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Civic Engagement in the Digital Age: The Case of Hungary

Doctoral (PhD) dissertation

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Budapest, 1st February 2021

DECLARATION

I hereby certify that the Ph.D. thesis entitled “Civic Engagement in the Digital Age: The Case of Hungary” is the result of my own investigation, except where otherwise stated. Where other sources of information have been used, they have been duly acknowledged. It has not already been accepted for any degree and is also not being concurrently submitted for any other degree.

Signature Date

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ABSTRACT

In the contemporary information society we all live in, innovations in communication and information technology have impacted peoples' attitudes, as well as their desired information demands, by having significantly transformed the way in which people work in various fields and communicate. Such information technology development changes cultural and social, as well as administrative and commercial structures, especially the internet, which provides various possibilities of information access, interaction possibilities, along with knowledge sharing and creation, all the while strengthening this digital transformation. Digitalisation and globalisation connect people and institutions worldwide and minimise the importance of regional borders. As a result, consequences greatly influence the public and private sectors accordingly.

When it comes to the public sector, the rapid development from being able to access simple information to providing complex processes, powerful instruments and networks plays a significant role in enhancing the public service provision and processes landscape. Consequently, public administration pursues e-Government solutions which are particularly relevant for themselves and their citizens and businesses. Citizens, for example, require evermore transparent and flexible administration and an ever-increasing range of online services. From a business perspective, the sustainable implementation of e-Government availability is critically relevant for an economy because the unrestricted online availability of public services is regarded as an important aspect in international competitiveness. In this respect, the concept of e-Government represents a crucial starting point in satisfying these requests.

Nevertheless, e-Government tries to enhance the accessibility as well as convenience of their public services and information to citizenry in Hungary. In spite of the positive benefits of e-Government, namely, greater public access to a more financially efficient, productive government, an enhanced government accountability to the people and the acceptance and success of e-Government initiatives like online voting (which becomes an issue during the elections and arouses serious discussion over several positive aspects, namely, an increased participation rate, accurate election results and automated vote counting), are contingent on people's willingness to utilise such innovation. With a view to further expanding the e-Government services that are citizen-centred and which provide quality services, as well as

relevant, accessible information, the Hungarian government would do well to take note of the essential components which could impact the adoption of such innovation by the populace.

In this research, constructs from the adoption research, such as TAM, DOI, demographic characteristics and trust were integrated into an insightful model of e-Government adoption. The research was conducted by taking a poll of a variety of Hungarian citizens ranging from 18–74 years old. What can be concluded is that perceived usefulness, perceived ease of use, compatibility, trustworthiness, demographic characteristics (including age, gender and education) play a particular role in identifying people's intention to utilise the Client Gate portal in Hungary. Implications of this research for future studies and practitioners are presented. It concludes with an insight that without trust and confidence in the e-Government services, the vision of fully integrated service delivery will remain a challenging task for the Hungarian government.

Keywords: e-Government, Client Gate, e-Participation, trustworthiness, social media.

ABSZTRAKT

A kortárs információs társadalomban, amelyben mindannyian élünk, a kommunikáció és informatika innovatív megoldásai nagyban befolyásolják az emberek attitűdjét és információigényét, mivel jelentősen átalakították az emberek különböző területeken végzett munkáját és kommunikációját. Ehhez hasonló információs fejlesztési technikák változásokat idéznek elő mind kulturális és szociális, mind adminisztratív és kereskedelmi struktúrákban. Legfőképpen az internet, mely az információhoz való hozzáférés, az interakciós lehetőségek, valamint a tudásmegosztás- és teremtés különböző lehetőségeit kínálja, miközben erősíti ezt a digitális átalakulást. A digitalizáció és a globalizáció világszerte összeköti az embereket és az intézményeket, és minimalizálja a regionális határok befolyását. Következésképpen mindez nagymértékben befolyásolja az állami és a magánszektort is.

Ami az állami szektort illeti, a legmindennapibb információhoz való hozzáféréstől a komplex folyamatok koordinálásáig tartó gyors fejlődés jelentős szerepet játszik a közszolgáltatások és az ezekkel kapcsolatos folyamatok helyzetének javításában. Következésképpen a közigazgatás olyan e-kormányzati megoldásokat folytat, amelyek különösen fontos szerepet töltenek be önmaguk, állampolgáraik és vállalkozásaik számára. Az állampolgárok például minél átláthatóbb és rugalmasabb ügyintézést, illetve az online szolgáltatások széleskörű hozzáférését igénylik. Üzleti szempontból az e-kormányzati elérhetőség fenntartható megvalósítása kritikus jelentőségű bármelyik gazdaság számára, hiszen a közszolgáltatások online hozzáférhetősége a nemzetközi versenyképesség fontos tényezője. E tekintetben az e-kormányzás fogalma döntő kiindulópontot jelent ezen igények kielégítésében.

Mindazonáltal az e-kormányzat igyekszik javítani a közszolgáltatások és az azzal kapcsolatos információk hozzáférhetőségét a magyar állampolgárok számára. Az e-kormányzás főbb előnyei tehát megnevezve; egy pénzügyi szempontból hatékonyabb, produktívabb kormányhoz való szélesebb nyilvános hozzáférés, a kormányzat fokozott elszámoltathatósága az állampolgárok irányában, valamint olyan elektronikus kormányzatot érintő kezdeményezések sikeres gyakorlatba ültetése, mint például az online szavazás. Utóbbi különösen aktuális, és ugyan komoly vitákat is generált, mégis elvitathatatlan pozitív hozadékai közé tartozik a megnövekedett részvételi arány, a pontos választási eredmények nyomonkövetése és az automatikus szavazatszámlálás. Az állampolgár-központú és minőségi szolgáltatásokat nyújtó e-kormányzati szolgáltatások, valamint a releváns, hozzáférhető

információk további bővítése érdekében a magyar kormány számára hasznos lehet megjegyezni azokat az alapvető elemeket, amelyek befolyásolhatják az ehhez hasonló innovatív szolgáltatások elfogadását a lakosság részéről.

A kutatásban az adaptációs kutatásokból való olyan koncepciókat, mint a DOI vagy a TAM, illetve demográfiai jellemzőket integráltuk az e-Kormány adopció éleslátó modelljébe. A kutatás egy 18–74 éves magyar állampolgárokat bevonó közvélemény-kutatás felhasználásával készült. Az a következtetés vonható le, hogy az egyszerű használat, a szolgáltatás nélkülözhetetlensége, az összeegyeztethetőség, a megbízhatóság, a demográfiai jellemzők (ideértve az életkort, a nemet és az iskolázottságot is) fontos szerepet játszanak abban, hogy felmérjék az emberek hajlandóságát az ügyfélkapu magyarországi használatát illetően. Bemutatjuk ennek a kutatásnak a jövőbeni tanulmányok és a gyakorlati szakemberek számára gyakorolt hatásait. A kutatás azzal a meglátással zárul, hogy a bizalom, megbízhatóság és átláthatóság kiépítése nélkül az e-kormányzati platformok széleskörű használata Magyarország számára nehéz feladat marad.

Kulcsszavak: e-kormányzat, ügyfélkapu, e-részvétel, megbízhatóság, közösségi média.

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GLOSSARY OF TERMS & ABBREVIATIONS

ASP	Application Service Providers
AROP	State Reform Operational Program
CBA	Cost Benefit Analysis
CDPO	Corporation for Development, Procurement and Operations
CEA	Cost Effectiveness Analysis
CRM	Customer Relationship Management
DOI	Diffusion of Innovations
DPADM	Public Administration and Development Management Division
eDocuments	Electronic Documents
eGU	e-Government Unit
EGDI	E-government Development Index
eID	Electronic Identification
EKG	Electronic Government Backbone
EKOP	Electronic Administration Operational Program
ERP	Enterprise Resource Planning
IDA	Interchange of Data across Administrations
ICT	Information and Communication Technology
IEG	Implementing Electronic Government
IIS	Institute of the Information Society
ITU	International Telecommunication Union
IT	Information Technology
ITPOSMO	Information, Technology, Processes, Objectives and values, Staffing and skills, Management systems and structures and other resources

KEK KH	Central Office for Administrative and Electronic Public Services
KÖFOP	Public Administration Development Operational Program
NGO	Non-Governmental Organization
NHSD	National Health Services Direct
NHIT	The National Council for Telecommunications and Informatics
NISZ Zrt.	National Infocommunications Service Provider Ltd.
NPM	New Public Management
NTG	National Telecommunications Backbone Network
OECD	Organization for Economic Co-operation and Development
PCI	Perceived Characteristics of Innovation
PEOU	Perceived Ease of Use
PSC	Physical Points of Single Contact
PU	Perceived Usefulness
SSC	Shared Service Center
TAM	Technology Adoption Model
TRA	Theory of Reasoned Action
UNDESA	UN Department of Economics and Social Affairs
UTAUT	Unified Theory of Acceptance and Use of Technology

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CHAPTER ONE

INTRODUCTION

1.1 Topicality of the Issue

1.2 Rationale of the Study

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1.7 Contribution and Significance of the Research

CHAPTER ONE

INTRODUCTION

1.1 TOPICALITY OF THE ISSUE

Electronic Government, or simply e-Government, has been on the global agenda for a number of years. It is known that since the late 1990s, central governments all over the world have established e-Government initiatives in order to provide online public services and information to the general public and businesses. However, today, a landmark has shifted towards research and practice with such a new agenda attracting more attention from governments, research and technology providers[1]. It is true that despite e-Government having been around for a few years now, the field of research is yet to pick up steam, with further country-specific examination required in order to understand its development and progress.

