bobby Approved | 2 |
| World Wide Web Consortium | 2 |
| Text Version or Labels | 6 |

When looking at disability access by individual cities, it is clear there is tremendous variation in the percentage of sites that are accessible. The city doing the best job on disability access is San Diego (100 percent of their sites are accessible), Tampa (87 percent), Baltimore (76 percent), Oakland (67 percent), San Jose (35 percent), Las Vegas (27 percent), Honolulu (19 percent), Seattle (19 percent), Louisville (18 percent), and Salt Lake City (16 percent).

Table 6.8 : Top Disability Access Cities

| CITY | PERCENT |
|----------------|----------------|
| San Diego | 100 |
| Tampa | 87 |
| Baltimore | 76 |
| Oakland | 67 |
| San Jose | 35 |
| Las Vegas | 27 |
| Honolulu | 19 |
| Seattle | 19 |
| Louisville | 18 |
| Salt Lake City | 16 |

6.6. FOREIGN LANGUAGE ACCESS

As pointed out earlier, few (7 percent) of city government websites have foreign language features that allow access to non-native speaking individuals. The cities having the highest proportion of websites with foreign language access included Dallas (92 percent of its sites), Hartford (78 percent), Orlando (65 percent), Houston (29 percent), Grand Rapids (15 percent), Philadelphia (15 percent), Omaha (13 percent), Chicago (12 percent), Phoenix (12 percent), and Los Angeles (10 percent).

The Houston Fire Department webpage has five different languages (Spanish, Italian, German, Portuguese, and French) accessible through its site. By clicking on an icon located on its site, visitors are taken to <http://babelfish.altavista.com>, which automatically translates English websites into each of these foreign languages.

The Nashville Metropolitan Transit Authority does a similar thing, through a link to <http://www.systransoft.com> translation services. This automatic language translation software converts English into Spanish, Italian, German, Portuguese, and French, thereby extending the reach of the agency website.

On its portal site, Grand Rapids has a link to free translation from SDL International into Spanish, French, German, Italian, Norwegian, and Portuguese. For its Spanish version online, Orlando's portal has seals of approval from the Hispanic Chamber of Commerce of Central Florida and the Florida State Hispanic Chamber of Commerce. Many police departments offered bilingual websites (in English and Spanish) that are very helpful to Spanish-speaking citizens. This is another way for police departments to become more responsive to community needs.

6.7. ADS AND USER FEES

Overall, use of ads to finance government websites is not very prevalent. Only 1 percent of sites had commercial advertisements on their sites, meaning non-governmental corporate and group sponsorships. In general, tourism and transit authority sites were most likely to have ads. For example, these websites had banners or "fly-by" ads for hotels, travel agents, or special travel packages. None of the sites we examined throughout the country required user fees to access online information and services.

When defining an advertisement, we eliminated computer software available for free download (such as Adobe Acrobat Reader, Netscape Navigator, and Microsoft Internet Explorer) since they are necessary for viewing or accessing particular products or publications. Links to commercial products or services available for a fee included as advertisements as were banner, pop-up, and fly-by advertisements.

Cities that had advertising on their websites were the Houston Fire Department that had a link to Firehouse.com, a commercial magazine and email alert service that focuses on fire-related products. The Nashville Transit Authority had a banner ad for the Belcourt Neighborhood Theater. The Buffalo Mayor's page featured a "pop-up" advertisement that alternated between spots for Northwest Airlines and Lycos. The Rochester, New York Arts and Cultural Council had an ad for Horses on Parade, an online live auction that also has a capacity to order tickets online. The El Paso Tourism site had an ad for the El Paso Association for the Performing Arts which advertised a Shakespeare festival. The Richmond, Virginia Transit Authority did not have an ad, but indicated it was accepting banner ads for companies wishing to advertise on its site.

6.8. PUBLIC OUTREACH

E-government offers the potential to bring citizens closer to their governments. Email is an interactive feature that allows ordinary citizens to pose questions of government officials or request information or services. It is found that 69 percent of government websites offered email contact material so that a visitor could email a person in a particular department other than the Webmaster.

Table 6.9 : Percentage of City Government Websites Offering Public Outreach

| PUBLIC OUTREACH | PERCENT |
|------------------------|----------------|
| Email | 69 |
| Search | 54 |
| Comments | 17 |
| Email Updates | 2 |
| Broadcast | 2 |
| Personalized Sites | 0 |

While email is certainly the easiest method of contact, there are other methods that government websites can employ to facilitate public feedback. These include areas to post comments (other than through email), the use of message boards, and chat rooms, which appeared on 17 percent of sites. Websites using these features allow citizens and department members alike to read and respond to others' comments regarding issues facing the department. Fifty-four percent of the sites is examined had the ability to search the particular website. This is a feature that is helpful to citizens because it allows them to find the specific information they want. Two percent of sites offer live broadcasts of important speeches or events ranging from live coverage of the government hearings and broadcasts of public speeches to weekly Internet radio shows featuring various department officials. Two percent of government websites allow citizens to register to receive updates regarding specific issues. With this feature, web visitors can input their email addresses, street addresses, or telephone numbers to receive information about a particular subject as new information becomes available. The information can be in the form of alerts notifying citizens whenever a particular portion of the website is updated. Three-tenths of one percent of websites allowed the users to personalize the site to their particular interests.

6.9. TOP E-GOVERNMENT CITIES

In order to see how the 70 cities ranked overall, it is created a 0 to 100 point e-government index and applied it to each city's websites based on the availability of contact information, publications, databases, portals, and number of online services. Four points were awarded to each website for the presence of each of the following 22 features: phone contact information, addresses, publications, databases, links to other sites, audio clips, video clips, foreign language access, not having ads, not having user fees, disability access, having privacy policies, security policies, an index, allowing digital signatures on transactions, an option to pay via credit cards, email contact information, search capabilities, areas to post comments, broadcasts of events, option for email updates, and personalization. These features provided a maximum of 88 points for particular websites.

Each site then qualified for a bonus of six points if it were linked to a portal site, and another six points based on the number of online services executable on that site (1 point for one service, two points for two services, three points for three services, four points for four services, five points for five services, and six points for six or more services). Twenty-five percent of sites linked to a city governmental portal. One percent of city websites had four or more services. The e-government index therefore ran along a scale from 0 (having none of these features, no portal, or no online services) to 100 (having all 22 features plus having a portal and at least six online services). This total for each website was averaged across all of a specific city's websites to produce a 0 to 100 overall rating for that urban area. The top city in our ranking is San Diego at 52.9 percent. This means that every website we analyzed for that city has slightly more than half the features important for information availability, citizen access, portal access, and service delivery. Other cities which score well on e-government include Albuquerque (49.9 percent), Seattle (48.4 percent), Washington, D.C. (45.4 percent), Salt Lake City (44.2 percent), Virginia Beach (43.1 percent), Kansas City (42.7 percent), Denver (42.6 percent), San Jose (42.0 percent), and Indianapolis (41.9 percent). The lowest ranked cities in our study included Albany (17.2 percent), Cleveland (21.1 percent), Louisville (24.4 percent), Greenville, South Carolina (24.6 percent), and Miami (24.8 percent).