It is noteworthy that the area of e-Government produces a considerable amount of scholarly literature every year[2] and even though it is believed that the field of e-Government is indeed wide enough, only a few scholars are specifically involved in a variety of research initiatives on different topics within the subject area. Moreover, the matter of sifting through such content is rendered challenging since, as of now, there remains an alarming lack of approved e-Government creators and researchers, not to mention the area of analysis having not yet been more richly developed. Therefore, it is unavoidable to conclude that the concept of e-Government is still in its infancy and is more than likely going to remain so for years to come[3].

That said, e-Government is, in fact, still a capable tool for developments which governments at all levels have to consider in the future[4]. The term 'e-Government' reflects the use of information and communication technology (ICT) in the field of public administration to ensure some positive developments or rather changes in any existing processes and structures

[1] CURTIN, G. G., SOMMER, M.H., and VIS-SOMMER, V. (Eds.). -Bp.: *The World of e-Government*. New York: Haworth Press, 2004.
[2] GRÖNLUND, A.: *State of the Art in e-Gov Research – a Survey*. -In. TRANMÜLLER, R. (Eds.) *Electronic Government: Third International Conference*, EGOV 2004, August 30- September 3, 2004.
[3] Ibid.
[4] LENK, K. and TRAUNMÜLLER, R.: *A Framework for Electronic Government*. -In. Proceedings of DEXA 2000, p. 340-345.

of government institutions. The concept is pretty simple in that it tries to provide simplified access to public services and information for all parties, including citizenry, governmental organisations and businesses. Such a trend also maximises the possibility of advancing and improving communications between them all individually. Further, the objective is to enhance the quality of and access to public services and to deliver greater possibilities in regard to active participation in socio-democratic processes and institutions[5].

It is argued that the full capacity of e-Government should only be implemented when it is deeply in line with the current political and social situation of a government. There are several conditions that impact the potential of e-Government, such as:

- Minimum threshold level of technological infrastructure;
- Human capital;
- e-Connectivity for all[6].

It is stated that effective, or rather, more mature e-Government should be capable of building new methods and entrance points for participation in agenda setting, taking on the role of perpetual middle-man, digitally connecting together all the levels of government, people and businesses in one country[7]. In addition, it should be noted that the field of e-Government is still a grass-roots concept since it continues to develop, so a full assessment of its success remains to be seen[8]. What is more, it is accentuated that a significant aim of e-Government is to provide cheaper and faster public services and information to citizenry, employees, businesses and government agencies[9]. It states that equitable and easy access to public services and information has always been an aim of democratic and open governments, even in developing countries.

Yet, e-Government goes far beyond simply delivering online state services. e-Government determines the public sector: the organisations, individuals and processes which function

[5] LAMBRINOUDAKIS, C., GRITZALIS, S., DRIDI, F., and PERNUL, G.: *Security Requirements for e-Government Services: A Methodological Approach for Developing a Common PKI-based Security Policy*. – In. Computer Communications, 2003. 26, no. 16, p. 1873-1883.
[6] UN: *United Nations World Public Sector Report 2003: e-Government at the Crossroads*. 2003.
[7] JAEGER, P.T.: *The Endless Wire: e-Government as Global Phenomenon*. – In. Government Information Quarterly, 2003, 20, no. 4, p. 323-331.
[8] RELYEA, H.C.: *E-gov: Introduction and Overview*. – In. Government Information Quarterly, 2002. 19, no. 1, p. 9-35.
[9] LAYNE, K. and LEE, J.: *Developing Fully Functional e-Government: A Four Stage Model*. – In. Government Information Quarterly, 2001. 18, no. 2, p. 122-136.

within this area. Therefore, it is clear that this is not only about technology and services but about reinventing the method in which public authorities communicate with people, businesses, state entities and other stakeholders. In addition, it is about improving democratic principles and processes as well as utilising new ideas to make people's lives easier through changing processes, allowing economic growth and re-establishing how government interacts with society.

e-Government is normally demonstrated as utilising IT to:

- offer easy access to public services and information to people and business;
- offer people the possibility to engage with various democratic processes;
- enhance the quality and rapidity of public services by process efficiency and completeness.

The realisation of e-Government comprises not only a whole new take on how government communicates with stakeholders but also a complete rewrite of its internal institution and processes. It is true that e-Government is concerned with both the external and internal use of IT for external services and for internal administration[10]. e-Government is in fact a knowledge area in its exploratory phases and as a result, remains a complicated field to precisely determine. Moreover, it embraces a wider notion which is quite beyond words when attempting to pin-point exactly what it is all about. However, the term is generically used to explain the legacy of any kind of use of ICT within public administration and implies the use of the internet to provide public services and information within the public sector[11].

In spite of the deficiency of and complexity in deciding upon a fixed definition, there have been attempts to establish a certain definition and e-Government has been differently determined in research and scholarly literature[12,13,14]. Yet, some argue that e-Government is only considered an electronic service delivery to citizenry, despite the fact that people working

[10] GRÖNLUND, A.: *Electronic Government: Design, Applications & Management*. -Bp.: Hershey and London: Idea Group Publishing, 2002.
[11] BHATNAGAR, S.: *e-Government: From Vision to Implementation: A Practical Guide with Case Studies*. -Bp.: Sage: New Delhi, Thousand Oaks, London, 2004.
[12] CURTIN, G. G., SOMMER, M.H., and VIS-SOMMER, V. (Eds.): *The World of e-Government*. -Bp.: New York: Haworth Press, 2004.
[13] SCHOLL, H.J.J.: *e-Government: A Special Case of Business Process Change*. -In. Proceedings of the 36th Hawaii International Conference on System Science – 2003. IEEE, 2003.
[14] ZWEERS, K. and PLANQUÉ, K.: *Electronic Government: From an Organisational Based Perspective Towards a Client Oriented Approach*, in PRINS J.E.J. (Eds.), *Designing e-Government*, p. 92. Kluwer Law International: The Hauge, 2001.

in this particular field claim that e-Government is beyond just providing some public services and information on the internet. It is stated that e-Government is involved in almost every aspect of government, deep within the key departments of each governmental institution and is sure to have a significant impact on government over time[15].

Nevertheless, there is a challenging alliance between government and information technology, thus it has become a predominant focal point of academic studies across many areas, namely, organisational behaviour, technology innovation, information science and public administration[16]. This means that some scholars who have worked in the field of e-Government may have their scientific starting point in other domains, such as social science, computer science, political science, library science, law, public and business administration, etc. However, research and further developments in this field have until now been concerned with how to deliver the service, i.e., the main focus has been on government and its basic needs for progress. It argues that studies and trials have predominantly concentrated on the national level of government.

However, the main focus has substantially changed towards the demand-side. More governments, including in developing countries, have turned to individual citizens while providing public services over the internet. Also, studies in this direction are now becoming more frequent. In other words, interest has moved from the national level of government to more individual-related issues, such as the willingness to utilise the electronic public services and their usability.

Further, despite the greater interest and the increased number of studies in this domain, local-level data is limited. It is believed that the deficiency of e-Government progress at local level relies on contradicting targets and priorities[17]. Moreover, public authorities at various levels of government have various prerequisites and in order to conduct e-Government studies, focus must change to specific issues concerning local government.

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[15] CURTIN, G. G., SOMMER, M.H., and VIS-SOMMER, V. (Eds.). -Bp.: *The World of e-Government*. New York: Haworth Press, 2004.
[16] SCHOLL, H.J.J.: *Introduction to the Electronic Government Cluster of Minitracks*. -In. Proceedings of the 37th Hawaii International Conference on System Science – 2004. IEEE, 2004.
[17] GRÖNLUND, A.: *State of the Art in e-Gov Research – A Survey*. -In. TRANMULLER, R. (Eds.), Electronic Government: Third International Conference, EGOV 2004, August 30 – September 3, 2004.