Table 6.10 : Top E-Government Cities

| | | | |
|----------------|-------|------------------|-------|
| San Diego | 52.9% | Albuquerque | 49.9% |
| Seattle | 48.4 | Washington, D.C. | 45.4 |
| Salt Lake City | 44.2 | Virginia Beach | 43.1 |
| Kansas City | 42.7 | Denver | 42.6 |
| San Jose | 42.0 | Indianapolis | 41.9 |
| Minneapolis | 41.1 | Honolulu | 40.5 |
| Los Angeles | 40.1 | Tacoma | 40.1 |
| Richmond | 39.9 | Boston | 39.5 |
| New York | 39.5 | Memphis | 38.7 |
| Tampa | 38.3 | San Francisco | 38.2 |
| Austin | 37.9 | Baltimore | 37.3 |
| Pittsburgh | 37.1 | Providence | 36.9 |
| Orlando | 36.4 | Oakland | 36.2 |
| Columbus | 35.7 | Las Vegas | 35.5 |
| Atlanta | 35.3 | Long Beach | 35.0 |
| Oklahoma City | 34.2 | Chicago | 34.1 |
| Sacramento | 34.0 | Charlotte | 33.6 |
| Portland | 33.4 | Houston | 33.1 |
| Dayton | 32.2 | Fort Worth | 31.9 |
| Tucson | 31.7 | Syracuse | 31.5 |
| Jacksonville | 31.5 | Omaha | 31.0 |
| Hartford | 30.5 | Cincinnati | 30.3 |
| New Orleans | 30.3 | Fresno | 30.2 |
| Raleigh | 30.1 | Norfolk | 30.1 |
| Philadelphia | 30.0 | Greensboro | 29.9 |
| Nashville | 29.6 | Milwaukee | 29.5 |
| Tulsa | 29.4 | Dallas | 28.4 |
| Phoenix | 28.3 | Detroit | 28.1 |
| San Antonio | 28.0 | West Palm Beach | 28.0 |
| Grand Rapids | 27.9 | Knoxville | 27.1 |
| Buffalo | 27.1 | St. Louis | 26.4 |
| Birmingham | 26.1 | Rochester | 25.7 |
| El Paso | 25.0 | Miami | 24.8 |
| Greenville | 24.6 | Louisville | 24.4 |
| Cleveland | 21.1 | Albany | 17.2 |

There are some differences in e-government by branch of government. In general, portal sites that serve as the gateway to many city government websites had less contact information (phone numbers and mailing addresses) than executive or legislative sites. However, portal sites featured

a higher percentage of publications and databases than true for non-portal websites. Portals also were more likely to offer foreign language translation, online services, and credit card payment options than executive or legislative sites.

Table 6.11: Differences by Branch of Government

| | Executive | Legislative | Portal |
|-----------------|------------------|--------------------|---------------|
| Phone | 93% | 93% | 66% |
| Address | 83 | 88 | 62 |
| Publication | 62 | 74 | 98 |
| Database | 37 | 25 | 63 |
| Links | 66 | 61 | 97 |
| Audio Clip | 1 | 1 | 12 |
| Video Clip | 2 | 7 | 16 |
| Foreign Lang | 6 | 7 | 15 |
| Ads | 0 | 0 | 2 |
| User Fees | 0 | 0 | 0 |
| Index | 84 | 86 | 98 |
| Privacy | 14 | 13 | 28 |
| Security | 7 | 7 | 16 |
| Software | 4 | 4 | 10 |
| Disability | 11 | 6 | 21 |
| Services | 11 | 6 | 60 |
| Link to Portal | 25 | 25 | 31 |
| Credit Cards | 2 | 3 | 40 |
| Digital Sign | 0 | 0 | 3 |
| Email | 68 | 88 | 74 |
| Search | 53 | 52 | 78 |
| Comment | 16 | 16 | 31 |
| Broadcast | 1 | 9 | 18 |
| Updates | 2 | 6 | 9 |
| Personalization | 0 | 0 | 3 |

6.10. CONCLUSIONS

To summarize, it is find that some helpful material has been placed online, but that much more work needs to be undertaken by city governments to upgrade e-government. Aside from publications and links to other sources of information, few city governments offer online services, describe their privacy and security policies, or provide any type of disability access. In

addition, other than email contact information, many cities have been slow to embrace the interactive features of the Internet that facilitate communication between citizens and government agencies. One of the prime virtues of the web is its capacity for interactivity, such as features that put citizens in control of online information. However, most sites do not help citizens tailor the information to their particular interests or needs.

It is important that all cities recognize the special nature of their citizenry. In many metropolitan areas, this includes a large percentage of non-English speakers, individuals with various kinds of physical handicaps, and people who need assistance on how to navigate government websites. City governments must make special efforts to serve these populations. Websites need to offer more uniform, integrated, and standardized navigational features that make sites easy to access.

In addition, city governments need to figure out how to take advantage of features that enhance public accountability. Simple tools such as website search engines are important because such technologies give citizens the power to find the information they want on a particular site. Right now, only half of government websites are searchable, which limits the ability of ordinary citizens to find information that is relevant to them.

The same logic applies in regard to features that allow citizens to post comments or otherwise provide feedback about a government agency. Citizens bring diverse perspectives and experiences to e-government, and agencies benefit from citizen suggestions, complaints, and feedback. Even a simple feature such as a comment form empowers citizens and gives them an opportunity to voice their opinion about city government services they would like to see. Given the range of services cities deal with, such as garbage collection, police and fire, streets, potholes, and rodent control, it would be especially valuable for city government websites to employ features that facilitate citizen feedback and enhance governmental accountability.

City governments have an opportunity to use video streaming technology to place city council and school board meetings online for public viewing. This would give citizens more information about what is going on inside City Hall, and put them in a position where they could hold leaders accountable for decisions that are made.

City agencies need to undertake steps that allow for online credit card transactions and digital signatures. It will be difficult to extend some services online without there being some means by which citizens can transfer funds electronically through the website. Some city services such as collecting taxes online or applying for business permits require paying a fee. Without credit card and/or digital signatures, it will be impossible to make such services fully executable online.

The following table shows the percentage of websites in each city that has the particular feature, such as online services, publications, and databases.