1.2 RATIONALE OF THE STUDY

It is a fact that people expect and require public services with a very good level of quantity, quality and 24/7 availability. To meet such criteria, public officials across the globe are now attempting to advance electronic services and information systems through investing and developing needed architecture[18]. Hungary is no exception. There have been propositions relating to the potential for more user-centred and efficient approaches in order to provide online public services. Therefore, user awareness of such services, ease of use and people's willingness to utilise them are significant components for the further development of e-Government[19].

Above all, in some research which covers the issues of online service delivery, the main concern is that not all governments provide the desired and necessary online services to their citizenry[20]. Yet, some governments worldwide have made positive, rather important pledges to finances, staffing and technology in order to improve and develop the provision of online services to their residents. It is stated that progress in providing online services relies on the self-confidence and capability of people in performing such online transactions, along with their trust in the government and the internet itself. It is argued that little is known about the factors that impact people's intentions to utilise the online platforms that deliver public services and information. It is believed that this is critical since, arguably, the acceptance and success of e-Government projects rely fully on people's intention to utilise and adopt online public services and information.

Furthermore, higher levels of perceived ease of use are not widely considered alongside intentions of an increased use of online services. To examine such a gap by analysing the effects of ease of use, image, relative advantage and compatibility with respect to people's intention to utilise online services has been tested[21]. It is found, however, that ease of use, trustworthiness and compatibility are important predictors of people's intention to utilise online services and perceived image, perceived reactive advantage, perceived compatibility,

[18] BRUECHER, H., KLISCHEWSKI, R., and SCHOLL, H.J.J.: *Mini Track: 'e-Government Services'* (Cluster: e-Government). -In. Proceedings of the 37th Hawaii International Conference on System Science. IEEE, 2004
[19] CEC: *Commission of the European Communities* (Eds.). Top of the Web – Survey on Quality and Usage of Public e-Services, 2003.
[20] SLEEMAN, B.: *Recent Literature on Government Information*. – In. Journal of Government Information, 2004. 30, no. 1, p. 20-41.
[21] CARTER, L. and BELANGER, F.: *The Influence of Perceived Characteristics of Innovating on e-Government Adoption*. - In. Electronic Journal of e-Government, 2004. 2, no. 1, p. 11-20.

perceived usefulness and relative advantage are important components of e-Government adoption[22]. A compact framework on the adoption of online services has also been adopted and tested[23]. It is empirically justified that the acceptance and success of e-Government programs indeed rely on people's willingness to use the given online services. However, it is clear that more country-specific research must be conducted by extending such theoretical frameworks, adding a need for explanation and identification of the benefits of utilising online services; therefore, this research attempts to positively contribute to the development of the adoption of online services in Hungary through examining the Client Gate platform in order to figure out the driving force - intention - behind such usage.

Furthermore, in regard to the deficiency of e-Government usage, the predominant issue relates to access, causing focus to essentially be centred on this significant problem of the digital divide. This concerns the following features, namely, racial gap, economic gap, geographic gap and disability gap. All of these have been found as reasons for the general public not utilising e-Government services and information. It is argued that behavioural and social aspects that may also impact individuals not to get access and utilise online services have not been widely explored. Yet, it is noted that e-Government must be carefully analysed at both practical and theoretical level[24]. The reasons of social behaviour, which might provide means for better understanding of the usage of e-Government services and information, have also been examined and it is argued that the conception of information poverty and regular behaviour should be addressed in studies that have been done and which may serve as a grounding model for future research[25].

What is more, the measuring of e-Government is a crucial element in public administration but little research has been undertaken in this direction. There is a theory framework developed for the assessment of online services that can serve as an instrument for greater understanding as to why online public platforms succeed or fail to assist people seeking information[26]. It is stated, however, that there is a failure to transition from web-based information to online

[22] Ibid.
[23] CARTER, L. and BELANGER, F.: *The Utilisation of e-Government Services: Citizen Trust, Innovation and Acceptance Factors.* – In. Information Systems Journal, 2005. 15, no. 1, p. 2-25.
[24] JAEGER, P.T. and THOMPSON, K.M.: *Social Information behaviour and the Democratic Process: Information Poverty, Normative behaviour and Electronic Government in the Unites States*. - In. Library and Information Science Research, 2004. 26, no. 1, p. 94-107.
[25] Ibid.
[26] WANG, L., BRETSCHNEIDER, S., and GANT, J.: *Evaluating Web-based e-Government Services with a Citizen-centric Approach*. -In. Proceedings of the 38th Hawaii International Conference on System Science – 2005. IEEE, 2005

service provision[27]. Therefore, more research is needed with a focus on the further development of online services. Besides, studies whose aim is to provide guidance on development, evaluation and management of e-Government is still in its infancy. As a result, well-understood practices and tested conceptions are indeed in short supply.

Moreover, it is pointed out that little progress has been made regarding the shift to online service delivery in almost all fields of local government[28]. There is a study that examines the potential of Application Service Providers (ASP) to change online services locally. Such ASP frameworks helps local officials to overcome obstacles in providing the next wave of online services, namely, restricted funds and a deficiency of IT staff members[29]. The other research suggests a Shared Service Centre (SSC) to administer barriers, namely, a lack of expertise, high costs and to share developments in functionality[30]. The idea of SSC is explored and an overview that operational efficiency is feasible to achieve with minimum losses is offered[31].

It is apparent that e-Government has not been broadly or rather, satisfactorily examined at the theoretical and practical level with few concepts having been developed. All that can be said for sure is that e-Government is rewriting the rules on how various governments communicate with people, businesses, governmental institutions and other actors. It is in a position to improve democratic principles and processes by employing new ideas to make our lives simpler. However, the definition of e-Government is a moderately new idea. Although the field of e-Government remains small, there are plenty of scholars involved in various research projects, trying to find out ways of improving the delivery of online services and information to citizenry across the world.

Given increased attention to the development of ICTs in the public sector, the necessity in fully comprehending the supply stages that exist and how users interact with them is critical. Thus, this topic will be analysed, focusing on Hungary as a prominent example, operating the Client Gate platform in order to deliver public services to its residents nationwide.

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[27] SHACKLETON, P., FISHER, J., and DAWSON, L.: *Evolution of Local Government e-Services: The Applicability of e-Business Maturity Models*. -In. Proceedings of the 37th Hawaii International Conference on System Science – 2004. IEEE, 2004.
[28] Ibid.
[29] CHEN, Y. and GANT, J.: *Transforming Local e-Government Services: The Use of Application Service Providers.* – In. Government Information Quarterly, 2001. 18, no. 4, p. 343-355.
[30] JANSSEN, M. and WAGENAAR, R.: *An Analysis of a Shared Service Centre in e-Government*. -In. Proceedings of the 37th Hawaii International Conference on System Science-2004. IEEE, 2004.
[31] Ibid.

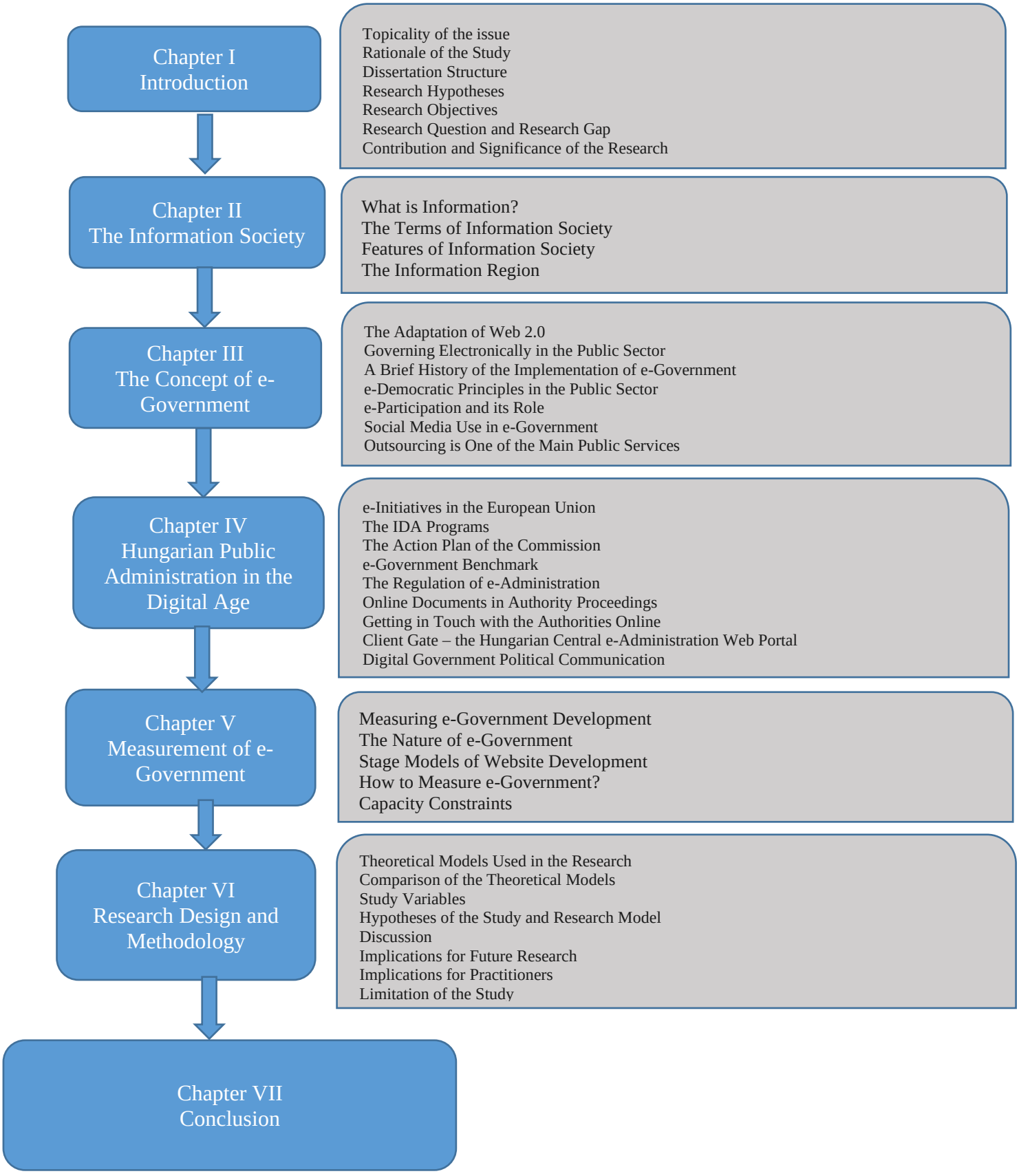
1.3 DISSERTATION STRUCTURE

This dissertation is divided into seven chapters (please see Figure 1-1). The second chapter explores the phenomenon of the information society in which an attempt is made to explain the importance of information in our world and how we all inevitably turn into one big information society. The chapter elaborates a formal definition for information as accepted by various scholars worldwide. It also tries to present a developing concept of an information society. Chapter three explains the term e-Government. Moreover, the history of e-Government is outlined, as well as giving an idea of e-democracy. In addition, in this chapter, social media use in e-Government is discussed through analysing Twitter and how it is being used worldwide by policy makers. Furthermore, outsourcing is also taken into account as a driving force in public services. Such analysis gives us an insight into delegating ICT infrastructure to the private sector that knows better and has the financial resources and human capital to run such digital initiatives efficiently and cost-effectively.

Chapter four is dedicated to the country profile that embraces the ways of how the Hungarian government has modernised its public administration system through increasing its use of modern information and communication technologies (ICTs) and implementing various e-projects. The central administration platform known today as the Client Gate platform (Ügyfélkapu) is presented. Chapter five tries to describe the existing practices of e-Government evaluation. Some limitations of practised techniques are also outlined in this part of the study.

Chapter six is dedicated to presenting the research design, study variables, sample size, data collection and data analysis procedure, limitations and implications. It outlines the statistical procedures and methods of collecting data, analysing the data through SPSS and generating a discussion of such analysis. Moreover, it also gives practical implications for the public administration realm and recommendations for future research. It concludes with the limitation that the study faced. Chapter seven provides conclusive remarks concerning the relationship between trust and the use of electronic services.

Figure 1-1: Outline of the Thesis



Source: Author's own compilation

1.4 RESEARCH HYPOTHESES

Although the research is exploratory in nature, the set of hypotheses is formulated in order to investigate the subject area thoroughly. This number of hypothesis statements describes the prediction, as well as possible outcomes, with respect to the hypothesised relationship. Thus, such a number is considered reasonable for this particular study.

The thesis is driven to apply the research questions by addressing the following hypotheses:

1st hypothesis (H1): Age has an impact on the use of e-Government.
2nd hypothesis (H2): Education plays a significant role in using e-Government services.
3rd hypothesis (H3): Male users are more likely to utilise modern technology and e-Government services than female users.
4th hypothesis (H4): Users with different professional backgrounds have used e-Government services differently.
5th hypothesis (H5): A higher degree of perceived usefulness will be positively connected to a higher degree of intention to utilise the Client Gate platform
6th hypothesis (H6): A higher degree of perceived ease of use will be positively connected to a higher degree of intention to utilise the Client Gate platform
7th hypothesis (H7): A higher degree of perceived image will be positively connected to a higher degree of intention to utilise the Client Gate platform
8th hypothesis (H8): A higher degree of perceived relative advantage will be positively connected to a higher degree of intention to use the Client Gate platform
9th hypothesis (H9): A higher degree of perceived compatibility will be positively connected to a higher degree of intention to utilise the Client Gate platform
10th hypothesis (H10): A higher degree of trust in the internet will be positively connected to a higher degree of intention to utilise the Client Gate platform
11th hypothesis (H11): A higher degree of trust in the Hungarian government will be positively connected to a higher degree of intention to utilise the Client Gate platform

1.5 RESEARCH OBJECTIVES

- To explore and understand citizen intention (acceptance) to use the Client Gate portal.
- To find the link between willingness to use electronic services and trust, TAM/DOI-based models and demographic characteristics.

Meeting these objectives involved a two-stage research approach. In the first stage, a literature review was undertaken, examining the subject related fields such as e-governance assessment frameworks, the Technology Adoption Model (TAM), the Information Society, e-Government, End User satisfaction, etc. Secondly, a pool of questions for online-structured questionnaires was formed as a result of the first stage. The questionnaires were then circulated through social media channels, emails and other means in order to reach the focus group of Hungarians who were specifically targeted for this research.

1.6 RESEARCH QUESTION AND RESEARCH GAP

This thesis mainly focuses on the central research question of ***are Hungarian citizens willing to utilise electronic services, particularly the Client Gate platform?*** In order to arrive at a suitably detailed and accurate realisation, it was necessary to get familiar with existing service options provided by Client Gate and to explore how these are experienced by Hungarian residents. It has been argued that previous e-Government research has paid more attention to examining e-Government services from the supplier side, with the people's perspective being overlooked. This has resulted in limited work being published in this domain.

Thus, a gap in the literature exists in that, while various studies into the adoption of e-initiatives have been conducted, such as Bonsón et al. (2012)[32], the utilisation of online services through Client Gate has not been explored just yet; particularly, there is a need to identify key factors impacting citizen adoption of e-Government in Hungary. The motivation for this study is to address this research gap by exploring the importance of demographic aspects, trust and elements of adoption research in relation to the Client Gate portal.

[32] BONSÓN, E., TORRES, L., ROYO, S. and FLORES, F.: *Local e-Government 2:0: Social Media and Corporate Transparency in Municipalities.* – In. Government Information Quarterly, 2012. 29, p. 123-132.

In order to fulfil the research gap, to ensure that the stated hypotheses are proved and to answer the central question, the study analyses the following sub-questions as well:

1. To what extent are Hungarian people interested in e-Government opportunities?
2. Do demographic characteristics influence the use of e-Government?
3. Does trustworthiness play a significant role in e-Government?

1.7 CONTRIBUTION AND SIGNIFICANCE OF THE RESEARCH

It is believed that exploring such relationships will not only strengthen the theoretical foundations of the proposed research model in evaluating the demand side perspective but also allow the Hungarian authorities to understand the expanded facets of citizen intention as predicated on demographic aspects, trust and elements of adoption research of e-Government services being facilitated by the Hungarian government. The provision of online services available on Client Gate is by no means a default stance and may even be considered disruptive to current norms, as well as to the kind of relationships currently enjoyed between organisations and those they serve.

CHAPTER TWO

LITERATURE REVIEW

CHAPTER TWO

THE INFORMATION SOCIETY

2.1 INTRODUCTION AND OVERVIEW

Electronic institutions are taking shape and extending into various aspects of our communities while institutions are no longer restricted by geographic borders. E-business and e-commerce, for example, provide an opportunity for different companies and businesses to operate on a global scale with minimal physical resources. In other words, such companies no longer have to utilise physical resources to extend their business. Moreover, e-learning provides a great chance for universities across the world to function virtually, converting the entire globe into a classroom. In the time of the COVID-19 pandemic, this is clearly demonstrated more than ever. e-Governments, however, can now serve people 24/7, saving people's time and resources. All of this is solid evidence of how digital societies are being shaped and operated by information technology, making it possible to obtain an answer to any question people may have, anytime, anywhere. This is an age of information where all members of communities across the globe are turning into one big information society.