Table 6.12: Individual City Profiles for Selected Features

| | Online Service | Publications | Data bases | Privacy Policy | Security Policy | Handicap Accessibility |
|--------------|-----------------------|---------------------|-------------------|-----------------------|------------------------|-------------------------------|
| Albany | 0% | 12% | 0% | 0% | 0% | 0% |
| Albuquerque | 33 | 78 | 39 | 100 | 100 | 11 |
| Atlanta | 12 | 54 | 23 | 0 | 0 | 0 |
| Austin | 9 | 78 | 57 | 0 | 0 | 9 |
| Baltimore | 4 | 56 | 44 | 0 | 0 | 76 |
| Birmingham | 0 | 32 | 5 | 0 | 0 | 0 |
| Boston | 20 | 68 | 44 | 0 | 0 | 8 |
| Buffalo | 6 | 63 | 25 | 0 | 0 | 0 |
| Charlotte | 16 | 72 | 28 | 0 | 0 | 8 |
| Chicago | 19 | 85 | 46 | 4 | 0 | 8 |
| Cincinnati | 13 | 58 | 50 | 0 | 0 | 8 |
| Cleveland | 0 | 14 | 14 | 0 | 0 | 5 |
| Columbus | 15 | 70 | 60 | 0 | 0 | 5 |
| Dallas | 4 | 40 | 8 | 0 | 0 | 0 |
| Dayton | 15 | 54 | 31 | 0 | 0 | 0 |
| Denver | 8 | 81 | 31 | 92 | 0 | 8 |
| Detroit | 19 | 54 | 23 | 4 | 0 | 0 |
| El Paso | 7 | 64 | 21 | 0 | 0 | 0 |
| Fort Worth | 21 | 75 | 29 | 8 | 0 | 0 |
| Fresno | 7 | 53 | 20 | 0 | 0 | 0 |
| Grand Rapids | 8 | 65 | 27 | 0 | 0 | 4 |
| Greensboro | 5 | 55 | 45 | 0 | 0 | 14 |
| Greenville | 13 | 50 | 38 | 0 | 0 | 0 |
| Hartford | 4 | 26 | 30 | 0 | 0 | 9 |
| Honolulu | 23 | 77 | 35 | 88 | 0 | 19 |
| Houston | 14 | 71 | 48 | 10 | 10 | 5 |
| Indianapolis | 33 | 83 | 67 | 0 | 0 | 11 |
| Jacksonville | 17 | 61 | 56 | 6 | 0 | 0 |

| | | | | | | |
|---------------|----|-----|----|-----|-----|-----|
| Kansas City | 17 | 58 | 42 | 96 | 96 | 0 |
| Knoxville | 0 | 71 | 36 | 0 | 0 | 0 |
| Las Vegas | 45 | 91 | 18 | 0 | 0 | 27 |
| Long Beach | 14 | 91 | 64 | 0 | 0 | 0 |
| Los Angeles | 25 | 80 | 60 | 10 | 5 | 10 |
| Louisville | 0 | 41 | 0 | 0 | 0 | 18 |
| Memphis | 11 | 58 | 11 | 0 | 0 | 0 |
| Miami | 0 | 56 | 22 | 0 | 0 | 0 |
| Milwaukee | 12 | 62 | 54 | 0 | 0 | 8 |
| Minneapolis | 12 | 54 | 19 | 0 | 0 | 0 |
| Nashville | 13 | 60 | 37 | 0 | 0 | 0 |
| New Orleans | 13 | 69 | 69 | 0 | 0 | 6 |
| New York | 25 | 71 | 67 | 8 | 0 | 13 |
| Norfolk | 22 | 65 | 52 | 9 | 4 | 4 |
| Oakland | 11 | 78 | 33 | 0 | 0 | 67 |
| Oklahoma | 5 | 73 | 36 | 5 | 5 | 9 |
| Omaha | 7 | 47 | 13 | 0 | 0 | 0 |
| Orlando | 12 | 65 | 35 | 77 | 0 | 4 |
| Philadelphia | 15 | 62 | 42 | 4 | 0 | 8 |
| Phoenix | 15 | 69 | 38 | 0 | 0 | 0 |
| Pittsburgh | 12 | 72 | 64 | 0 | 0 | 0 |
| Portland | 4 | 85 | 65 | 0 | 0 | 0 |
| Providence | 18 | 91 | 73 | 0 | 0 | 9 |
| Raleigh | 24 | 62 | 29 | 0 | 10 | 10 |
| Richmond | 18 | 76 | 24 | 6 | 0 | 6 |
| Rochester | 15 | 30 | 20 | 0 | 0 | 5 |
| Sacramento | 20 | 80 | 73 | 0 | 0 | 13 |
| Salt Lake | 36 | 72 | 40 | 80 | 80 | 16 |
| San Antonio | 0 | 58 | 42 | 0 | 0 | 8 |
| San Diego | 19 | 69 | 31 | 100 | 100 | 100 |
| San Francisco | 27 | 69 | 65 | 0 | 0 | 8 |
| San Jose | 12 | 77 | 46 | 0 | 0 | 35 |
| Seattle | 27 | 100 | 54 | 0 | 0 | 19 |
| St. Louis | 8 | 50 | 23 | 0 | 0 | 4 |
| Syracuse | 0 | 47 | 18 | 0 | 0 | 0 |
| Tacoma | 19 | 69 | 19 | 6 | 0 | 0 |
| Tampa | 13 | 48 | 57 | 87 | 0 | 87 |
| Tucson | 4 | 72 | 36 | 4 | 4 | 8 |
| Tulsa | 7 | 40 | 33 | 0 | 0 | 0 |
| Virginia B. | 13 | 77 | 35 | 23 | 23 | 13 |
| Washington | 15 | 65 | 65 | 54 | 54 | 0 |
| West Palm B. | 0 | 78 | 17 | 0 | 0 | 0 |

7. E-GOVERNMENT IN TURKEY

7.1 HISTORY OF DEVELOPMENTS

Information infrastructure is directly related with the developments in science and technology. Today's global world forces the countries to use science and technology for social and economic utilization and benefits. Information and communication technologies seem to be the best tools to achieve this utilization. Information Age using the technologies in question affects private and public sector, but central planning, coordination of different efforts and having related policies in the area emphasized by governments gain importance in this process.

In our country, High Board of Science and Technology (BTYK) is the upper body, which makes decisions and constructs policies in the area. One of the most important decisions of the board, made in August 1997 was to watch, support and orient the master plan development studies for Turkish National Information Infrastructure (TUENA), which is expected to carry the country and the people to the future world's information society. The importance of the TUENA Master plan is to carry the public services to electronic environment (which can be called as e-government) and technical solutions for this aim and also to make recommendations about information security for open networks. Another parallel study supported by BTYK was the KAMU-NET project. The aim of the project was to connect the networks of different government organizations and plan them centrally in order to be cost effective. A conference was held in 1998 to gather the IT managers of government organizations, to monitor the activities of the participant organizations in the area and to find solutions for a common network, which will combine all the government organizations.

Ministry of Transportation was delegated the coordination duty to prepare the master plan and Turkey's Scientific and Technical Research Council (TÜBİTAK) acted as the secretariat unit and an office was set up to prepare the master plan. The initiative was ended with a final approval of the Transportation Ministry in June 1999.

Government efforts to build up information society and different government information system projects are still going on without detailed coordination and planning, which cause waste of resources. While these developments are in progress in our country, another development has begun in Europe, “eEurope+ Initiative” since December 1999. The main goals in the initiative are,

- Cheaper, faster and more reliable (secure) Internet in order to make the applications presented on the Internet, be available for everybody,
- Investment in human resources to enable the citizens to use Internet technologies,
- Supporting the widespread use of the Internet.

As understood, these goals suggest the intensive use of Internet with the intention of making the Internet “a basis” for both national information infrastructures and EU-wide Information Infrastructure. When the goals are achieved, it will be possible to make most of the services offered by the governments and private sector be on-line and accessible for citizens.