In this chapter, the view of the information society is presented, accentuating some fundamental definitions and conceptions while attempting to outline the importance of information. It also gives a formal definition of information accepted by various scholars worldwide. The main concern of this chapter is to present an evolving concept of the information society in which we all live. All in all, the chapter describes some of the basic features of the information society, outlines a discussion of the associated problems and closes with some final remarks.

2.2 THE INFORMATION SOCIETY

Just after the Second World War, the Information Society started to take shape. Scientists, mathematicians and engineers were driven by information and communication technologies

and control systems which could assist them in realising their ambitions when it comes to robotics and artificial intelligence. Simultaneously, economists were all hoping automation would replace gains otherwise reaped by mechanisation. In the same period, political officials were attempting to maintain growth and full employment and information workers, namely, software engineers and librarians, were trying to enhance knowledge availability through enhanced tools. It is believed that their assumption was that significant economic and social advantages were possible by those most able to develop new ICTs.

Importance in the realm of information and communication control systems can be seen in Norbert Weiner's publication "*Cybernetics: Or Control and Communication in the Animal and Machine*". It has to be noted that he was interested in information processing, neurological and feedback systems. It is suggested that "… to live effectively is to live with adequate information … communication and control belong to the essence of man's inner life, even as they belong to his life in society"[33]. Yet, his research mainly concentrated on individual capacities for information processing. It is also stated that "… society can only be understood through a study of the messages and the communication facilities that belong to it"[34].

Such a view was a feature of those specialising in cybernetics who accentuated both a sender-receiver (S-R) model of communication and any underlying technology. Bateson (1951) was deeply involved in this pool of scientists and described a model emphasising methods of communication which pointed out many of the restrictions of a simple S-R model and so proposed some important insights into these processes to be considered within wider cultural and social developments[35]. His work gave way to the furtherance of theories of communicative processes which are openly context-dependent. However, his work has rarely informed disputes over the Information Society.

In the US, prominent economists such as Porat and Rubin (1977) and Machlup (1962, 1980-1984) conducted empirical research which targeted levels of information intensity in the US

[33] WIENER, N.: *The Human Use of Human Beings: Cybernetics and Society*. -Bp.: New York: Doubleday and Company Inc, 1956, p. 17.
[34] Ibid, p. 16.
[35] BATESON, G.: *Information and Codification: A Philosophical Approach*. -In. RUESCH, J. and BATESON, G. (Eds.) *Communication: The Social Matrix of Psychiatry*. New York: Norton & Co, 1951, p. 168-212.

economy and the increase in information-related occupations[36, 37, 38]. Godin (2008) argues that this would provide an opportunity to internationally compare studies with a focus on measuring and mapping the information society, beginning by concentrating on industrialised states[39]. In addition, Bell (1973) notes that an information age is a paramount issue that has brought the wider attention of a broader group of social researchers across Europe and the US to this phenomenon[40]. It is believed that "… the axial principle of the postindustrial society … is the centrality of theoretical knowledge and its new role, when codified, as the director of social change"[41]. It notes that the constructs it was critical to research were knowledge and information, and that it was required to concentrate on business and management problems as well as wider societal concerns[42].

Moreover, the term *global village* [43] had been popularised by McLuhan (1962) through the extension of the work of Innis (1950)[44], in which the various characteristics of communication were emphasised in the oral and written traditions. It is suggested that "… the advent of a new medium often reveals the lineaments and assumptions, as it were, of an old medium"[45], which eventually sparked a vociferous discussion about whether concrete ICTs are causally connected to specific societal configurations. It is noteworthy that an increasing interest in the connections between information, technology and communication did not only prevail in North America but elsewhere. For instance, the Information Society is referred to as "computopia", in which society is viewed as a "… function around the axis of information values rather than material values"; rather idealistically, as one that would be "chosen, not given"[46].

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[36] PORAT, M.U. and RUBIN, M.R.: *The Information Economy, Nine Volumes*. -Bp.: Washington DC: Department of Commerce Government Printing Office, 1977.
[37] Machlup, F.B.: *The Production and Distribution of Knowledge in the US Economy*. -Bp.: Princeton NJ: Princeton University Press, 1962.
[38] Machlup, F.B.: *Knowledge: Its Creation, Distribution and Economic Significance, 4 Volumes*. -Bp.: Princeton NJ: Princeton University Press, 1980-84.
[39] GODIN, B.: *The Information Economy: The History of a Concept through its Measurement*, 1949-2005. – In. History and Technology, 2008. 24, no. 3, p. 255-287.
[40] BELL, D.: *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. -Bp.: New York: Basic Books, 1973.
[41] BELL, D.: *The Social Framework of the Information Society*. In M.L. DERTOUZOS and J. MOSES (Eds.), *The Computer Age A 20 Year View*. Cambridge, MA: MIT Press, 1998, p. 501.
[42] Ibid.
[43] MCLUHAN, H.M.: *The Gutenberg Galaxy: The Making of Typographic Man*. -Bp.: Toronto: University of Toronto Press, 1962.
[44] INNIS, H.A.: *Empire and Communication*. -Bp.: Toronto: University of Toronto Press, 1950.
[45] MCLUHAN, H.M.: *Effects of the Improvements of Communication Media*. - In. Journal of Economic History, 1960. 20, no. 4, p. 566-575, p. 567.
[46] MASUDA, Y.: *Computopia: Rebirth of Theological Synergism*. In Y. Masuda (Ed.), *The Information Society as Post-Industrial Society* (pp. 146-154). Tokyo: Institute for the Information Society and 1981 by World Future Society, 1980, p.147.

Despite the solid link between technological innovation and social changes, as found in a lot of scholarly literature, the central concentration of what would become the prevalent dominant view of the Information Society is recognisant of the insight that, if better models of the underlying technologies are ever created, they must be advanced to either augment military strength or drive economic growth. It is noted that ICTs, allowing cheaper and prompter information processing, are expected to underpin a new productivity approach, encouraging improving productivity and growth in the manufacturing area of business and giving way to the expansion of new information and service-related sectors. In other words, if people invest in ICT innovative developments as a matter of priority, this will lead to "… the best of times, … the epoch of belief,…the season of Light, … the spring of hope" [47].

Notwithstanding the various views of Information society, it is a fact that the Information Society is a complex theory. This is because of the vagueness in its scientific discourse. It is defined in many ways, though it has not been thoroughly examined yet. It is noted that a definition alone is not as critical as its connection to e-governance. E-governance is not necessarily one of the outcomes of the Information Society; rather, it is the result of pressure coming from the Information Society[48]. It is important to outline it here simply due to the fact that our world is drastically changed by the internet and digital technologies. It is a government's priority to make our lives fit for the digital age. In our day-to-day life, information is playing a vital role now than ever before. The volume of information has increased manifold through various channels such as television, radio, books, the internet, magazines and newspapers, both in developed and developing states. It is noted that enlarged flows of information between individuals and institutions have made information interactions quite intensive. This higher intensity of information in economic activities is in place because of the fact that more people are involved in service roles, arguably, even in developing states. Such shifts can be said to come down to structural transformations that have been taking place in society and the economy, as well as being due to technological progress.

It is stated that even though such factors are very tightly woven together, it is easy to understand that technology has played a critical role. The rapid development of ICTs has changed communities in ways never before anticipated. The way we organise our personal lives, how we establish and develop interpersonal relationships with one another and the way

[47] DICKENS, C..: *A Tale of Two Cities*. -Bp.: New York: Barnes & Noble Classics, 1859, p.1.
[48] BUDAI, B. and TOZSA, I.: *The Current Breakthrough Points in Public Administration*. -Bp.: Corvinus University of Budapest, 2012.

we are involved in distribution and production activities have undergone dramatic transformations that are sure to have long-term effects, especially on the community in general and the economy in particular. Quality of life has improved enormously due to the fact that we are now able to connect with each other almost anywhere in the world; we are able to have access to the best education, entertainment and medical care; we are able to do banking and shopping and many jobs are even performed in the comfort of our own homes. The 2019 pandemic is an extraordinary example of such online adjustments and there is no doubt that such a way of operating in the digital world is arguably going to last for many years to come.

It is argued that such technological developments have impacted our lives in many different complex ways. First of all, by providing access to greater amounts of information and, as a result, economic or political actors being able to make better decisions. From a consumer's perspective, people can get more information while making decisions about how much, where and what to purchase. Also, we can get more information about new employment opportunities and working conditions. Many jobs are done remotely and we can be hired by companies located on another continent. For instance, IT giants like Google and Microsoft normally employ different people from different countries. Next, by minimising transaction prices, such technologies have stimulated economic efficiency.

It is known that in many states, utility bills are paid predominantly online; even in developing countries, such a way of payment is extremely popular. It is apparent that such online transactions can save not only time but offer payment flexibility and, as a result, it adds to the well-being and efficiency of the individual. Arguably, such transformations impact us in many more ways than just our economic lives and while we experience and adapt to such changes in our institutions and personal lives, scholars are grappling with terms, frameworks and concepts to examine, predict and navigate the course of such changes.

2.3 WHAT IS INFORMATION?

The word *information* has three meanings. First, information might be data of interest derived from systematic investigation. Second, reception and communication are integral to information transfer. Third, information has some effects, yet it is argued that a definition of information relies on which features of an information society are used. In the information society where technology is seen as the determining feature, information is measured in *bits*.

It is believed that information is defined in various ways and made possible by various researchers across the world. Robert Losee, for instance, provides a critical, rather comprehensive consideration of the various definitions of information[49]. It is stated that all other definitions of information are mainly field-specific and as a result, he was able to propose its own way of thinking by formulating a discipline-independent definition for it. In his interpretation, information is basically generated by all processes and it is the values of features in the process' output that are information[50]. Moreover, information in the economic exposition is structured as the "data that have been organised and communicated" [51]. It is also stated that information is to be synonymous with knowledge[52]. Some economists try to measure information quantitatively. It is argued that the "endeavour to put dollar tags on such things as education, research and art" unavoidably abandons the semantic qualities of information[53].

Furthermore, the definition of the information society in the context of the cultural dimension involves a loss of meaning of information (symbols) because the spread of information has been a critical concern. In literature, there is an approach utilised to determine information known as an *entity/representation method*[54]. It is explained that any *representation* of an entity is *information*. Moreover, it is framed in the following equation in which *r*, formally, is the *(p,t)* – representation of *e*, if a function *p* exists with a point in time *t*, therefore:

$$p(e,t) = r$$

It has to be said that various functions might generate various representations of any given entity and a function might generate various entity representations at various times. Moreover, having an agreement that *r* refers to the current value of function *t* can simply be revoked. In such a way, the definition would be quite simplified.

[49]LOSEE, R.: *Knowledge, Information and Information Science*. – In. Journal of the American Society for Information Science, 1997. 48, no. 3, p. 254-269.
[50] Ibid.
[51] PORAT, MARC U. and MICHAEL R. RUBIN.: *The Information Economy (9 volumes)*, Office of Telecommunications Special Publication 77-12. Washington D.C.: US Department of Commerce, 1977, p.2.
[52] MACHLUP, F.: *The Production and Distribution of Knowledge in the United States*. Bp.: Princeton, NJ: Princeton University Press, 1962.
[53] Ibid, p. 23.
[54] ISAZADEH, A.: *Beyond the Information Age: A Philosophical Perspective*. – In. Applied and Computational Mathematics, 2003. 2, no.1, p. 77-85.

Therefore, *r* is the *p-representation* of *e*, if function *p* existed, such that *p(e)=r*. On this occasion, it can be easily referred to *r* as a *representation* of *e*.

Consequently, the notion of representation is formulated in the equation as follows:

$$p(e,t)=r \qquad (1)$$

p – representation of function,
t – representation of time,
e – representandum,
r – representation [55]

It is important to note, however, that after a notion of representation has been defined, it becomes apparent that *r* is information about *e* or *r* provides some information about *e*, if *r* is a representation of *e*. It remarks that any representation of an entity gives some information about the entity. However, if the opposite of *p* is also a function, then

$$p^{-1}(p(e)) = e$$

provided *r* can be reproduced by $e\ (p^{-1}(r) = e)$, where *r* is viewed as a *perfect representation* of *e*. For instance, in the Theory of Algorithms and Data Structures, a graph *G* is represented by its adjacency matrix *M* [56].

In order to determine *p* as *p(G)=M*, then $p^{-1}(M)=G$ and thus it is seen clearly in this equation that *M* is a perfect representation of *G*.[57] Notwithstanding this, some representations are not perfect. In order to support this statement, it is critical to consider *p* as a function determined by positive integers as follows:

[55] Ibid, p.79.
[56] Aho, A., Hopcroft, J. and Ullman, J. 1975. *The Design and Analysis of Computer Algorithms. Reading*. -Bp.: MA: Addison Wesley.
[57] ISAZADEH, A.: Beyond the Information Age: A Philosophical Perspective. – In. Applied and Computational Mathematics, 2003. 2, no.1, p. 77-85, p.79.

$$p(e) = \begin{cases} \text{odd}, & \text{if } e \text{ is an odd number} \\ \text{even}, & \text{otherwise} \end{cases}$$ [58]

It notes that the opposite of this function is not a function and consequently, the adequate representations are not perfect. In this way, all odd numbers are represented as odd. It is known that the odd representation is not enough to generate the representandum. Yet, there are several cases where it can be beneficial to know the fact that the number is odd or even, such as when we want only as much information about the entity as required. It can be argued that this is due to the fact that there is no purpose in getting or carrying more information about the entity than people have to know. Also, not all information about the entity is necessarily available to us. Moreover, a representation of a representandum can be represented further, providing a hierarchy of representations. Virtually, each layer of communicational protocol is explained by one level of the adequate hierarchical representations.

Further, a notion of representation and the following terminology of information are coherent with and prescribe most of the well-known conceptions in information theory. The following are the most familiar concepts existent in scholarly literature:

- *Out-of-date and Up-to-date Information*: in the equation (1), if the value *t* is equal to an old time, then the adequate information is considered out-of-date. If the value *t* is equal to the current time, the adequate information is considered up-to-date.
- *Misinformation or Error:* A representation might not mirror the true state of things, in which case it is an error, misrepresentation or misinformation.
  In such a case, $r=p(e)$ is misinformation, where $p^{-1}(r)$ is ambivalent with *e*. Specifically, where perfect representations are needed, $r=p(e)$ is misinformation, if [59]:

$$\rho^{-1}(r) \neq e.$$

- *Volume of information:* in data communication, *m*, a message, is represented as $p(m)$, passed over the destination, in which the source message is generated by $m = p^{-1}(p(m))$. In fact, the volume of information kept in the message is $log_2(n)$ bits, where *n* is the

[58] Ibid, p.79.
[59] Ibid, p. 79.

size of *p*. It is stated that the number of bits needed to encode a message out of *n* possible messages is $log_2(n)$[60].

Moreover, the logarithmic base 2 is for *bit* as the unit of assessing information, bearing in mind that a bit comprises two states. If another mechanism is selected composing of *b* states, then in this case, the logarithmic base will be *b*.

- *Belief:* provided an entity *e*, belief is an insight one might choose to have on *p(e)* being a representation.
- *Knowledge:* refers to proven true belief. There is no obligation of truth for someone's belief; meanwhile, knowledge should be proved and justified, otherwise it is not knowledge[61].

2.4 THE TERMS OF THE INFORMATION SOCIETY

The information society is referred to as a post-industrial society within which information is playing a vital role. It is argued that the notion of the information society is much broader than that of an information economy. Alas, a specific definition has not yet been universally accepted; even the determining features of the information society have not yet been agreed on. The information society has resulted in a new social, cultural and economic structure in which the predominant functions and processes involved are more organised around networking. It is identified that networks are the social morphology of the information age, which were established based on various interests and present the practical structure of the mechanism of socio-economic representation[62].

It goes without saying that the network society in its very nature has nothing to do with the information society since the networking form of the social establishment evolved in other dimensions such as in space and time[63]. However, a new IT paradigm may create a foundation for it to spread all across social networks. It is known that one of the main characteristics of

[60] TAGUE-SUTCLIFFE, J.: *Measuring Information: An Information Services Perspective*. – Bp.: San Diego: Academic Press, 1995
[61] ISAZADEH, A.: Beyond the Information Age: A Philosophical Perspective. – In. Applied and Computational Mathematics, 2003. 2, no.1, p. 77-85, p.80.
[62] CASTELLS, M.: *The Information Age: Economy, Society and Culture*. *The Rise of the Network Society*. – Bp.: UK: Blackwell Publishers, 1996.
[63] JAN A.G.M. Van DIJK,: *The One-Dimensional Network Society of Manuel Castells*. – In. New Media and Society. SAGE Publications, 1999. 1, no. 1, p. 127-138.

such a medium is that it shapes the notions of space and time, with time spent in the networks being the time of ongoing occurrences. It can be argued that a network serves as a platform for non-stop activities and in this way, it has timelessness that is not as same as the space and time experienced by people. The continuous flow of information, pictures, sounds and institutional interactions take over from physical space, which is restricted by linear continuity. It is a fact that space cannot be divided from time; it occurs as crystallised time. It is arguably the space of a continuous flow of activities establishing a 'timeless time'.