European Commission declared this intention with [EU1, 1999]¹ and put detailed programs, measurement criterions and due dates for member states in order to achieve the purposes stated above. Commission also wanted to encourage the candidate states to prepare similar action plans. So, candidate states prepared a similar program and this program was announced as “eEurope+ 2003²Action Plan” [EUCS, 2001]. All the major aims in both [EU1, 1999] and [EUCS, 2001] are similar to each other but the only differences are due dates of the objects. Turkey declared her intention and contribution to this initiative within her National Program³ presented to EU in year 2001. The goals in the National Program are similar to the ones with [EUCS, 2001].

¹ http://europa.eu.int/information_society/europe/action-plan/index_en.html

² http://europa.eu.int/information_society/international/candidate_countries/index_en.htm.

³ http://www.abgs.gov.tr/dokuman/ulusalprogram_main.htm,

“eEurope Initiative” contains 12 main topics in order to achieve these goals. It also contains action items to be carried out, evaluation criteria and due dates for each goal. Despite the plan has 12 main topics, two of them are directly related with our thesis: “e-government” and “use of security tools”. These two topics are expressed as;

- “E-government: electronic access to government services” under the main topic “Supporting the widespread use of the Internet” and,
- “Secure networks and smart cards” under the main topic “Cheaper, faster and more reliable Internet”.

Actually, the action items in the “eEurope Initiative” are not very different when compared with demands of Turkish citizens as determined in [TUENA, 1999, p.9]. According to the report, “household population of Turkey wants to use the National Information Infrastructure extensively and the first five services demanded by them in the order are:

- Finding out and paying telephone, tax, water, etc. bills due and payable (% 82.6),
- Submitting petitions and receiving answers (% 75.5),
- Booking and receiving tickets (% 73.5),
- Cinema, music and other cultural events / Exchanging Information (% 73.2),
- Participating in debates and votes (%69.6)”

This survey shows that most demanded applications by average Turkish citizens are mostly “citizen centric e-government” type demands. If the actions in the “eEurope Initiative” can be executed in their due dates as declared in the National Program, it will be an important progress to meet these social expectations.

7.2. CURRENT SITUATION

There are two methods to make government services on-line for citizens: government-owned web portals and government kiosks. It is also possible to access to government on-line services via computers, which can be available to the public in places such as libraries, hospitals or schools.

Government web sites are the easy way to make their services on-line for public use. By the last few years, almost every ministry or directorate owned a web-site on the Internet in order to introduce their activities and to communicate with citizens. Investigation of those web sites and determining the applications presented on the portals will be an appropriate method to clarify the current situation of our country on the way to be an electronic government.

The results of such an investigation [INCE, 2001] for determining “the government services available on the web” as of date November 2000 can be summarized as:

- 68.5 % of the investigated government organizations have a web site, 27 % of the investigated government organizations do not have a web site and 4 % of the investigated government organizations have a web site but could not be accessed.
- Only 1.9 % of the investigated government organizations offers direct on-line services through the Internet; State Supply Office (DMO), Emlakbank and Vakıfbank. This number is insufficient when we compare it with the on-line services offered by other countries via Internet.
- Content and quality of the sites differ from site to site but can be evaluated as insufficient,
- There is no standardization in presentation of the services through web sites,
- There is no single point to start to search the government services offered through the Internet (like <http://www.firstgov.gov> of USA),

The same government organizations, which are examined in [INCE], were examined again as of September 2001 by the author. The evaluation criteria for the investigation were:

- Sites only giving information to the citizens. Given information can be organization and duties of the related agency, statistics about the related area, adjudication notices, or any other kind of information.
- Sites offering electronic documents and forms which the citizens can download and use them manually.
- Sites offering on-line transaction services for the citizens.
- Sites use any PKI technology in their applications.

The evaluation criteria of the research are somewhat different from İnce's criteria. Sites having an "e-mail capability" were classified as "*sites having reciprocal communication tools*" in first research and examined as a separate evaluation criterion. In our opinion, having e-mail capability in a web site is not difficult with today's technology. So, we did not examine this capability and did not make a classification as "*sites having reciprocal communication tools*". Instead, we examined the web sites whether they offer any application to make on-line transactions, and classified them as "*Sites offering on-line transaction services*". Table 7.1 shows the general situation of the web sites of the government organizations according to above evaluation criteria. When two studies are compared, it is seen that:

- There is an increase in the amount of government organizations having a web site (from 68.5 % to 85 %). This shows us government organizations' inclination to have a web site and share some information with citizens.
- There is also an increase in the amount of applications offering on-line transaction facility to citizens (from 1.9 % to 19 %).
- Amount of online services offered to citizens via Internet is still very insufficient when compared with the aims of "eEurope Initiative".
- Design and contents of the web sites still differ from organization to organization. Organizations are preparing those web sites by the personal skills and efforts of the IT people working for them. There is no central planning about the content of the web site and applications presented on it. Most of them are not designed with professional approach. Organizations do not have budgets to carry out this work.

- There are some applications offered by some government organizations, which can be considered as typical e-government applications. Some examples are: “Internet tax office” of General Directorate of Revenues (<https://vedop.mb-ggm.gov.tr/internetvd>), “Internet sale office” of Turkish Airlines (<http://www.turkishairlines.com>), “E-market” and “invoice information/defect registration service” of Turkish Telecom (<http://www.ttmarket.gov.tr/default.asp> <http://fatura.telekom.gov.tr/>), “Internet bank office of Vakıfbank (<http://www.vakifbank.com.tr>), “Online subscription for technical magazines service” of TÜBİTAK (<https://abone.tubitak.gov.tr/>) and “electronic sale service” of State Supply Office (<http://www.dmo.gov.tr/esatis/default.asp>).

Table 7.1: Current Situation of Government Organizations’ Web Sites

| Classification according to evaluation criterions | Amount | Percentage to Accessible Organizations | Percentage to General Total |
|--|---------------|---|------------------------------------|
| Sites only giving information to the citizens | 97 | 67 % | 57 % |
| Sites offering electronic documents/forms | 25 | 17 % | 15 % |
| Sites offering on-line applications | 19 | 13 % | 11 % |
| Sites using any PKI technology | 10 | 7 % | 6 % |
| Total number of Accessible Web Sites | 145 | 100 % | 86 % (68.5 %) ⁴ |
| Agencies without a web-site | 16 | - | 9 % (27 %) |
| Sites could not have been accessed for any reasons. | 8 | - | 5 % (4.5 %) |
| General Total | 169 | - | 100 % |

⁴ Ratios in parenthesis are the results from [İnce, 2001]

E-Government brings administrations closer to citizens and businesses through the use of the Internet. Electronic public administration can make a major contribution to accelerating the transition to the knowledge-based economy in the Candidate Countries by stimulating access to and use of basic on-line government services. Furthermore, by contributing to a transformation of the organization of the public sector, e-Government can improve public services, making them faster, as well as more accessible and responsive.

Actually, the action items in the “eEurope Initiative” are not very different when compared with demands of Turkish citizens as determined in [TUENA, 1999, p.9]. According to the report, household population of Turkey wants to use the National Information Infrastructure extensively and the first five services demanded by them in the order are:

- Finding out and paying telephone, tax, water, etc. bills due and payable (% 82.6),
- Submitting petitions and receiving answers (% 75.5),
- Booking and receiving tickets (% 73.5),
- Cinema, music and other cultural events / Exchanging Information (% 73.2),
- Participating in debates and votes (%69.6)”

This survey shows that most demanded applications by average Turkish citizens are mostly “citizen centric e-government” type demands. If the actions in the “eEurope Initiative” can be executed in their due dates as declared in the National Program, it will be an important progress to meet these social expectations.