In addition, in the network, it is the consecutive quality of occurrences that ends; some things occur simultaneously and the linearity of things is broken into menus and URLs. Thus, managers of companies, as well as network people live in a constant time, the space of constant activities that distinguishes itself considerably from usual physical living space. Moreover, in network society production, power and capital manifest by flowing through the global networks that are entirely divided from the 'space of spaces', rendering the latter non-essential. It is believed that in this way, the information society emerges as a basic issue of the network society since the general instrumentalism and specific, individual identities are complex and in sync with one another.

Participation in the information society is closely connected to the participation of different networks. Furthermore, networks unite people, yet there is a feature that separates them. For example, some groups of individuals are at great distances from one another and who are known to be sharing the same views on problems they are concerned with and they normally respond to the same issues from two entirely different aspects but they do not even communicate to each other as the first group interacts most of the time through the network. It is noted that a digital gap exerts its effects against locality and for locality. It is true that the occurrence and enhancement of relationships spanning across regions or nations cannot help with the enhancement of local relationships. Yet, among those standing on the opposite side of the gap, provincialism and locality are critical.

Nevertheless, new development opportunities are being created in the information society and understanding them can positively contribute to a better understanding of the information society itself. It is argued that a definition of informationalism is associated with the approach of industrial development. These are the key features of it, namely:

- Self-developing communicational capacity, in connection to complexity, volume and speed;
- Reintegrating, recalculating capability through repeated communication and digitalisation;
- Transmission, the flexibility of publication via the online interactive networks[64].

It is important to shed some light on these features in a more detailed way. In the first feature, the main aspect is the speed of information processing. There is no further discussion concerning the point that information processing has reached a speed previously not experienced before. Yet, there is a dispute about how this issue is resulting in change, i.e., how the quantitative change is resulting in qualitative change too. Some argue that it is because of the technology has the needed capacity to grow continually and increase its data processing speed. Such an operational process is getting back to itself as it is under ongoing progression and the outcomes of this evolution can be addressed to it through an ongoing feedback relation, as the instruments and technology can be reconfigured.

The idea here is that, in the past three decades of ICT development, a self-generating, rather expansive capacity of information processing has been observed. It is argued that the limitations of programming, network evolution and system integration have all become outdated. It is said that this trend will keep on going with the application of newer materials[65]. Further, the internet gives an opportunity to recombine information products in a preferred time or in real time. Thus, such processing can enable a new product to be forwarded right away. Such a process is of special importance because recombination is an instrument of innovation and innovation is an instrument of economic development, political power-making and cultural creativity.

In addition, this new form of lore is quite peculiar and is efficient for its objectives. Its feature is continuously accessible along with its outcomes, further extending its scope. To put it more precisely, it is an instrument that becomes available, whose applicability and scope have enhanced considerably. The application of such lore enhances efficiency. Moreover, the third feature is the flexibility of ICT, which can be utilised equally for individual purposes, in military spheres, in political events, in public, as well as in private sectors. It is said that

[64] CASTELLS, M.: *Informationalism, Networks and the Network Society: A Theoretical Blueprint, Chapters*, in: CASTELLS, M. (ed.), *The Network Society*, chapter 1, Edward Elgar Publishing, 2004.
[65] Ibid.

wireless interaction provides such knowledge with access anytime, anywhere. Above all, societies we live in do not merely become information societies due to a concrete social structural framework that becomes a feature to them but due to the fact that their production systems are designed in accordance with the tenets that maximise knowledge-based manufacturing and production[66].

It is critical to understand that these models declare knowledge as a distinctive characteristic in the process of the identification of the information society. For instance, Webster points out the significance of theoretical knowledge, whereas Castells argues that an outstanding change in the ease of the invention of new knowledge and in the possibility of the ongoing assurance of its applicability are the most important aspects of the debate in the field. It is believed that a crucial stipulation for the speediness of an information society is a recipient medium in the processing of adequate instruments and abilities that provide for the social embedding of the information-based culture and economy. To reach this expectation, members of the society should have the IT instruments and abilities needed for the utilisation of such instruments; e-skills, for example. It is noted that it is a key innovation yet, compared to earlier practice (due to the networking social structure), this recipient medium can become at any time a selling medium and information-creating in the easiest way possible. It is true that the bipolar social description which makes it different among innovators and recipients tends to be disappearing for this reason.

Moreover, network dynamics demand the flexibility and dynamics of individual networks as well, thus lesser dynamic networks can prevail by other stronger and more dynamic networks. It is argued that the information society is the symbolic name of an age where society, culture and economy are mainly predicated on the exchange, sale and production of information but due to this fact alone, the information society cannot be said to have been fully established yet. In addition, the sale and production of information is archived through IT-related sets. These sort the different social groups of society into networks, where newer nodes occur, predicating on their success in the process of information commerce and production. It is known that there have been several attempts at framing the substantial features of an information society, such as in which direction society will develop, at least according to some scholars. In different terms that have been suggested, the following five are noted to be

[66] CASTELLS, M.: *The Information Age: Economy, Society and Culture. The Rise of the Network Society*. -Bp.: UK: Blackwell Publishers, 1996.

underlying characterisations, namely, technological, economic, occupational, spatial and cultural [67].

2.5 TECHNOLOGICAL FEATURES OF THE INFORMATION SOCIETY

The technological dimension has changed rapidly and a huge variety of innovations in the fields of information and communication since the late 1970s, from personal computers and on-demand TV to the internet have been purported to be transmogrifying our perception and way of life so much so that it is setting in motion a new social order[68, 69]. It is proposed that the developments in information and communication technologies (ICTs) signal the third wave of the technological revolution: information[70]. It notes that such technologies are regarded as day-to-day technologies that have largely influenced politics, personal lives and businesses more than anticipated. To put it more precisely, it is now the case that, thanks to ICT, it is possible to design clothes in the UK and get them manufactured, for example in Vietnam. The outcome is a more effective production of which both consumers and producers are taking advantage.

In a political context, the engagement of citizens in discussions and disputes on problems concerning the community has become more democratic and straightforward. Regarding the education sphere, it is true that online learning assisted by ICTs has not only allowed individuals in developed states to enjoy it but also in developing ones like Kazakhstan, which are now getting access to educational programs provided by elite universities without financial burdens and travel difficulties. Moreover, in our personal lives, staying in touch with one another has been greatly impacted by such innovations as well. It is true that exchanges of information via ICTs have been the foundational principle of the information society.

[67] WEBSTER, F.: *Theories of the Information Society*. – Bp.: Second Edition. London and New York: Routledge, 2002.
[68] MARTIN, J.: *The Wired Society*. – Bp.: Englewood Cliffs, NJ: Prentice Hall, 1978.
[69] EVANS, C.: *The Mighty Micro: The Impact of the Computer Revolution*.- Bp.: London, UK: Gollancz, 1979.
[70] TOFFLER, A.: *The Third Wave*. – Bp.: New York, USA: Bantam Books, 1980.

2.6 ECONOMIC FEATURES OF THE INFORMATION SOCIETY

The economy's structure and its recent transformations, in which information has played an important role, have been defined as being complemented by the information economy but it is argued that there is still no agreement on how to define it. Generally speaking, it is a term used to outline an undefined period of the post-industrial economy that is considerably predicated on activities bound in information. However, it lacks clarity in the sense that related behaviours are hard to determine and assess. Moreover, the knowledge economy, internet economy and new economy are the terms employed to rely on the same insights as the information economy. It is noted that the term 'information economy' is used in a specific way by determining different yet similar terms and elaborates a way of getting information-related activities[71]. It is argued that in their study, the information economy is framed in the concept that what came before was the knowledge industry. Furthermore, two meanings of knowledge are identified: what is known and the state of knowing[72]. It is also elaborated that information is substantial knowledge and thus, in his seminal book, such terms are not used as two separate concepts[73].