E-government applications have already been developed by most of the government organizations or they are in their development phases. [İNCE, 2001, p. 76, 77] lists a total of 61 different Government Information System Projects which are collected from TUENA and KAMU-NET reports. Examples to these projects can be listed as;

- MERNİS (Merkezi Nüfus İdaresi Sistemi- Central Census Management System).
- TAKBİS (Tapu Kadastro Bilgi Sistemi, Cadastral Information System).
- VEDOP (Vergi Dairesi Tam Otomasyon Projesi- Automation Project for Turkish Tax Offices. Citizen centric interface of the project is “Internet Tax Office of the General Directorate of Public Accounts).
- SAY 2000i (Saymanlık Otomasyon Projesi- Automation Project for Accountancies).
- UYAP (Ulusal Yargı Ağı Projesi-National Judgement Network Project).
- TSK KKBS (Türk Silahlı Kuvvetleri Komuta Kontrol Bilgi Sistemi-TAF Command Control and Information System Project).
- BAĞKUR Information System Project.
- SSK Information System Project.

Provincial Government’s Web Sites were evaluated for the presence of 25 features dealing with information availability, service delivery, and public access that can be seen from the table 7.2.

Features assessed included (a) office phone number, (b) office address, (c) online publications [provincial data contained pages included], (d) online database [only provincial owned database], (e) external links ton on-governmental sites, (f) audio clips, (g) video clips, (h) foreign language translation [more than 1 page], (i) commercial advertising, (j) user payments or fees, (k) subject index [simple navigation menu], (l) various types of handicap access, (m) various measures of privacy policy, (n) security features, (o) presence of online services [on this site or on linked sites], (p) links to a government services portal, (q) digital signatures, (r) credit card payments, (s) email address, (t) search capability [on site search], (u) comment form or chat-room, (v) broadcast of events and news, (w) automatic email updates, (x) personalization of website, (y) sitemap.

Table 7.2: Current Situation of Provincial Government’s Web Sites

| PROVINCES | FEATURES | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | y | |
| ADANA | N | N | Y | N | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | N | N | N | N | N | N | N | N |
| ADIYAMAN | Y | Y | Y | N | N | Y | Y | N | N | N | Y | N | N | N | Y | N | N | N | Y | N | N | Y | Y | N | Y | |
| AFYON | Y | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | Y | N | N | Y | N | N | N | N | N | N | N |
| AĞRI | Y | N | Y | N | Y | N | N | Y | N | N | Y | N | N | N | N | Y | N | N | Y | N | N | N | N | N | N | N |
| AKSARAY | Y | Y | Y | N | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | N | N | Y | N | N | N | N |
| AMASYA | Y | N | Y | N | Y | Y | N | Y | N | N | Y | N | N | N | Y | Y | N | N | Y | N | N | N | N | N | N | Y |
| ANKARA | Y | Y | Y | Y | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | Y | N | N | N | N | N | Y |
| ANTALYA | Y | Y | Y | N | Y | N | N | N | N | N | Y | N | N | N | N | Y | N | N | Y | N | N | N | N | N | N | Y |
| ARDAHAN | Y | Y | Y | N | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | N | N | N | N | N | N | N |
| ARTVİN | Y | Y | Y | N | N | N | N | N | N | Y | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | Y |
| AYDIN | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| BALIKESİR | Y | Y | Y | N | N | Y | Y | Y | N | N | Y | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| BARTIN | Y | Y | Y | N | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | N | Y | Y | N | N | N | N |
| BATMAN | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | N | Y | Y | N | N | N | N | N |
| BAYBURT | Y | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N |
| BİLECİK | Y | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N |
| BİNGÖL | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| BİTLİS | Y | Y | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N |
| BOLU | Y | Y | Y | N | N | N | Y | N | N | N | Y | N | N | N | N | Y | N | N | Y | N | N | N | N | N | N | N |
| BURDUR | Y | Y | Y | Y | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | N | N | N | N | N | N | Y |
| BURSA | Y | Y | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N |
| ÇANAKKALE | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| ÇANKIRI | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N |
| ÇORUM | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N |
| DENİZLİ | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| DİYARBAKIR | Y | Y | Y | Y | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | N | N | N | N | N | N | N |
| DÜZCE | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| EDİRNE | Y | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | Y | N | N | N | N |
| ELAZIĞ | Y | N | Y | N | N | Y | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | Y | N | N | N | N |
| ERZİNCAN | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| ERZURUM | Y | Y | Y | N | N | Y | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | Y | N | N | N | N |
| ESKİŞEHİR | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| GAZİANTEP | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | Y | N | Y | N | N | N | N |
| GİRESUN | Y | Y | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | Y | N | N | N | N |
| GÜMÜŞHANE | N | N | Y | Y | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | Y | N | N | Y | N | N | N | N |
| HAKKARİ | N | N | Y | N | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | Y | N | N | Y | N | N | N | N |
| HATAY | N | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | N | N | N | Y | N | N | N | N |
| İĞDIR | Y | N | Y | N | N | N | N | N | N | N | Y | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| ISPARTA | Y | N | Y | N | Y | N | N | N | N | N | Y | N | N | N | Y | Y | N | N | N | N | N | N | N | N | N | N |

This compared study shows that the cities offering some information on their geographic, demographic, educational, governmental, touristic etc. Only 37 of 81 cities have phone numbers on their sites and 25 of them give address information. All given information about a city accepted like a publication and 80% of them had it. Only 9 cities have their own databases and only two of them have some query tools. 20% of cities give external link to non-governmental sites and most of them associations, foundation, newspaper or other news sources. 5 of all sites contain audio and 3 of all sites contain video clips. Turkey's internet data transfer rate is not higher like USA, low data transfer rate is a constraint for multimedia content. 16% of our cities support a foreign language and it's English. Any provincial city has a commercial advertising on their sites but Nizip district of Gaziantep Provincial has oil olive advertising on their sites. Any city has a user payment, digital signature or credit card payments and various type of handicap access. Only İstanbul declare a privacy policy and security features. 33% of cities have online service or linked their pages to governmental sites which had a online service. 67% of them have an email address and only 6 cities sites have a search on site capability, 2 cities have forum. 28 cities can inform citizen about city news or events but only 3 cities have information service by an email inscription. Any city pages have a personalization capability. Top 10 Turkish provincial government's web sites are given on table 7.2. Overall score is 100 points. First score evaluation on 25 criteria and second only 20 criteria (5 zero scored criteria by every city are excluded)

Table 7.3 : Top 10 Turkish Provincial Government's Web Sites

| PROVINCE | SCORES | |
|-------------------|-------------|-------------|
| | 25 criteria | 20 criteria |
| İSTANBUL | 64 | 80 |
| ADİYAMAN | 44 | 55 |
| ANKARA | 44 | 55 |
| AMASYA | 40 | 50 |
| BARTIN | 40 | 50 |
| BURDUR | 40 | 50 |
| NEVŞEHİR | 40 | 50 |
| AKSARAY | 36 | 45 |
| DİYARBAKIR | 36 | 45 |
| KARABÜK | 36 | 45 |

8. PORTAL

8.1. DEFINITION OF PORTAL

Portal is, a community-based web environment that delivers highly scalable personalization, membership, aggregation and security services for delivering key content, applications, and services based on user identity, role, group, domain, and preferences. Portal vision should be “right service, right place, right time” and also “putting citizens on-line, not in line”

Portals represent the leading concept for integrating many different information sources into a single mechanism for interacting with the user. Multiple E-Gov Initiatives can share a portal, and multiple portals can be linked to integrate even more information sources and applications.

Portal provides citizens with a single door into government. It allows for self-service, whether the citizen is looking for information, wants to sign up to be a soccer coach, check property assessments or pay a fee to use the local recycling center. Portals are available all day, every day, making them convenient and relatively hassle-free. The databases feeding information to these portals can also be linked to touch-screen kiosks and interactive voice response systems, so that citizens without access to a home computer, can benefit from the same services via public kiosks or touchtone phones.

The portal that aids citizens also can provide businesses the benefits of convenience and time savings, allowing them to incorporate as a new business entity, apply for business permits and file corporate taxes without filling out any paperwork. They can search for business opportunities with government, download and respond, bid at government auctions of surplus materials, or put their own supplies up for bid. They can post an electronic catalog of approved commodities that allows employees to search for products, compare prices and issue purchase orders without touching a piece of paper.

Although most city Web sites are just an "electronic brochure," municipal officials are viewing e-government in a more holistic and strategic manner than before, according to a new nationwide study.

Cities are emerging from an initial phase of creating Web sites and posting static information. They are now taking a more comprehensive and strategic approach to implementing e-government. The slow adoption of e-government among cities is both good and bad. It's bad because cities are way behind state and federal agencies in providing online services, but it's also good because they can "leapfrog" over mistakes made by other governments, implement a better range of products and services at a lower price, and gain greater savings.

8.2. STARTING THE PORTAL PROCESS

How do most successful e-Government implementations begin? Launching a portal is a process—you take one step at a time. One approach that gets excellent results is “think big, start small, and scale fast.” Generally, successful portal initiatives are managed top-down. Groups charged with realizing e-gov plans need the authority to make decisions. Since both the paybacks and risks of IT failure are now higher than ever, leadership from the top is crucial to improve coordination between departments, change working cultures, and drive e-government forward.

The first step is defining a clear portal vision that has the support of key stakeholders. To that end, forming a cross-departmental coordinating committee to oversee the initiative generally helps. Recruit visionaries as well as technical people, senior managers and those in the trenches. The committee can serve as a springboard to reinvent processes by promoting the broad communications and consensus building that is critical to a smooth portal launch. The portal process is one of continual expansion and refinement to meet changing needs. The outcome is a knowledge management and secure self-service solution with benefits that dwarf system costs.

8.3. PORTAL COMPONENTS AND TOOLS

Every e-government system consists of hardware (PCs, servers, mainframes), software (the programs that tell the computers what to do) and the network (hardware and software that enables computers to share information). In addition, there's the Internet, that vast public network of personal computers and servers that uses an accepted set of protocols, software and standards to enable global information sharing, communications and commerce. There is a broad range of technologies that any IT department must deal with for e-government. These include everything from Web servers, operating systems and database management systems, to middleware, data-ware houses and Web browsers. However, there are certain Internet tools local officials need to pay close attention to if they plan on building and operating a highly efficient e-government Website and portal. These tools include:

- **Content management software:** As government Websites grow in size and volume, a daunting problem has been managing the content - all the documents, forms and so on - that fill the site. Typically, departments are given the task of providing the content. Often lacking are tools that allow them to create, modify and remove content without having to become some kind of software expert. Content management software can perform the necessary tasks, as well as others, such as indexing, according to the needs of the individual or department, without having an expert on hand every time a change is made or some new content is added.
- **Search Tools:** Given the wide range of information that can be found on a local government site, search tools play an important role in helping users find what they are looking for. There are numerous search engines available, but cities and counties also need tools that will index the large amount of content on their Websites as well as create a structured directory of content for sites with a broad range of topics.

- **Web performance tools:** Already mentioned in the section on performance management, these tools help by gauging usage through the number of hits a site has, user sessions and so on.
- **Customer relationship management software:** The term CRM refers to methodologies, software and Internet capabilities used in such a way that an organization can manage customer relations in an organized way. For example, a local government could build a database about constituents and the services they use so that departments could keep track of problems and alert individual taxpayers about a new service that might interest them, as well as tell them when a complaint has been handled, such as fixing a pothole or expanding hours down at town hall. Many local technology officials believe CRM will play a critical role in e-government as its use expands to handle more complex and important operations.
- **Business intelligence tools:** These tools are used for gathering, storing, analyzing and providing access to data that can help local leaders make more informed decisions pertaining to government operations. The tools are not essential to e-government in its early stages, but are becoming part of enterprise applications in the public sector for forecasting the impact of policy and management decisions on the business of government.
- **Security tools:** An entire industry has grown up around Internet security. From network firewalls and intrusion detection software to public key infrastructure and biometric systems for authenticating users, local governments will find a broad range of tools, methodologies available and consultants to explain how everything works. Some technology solutions are simple, others are complex. Typically, the more robust the security system, the more likely it will impact the performance of applications.

Why our cities and counties need e-government and how it should take root:

- E-government encompasses the improvement of service delivery to the citizen, the creation of economic activity and the safeguarding of democracy. Each of these dimensions is important in its own right and must be addressed in any e-government investment
- E-government must be oriented towards the citizen. The citizen does not care what level of government or agency provides the needed service, therefore inter-agency and intergovernmental dimensions are essential.
- E-government demands an E-citizen. Before we can call an e-government program successful, it must be made available to all citizens, not just those who can afford to pay or can find the electronic infrastructure available today.
- E-government provides an opportunity to re-engineer the way government operates. Merely automating existing services is inadequate and does not match the potential of this promising technology.
- E-government is an opportunity to establish viable and sustainable partnerships between the private and public sectors under which each side provides capacity in areas of competitive advantage.

9. İSTANBUL PORTAL

9.1. ESTABLISHMENT

Enterprise portals can be built on Intranet, Extranet, or Internet Web sites. While all portals are Web sites, not all Web sites are portals. Some people think of an enterprise portal as just a Web site. But the Web site is only a electronic brochure. Back end integration is makes the portal work. A recent survey indicated İstanbul's citizens, employees. The portal is designed from that survey results. At first the government of İstanbul intranet has been establish on November 2002. The İstanbul portal has been established as (<http://www.istanbul.gov.tr/>) on 14 May 2003 by the Government of İstanbul, IT department.

Figure 9.1: The Government of İstanbul's old web site



9.2. CONTENT AND MANAGEMENT

9.2.1. INTRANET

Every user of Provincial Government of İstanbul has access to intranet with a user name and password given by IT Department. Intranet web contain some useful form, responsibility list and photos of vice-provincial governors, prime ministry and ministries photos and related institutions list, internal and external phone directories, calendar and the body of current law (updated every month). Web site composed by different modules created with asp.net technologies. Content of web pages stored in a database, and can be updated very simply. Every pages and modules can be managed by different content editors and suppliers.

Figure 9.2: The Government of İstanbul's intranet index page



9.2.2. INTERNET

Istanbul Portal Site open to public. Istanbul Portal Management Site had a limited access for security reason. Only authorized users have limited access related to their roles defined by Portal Manager. Web site composed by different modules created with asp.net technologies. Content of web pages stored in a database, and can be updated very simply. Every pages and modules can be managed by different content editors and suppliers. Applications by email, awarding announcements, events announcements, news, weekly bulletin, daily bulletin, news archive, governor agenda, telephone directory, citizen hand guide, survey, member's management, login checks and other management tools are some different modules.

Figure 9.3: İstanbul city portal - index page



Some modules had different level of authorization like new modules. Creator or submitter of a news and authorizer for publication are different users. Simple users of Public sites can be register for some service given by mail like calendar, event announcement, news, awarding announcements etc. Members can login to change their member information or membership services. Istanbul Portal Site composed by different modules. Telephone directory had a simple user interface which should be able to query with different criteria like sector, district, province, institution or agencies name etc.

Citizen Hand Guide is a simple actual guide which contains application and process, form, application agencies names, needed document etc with the aim to help citizens and business world. Citizen Hand Guide should be able to query and printable like Telephone directory. Site map contain visual portal map. Map aims simplify to understand navigation in portal. A-Z İstanbul and A-Z Turkey are maps too like Site Map both their content are different. First one give a visual map of all government agencies in Istanbul with their web link and the second a visual map or tree view of Republic of Turkey with all agencies, institution and their web links.

Most revolutionary part of portal is 3 tabs; e-citizen, e-business, e-government. Istanbul Portal is the first Turkish web page (public and private page included) which contain this kind of classification. For a now sub part of this class contain links to useful online process in e-government page of different agencies and institutions. Some of them contain only information, other some query or online applications. Main menu classification is a revolutionary too, classified by topics and related link contain other related sub-topics. This kind of classification is simplified to navigation in enormous pool information, with a simple sense of logic citizen can arrive to their aim.

Istanbul Portal can be classified with this kind of properties “a interactive web presence”. Infrastructure of Istanbul Portal give the possibility to arrive to higher level; Transactional web presence or fully integrated web presence but actual environment doesn't give the permission to this advance move.

The status of a provincial government a limit behind of this development because any payment transaction or direct application accept petition pass over. Municipalities have different status, Istanbul Metropolitan Municipality or related institution have the chance to develop more. A citizen using to actual portal fill a simple form to denounce a crime, complaint some thing or somebody and start a process. This form accepted a real signed petition and enters to process, a copy of this form added at the back of another form signed by vice-governor and assign to related institution. The answer of institution replied by e-mail to citizen. Portal contains different information about the province and city, provincial governor house etc.

9.3. PORTAL SERVICES

Istanbul city portal which will provide a single port of entry or gateway to all relevant services, and information, irrespective of those responsible for delivery. It is proposed that access will be achieved through whatever approach a citizen or employee prefers, be it through the internet, mobile phone, public days, call centre or local office. Services and information will be personalized to match their own requirements and circumstances. Principles that will underpin this new approach include a focus on ensuring wherever possible customers can conduct their business responsively in a single contact at any time through any channel. Bureaucracy will be minimized and a focus will be placed on continuous improvement.

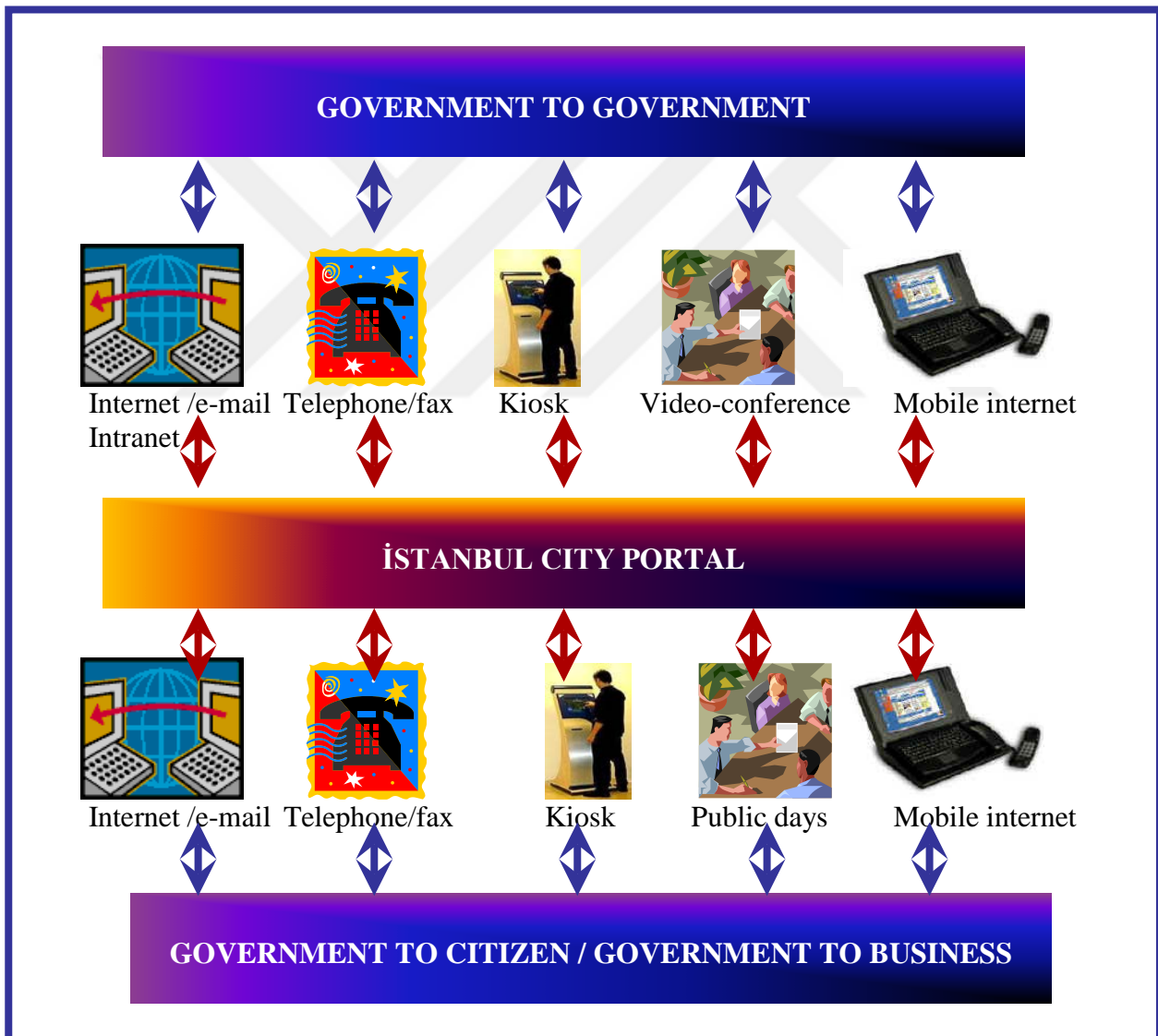
The government of Istanbul IT department has been working to develop new projects for the citizens, employees, businesses. These projects are intended to support both the implementation of the “city portal” strategy. These projects will be are given below.

- **Kiosk project** will be finished at the end of 2003.
- **Mobile internet project** will be finished at the end of 2003.
- **E-learning** project will be start by CD’s at first. Because, not all the government agencies infrastructure appropriate to e-learning system.

- **Video conferencing** project has been tested between İstanbul Governor and Samsun Governor on March, 2003. But not all the governments infrastructure appropriate to this video conferencing project.

This portal approach to service delivery is outlined in the diagram below:

Figure 9.4: İstanbul city portal approach



9.4. CITY OF İSTANBUL PORTAL RESULTS

Table 9.1: The visitors visited the İstanbul Portal per day of week

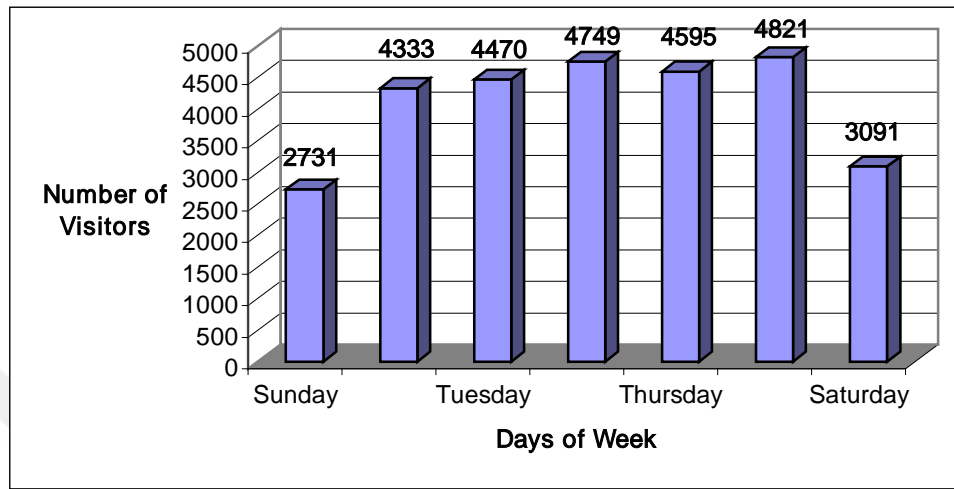


Table 9.2: İstanbul Portal visitors per week.

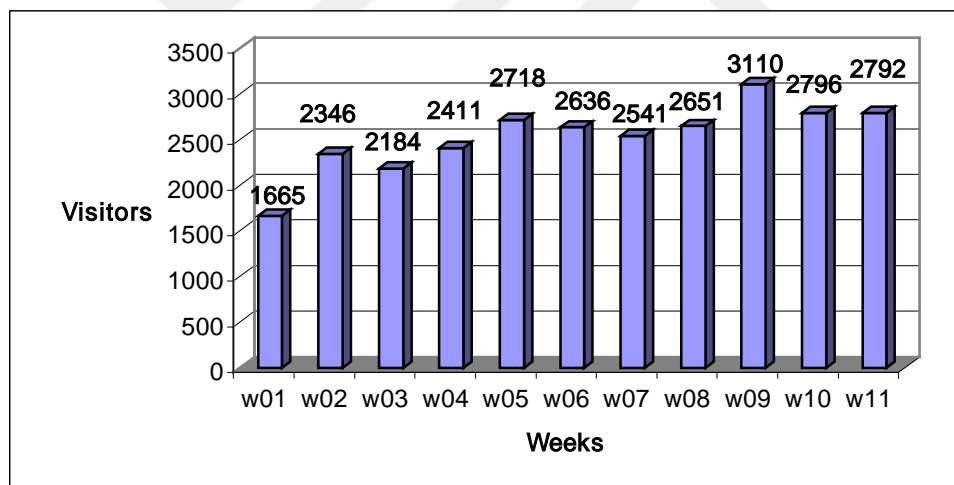


Table 9.3: Top 10 Domain that İstanbul Portal Visitors come from

| Domain name | Hits | Users |
|--|------|-------|
| www.google.com.tr | 5971 | 4348 |
| www.icisleri.gov.tr | 1729 | 1329 |
| www.meteor.gov.tr | 1124 | 774 |
| search.yahoo.com | 945 | 707 |
| istanbul.meb.gov.tr | 293 | 235 |
| www.arabul.com | 281 | 207 |
| www.gazeteler.com | 261 | 132 |
| www.istanbul-meb.gov.tr | 255 | 212 |
| rehber.tnn.net | 205 | 161 |
| www.ibb.gov.tr | 142 | 97 |

10. CONCLUSION

The movement to e-government, at its heart, is changing the way people and businesses interact with government. E-Government offers a huge potential in seeking innovative way to reach the ideal of government of people, by people and for people.

Since there is a growing need to access to the information in today's world, It is obvious that achieving government services with classical (bureaucratic) methods is more difficult than the past. Globalization, intensity of the information and the networks are the main factors which enforce every institution to change their way of working to more productive, more accurate and faster methods. I believe that this requirement can be only met by using information technologies and tomorrow's world will be shaped on the internet and almost every institution has begun to make investment on this area.

By contributing to a transformation of the organization of the public sector, e-Government can improve public services, making them faster, as well as more accessible and responsive. Public Administration in 21st century will be a electronic, digital and virtual world for the scholars and practitioners in this field. It is hoped that this thesis will stimulate debate and develop further opportunities for innovation and collaboration both with organizations in the city and across Turkey.

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CURRICULUM VITAE

Ahmet Tolga KURU

Personal Details

Date of Birth : 09.12.1973
Place of Birth : Bursa-Turkey
Marital Status : Married
Language : Turkish (native), France, English

Contact Information

E-Mail : trtolga@hotmail.com
Mobile Phone : 0535 971 57 38
Current Residential Address : Dikilitaş, Emirhan Caddesi No:7/15
Beşiktaş İstanbul Turkey

Education

| | | |
|---------------|---------------|--|
| High School | 1993 | Galatasaray High School |
| Bachelor | 1993-1997 | Galatasaray University Economics |
| Master Degree | 2000-continue | Yeditepe University Master of Business Administration E-Business |

Work History

| | | |
|-----------------|---|------------------------------------|
| 2002-continue | THE GOVERNMENT OF İSTANBUL – IT DEPARTMENT | Network Manager |
| 09.2000-2002 | PROVINCE DIRECTORATE OF ENVIROMENT | Network Manager |
| 04.1998-09.2000 | DURU TOURISM AGENCY | Outgoing Guide (Russia, France) |
| 07.1997-10.1997 | NOUVELLES FRONTIERES TOURISM AGENCY | Antalya Represent |
| 10.1994-09.2000 | DESTINATION MANAGEMENT COMPANY TOURISM AGENCY | Logistic |
| 09.1989-09.1991 | LAW OFFICE | Secretary |