In addition, simply based on such meanings, a scheme is developed on how to assess the size of the industry that is widely engaged in dissemination and production of knowledge. It is stated that "… as an economy develops and as society becomes more complex, efficient organisation of production, trade and government seems to require an increasing degree of division of labour between knowledge production and physical production"[74]. Such substantial framework was the basis for the comprehensive statistical research on the US Information Economy studied by Porat and Rubin (1977)[75], however, it has to be said that the chosen methodology of assessing the information economy was noticeably different from Machlup's. It is known that under their model, the economy is split into two definite but indivisible dimensions, in which one is "involved in the transformation of matter and energy from one

[71] PORAT, MARC U. and MICHAEL R. RUBIN.: *The Information Economy (9 volumes)*, Office of Telecommunications Special Publication 77-12. Washington D.C.: US Department of Commerce, 1977.
[72] MACHLUP, F.: *The Production and Distribution of Knowledge in the United States*. – Bp.: Princeton, NJ: Princeton University Press, 1962.
[73] Ibid.
[74] Ibid., p.6.
[75] PORAT, MARC U. and MICHAEL R. RUBIN.: *The Information Economy (9 volumes)*, Office of Telecommunications Special Publication 77-12. Washington D.C.: US Department of Commerce, 1977.

form into another" and the other "in transforming information from one pattern into another", where information is seen as the "data that have been organised and communicated"[76].

Moreover, the word 'material' is considered primary whereas information is secondary. It is stated that the operational term of information implicates "all workers, machinery, goods and services that are employed in processing, manipulating and transmitting information"[77]. In accordance with this proposition, a professor, medical worker, computer or a book are all part of the information dimension, while a table, a refrigerator or a gardener are part of the former. It is important to note that five sectors of the knowledge economy are recognised: education, information technologies, research and development, mass media and information services[78].

Yet, according to Porat, the information sector can be further sub-divided into the primary information sector, involving the production of information services and goods and the secondary information sector, which introduces part of the value provided by information capital, information activity and information workers involved in the production of a material service or product. The total value added of any industry involved with the primary information sector is measured as part of the information dimension of an economy.

However, if it is related to an industry pertaining to the secondary information sector, there is one part of the added value which is measured in the information economy. Therefore, information value added of the secondary information sector industry comprises the following:

I) part of proprietors' income and corporate profits received for doing informational activities;
II) II) employee compensation of information workers;
III) III) capital consumption allowances of information machines. It is argued that for these industries, the total value added will be decomposed into an information component and a material component.

Above all, the huge challenge of getting a thorough assessment of the information economy is to divide information garnered from the material component of the economy. In addition, there

[76] Ibid., p. 2.
[77] Ibid., p.2.
[78] MACHLUP, F.: *The Production and Distribution of Knowledge in the United States*. – Bp.: Princeton, NJ: Princeton University Press, 1962.

have been several efforts to determine the information economy by identifying statistical accounts of employment patterns via information versus non-information dichotomy. It is identified that information employees soared from 37% of the workforce in 1950 to 59% in 2000 in the US. Such figures were obtained by utilising decennial census data on levels of employment in specific occupations and industries[79]. The occupations are aggregated into several classifications such as data processors, knowledge producers, goods processing and service workers and categorises the employees into two categories of information workers.

It has to be noted that such an examination provides an insight into the fact that an increase of information workers is not directly related to a transformation in preference for information-intensive services and goods but slightly for transformations in production technology having the potential to replace service workers and goods with information workers and slightly for contrasting productivity output within various industries. Nevertheless, the way the economy defines the information society is being criticised by many because of a quantifying of the information component.

By considering the financial aspect, this method is more likely to undermine the relative importance and qualitative heterogeneity of different kinds of information. Yet, when it comes to defining the information economy, it is meant to be characterised on the basis of patterns of employment. It is difficult to separate information and non-information occupations due to the fact that such separation is a matter of how much rather than what type, rendering many attempts at refining relevant occupations under non-information and information components very challenging indeed.

2.7 OCCUPATIONAL FEATURES OF THE INFORMATION SOCIETY

The information society has been conceptualised by sociologists in terms of changes in occupational structure and it is argued that the preponderance of information in occupations has established a new social order. It is theoretically framed that the information society is predicated on the underlying structural transformation of the economy[80]. Some argue that

[79] WOLFF, E. N.: *The Growth of Information Workers in the US Economy, 1950-2000: The Role of Technological Change, Computerisation, and Structural Change*. -In. Economic Systems Research, 2006. 18, p. 221-255.
[80] BELL, D.: *The Coming of PostIndustrial Society: A Venture in Social Forecasting*. Revised Edition. – Bp.: New York: Free Press, 1973.

information in such a context is generated and drawn upon in occupations, rather than embodied in individuals through experiences and education. It is stated that being inventive, thinking smart and having enough capacity to exploit and develop networks is vital to the new weightless economy[81]. Moreover, it is not physical effort alone but "ideas, knowledge, skills, talent and creativity" which leads to how wealth is created in this new economy[82].

It is noted that such an occupational view is related to the outcomes of the expansion of jobs in the field of information. In such a context, it is critical to specify the areas where such jobs can be found. For instance, due to economic liberalisation and government reforms, there has been an important increase in social workers who are employed by NGOs or other non-profit organisations. Such employees are viewed as working in this field. It is argued that such basic data surrounding these job opportunities will not disclose much about the influence of their increase. It is true that, in IT-related occupations, the employees are not as tied down to their desks as other workers, meaning their social environment, interactions, travels and locations vary greatly.

On the contrary, for instance, in Hungary, an IT business, represented by corporates as IBM, Cognizant, Unisys, Covalen and others, is widely present and its workers are mainly involved in providing customer service to a western as well as eastern clientèle by having 24/7 shifts and, as a result, having a completely different way of life from some workers who are employed by the government. It is true that social workers will have more connections with people living on the outskirts of the country, yet arguably, with better global access, they might have a wider perception which they could pass along to their working environments and co-workers. The increase of the various kinds of information employees have resulted in various social results.

As a result, social interrelations and hierarchies come out on top. Such workers in IT-related spheres might organise a specialised pool of experts having limited interaction with other community groups. It is argued that, due to the nature of the work they do and the specialised skill sets they have, they are more likely to have a unique social network. It is suggested that such experts rule by virtue of "human capital created by education and enhanced by … the

[81] DERTOUZOS, MICHAEL L.: *What Will Be: How the World of Information Will Change Our Lives*. – Bp.: London, UK: Piaktus, 1997.
[82] LEADBEATER, C.: *Living on Thin Air: The New Economy*. – Bp.: London, UK: Viking, 1999, p. 18.

exclusion of the unqualified"[83]. Moreover, as such experts begin rising up to a pre-eminent position in society, the conventional ideals and values of solidarity and co-operation and the market and property are highly likely to be substituted by something akin to the more professional mentality of efficiency, service and certification. These experts are predominantly the technical professionals and intellectuals. They are known as the *new class*[84].

It is stated that they can compete for control over the party establishment and business. Yet, these are not a homogeneous class in regard to their social and political preferences. Moreover, these are, arguably, the experts who are conformists and technocratics who are emancipatory and critical, to some extent. Therefore, when it comes to the sociological term 'information economy', 'pecking order', class relations and power hierarchies result from this increase of information occupations.

2.8 SPATIAL FEATURES OF THE INFORMATION SOCIETY

Such perspectives around the information society are built upon the idea of space. Yet, it is entirely separated from social and economic aspects. It is known that the influence of information networks on the institution of time and space has been the central aspect of such disputes. A society in which individuals are linked through the information networks that function at the regional, local, central and global level to give an "information ring main"[85] is known as a 'wired society'.

The constraints imposed by space and time are eliminated. The physical location of a person has reduced in importance, as long as an individual is subscribed or rather connected to this wired society. It is believed that such information networks are extending their capabilities and reach[86]. Consequently, constraints of distance and time are reduced. The process of production in such a network society has been global and continues in time and space. For instance, global conglomerates run their businesses worldwide, 24 hours a day: when the

[83] PERKIN, H.: *The Rise of Professional Society: Britain since 1880*. – Bp.: London (UK) and New York (USA): Routledge, 1989, p. 2.
[84] GOULDNER, A.: *The New Class Project, Theory and Society*. -Bp.: Springer, 1978. 6, p. 153-203.
[85] BARRON, I. and RAY C.: *The Future with Microelectronics: Forecasting the Effects of Information Technology*. -Bp.: London, UK: Frances Pinter Ltd, 1979, p.33.
[86] URRY, J.: *Sociology beyond Societies: Mobilities for the Twenty-first Century*. – Bp.: London, UK: Routledge, 2000.

Japanese finish their working day, their American counterparts take to theirs. Nevertheless, such a definition is being criticised due to an inherent deficiency of precision. In such a polemic, no clear determination is made with regard to network; more precisely, whether it is just two people having a conversation over the phone or a bunch of people having a chat in a forum over the internet. In addition, various levels of networks are not clearly distinguished. Another aspect is at what point in the activity of networking does a society become an information society.

In fact, some argue that networks should be more technically structured but other scholars think differently in such a way that it has to be defined in terms of the value and volume of information passing through such networks. It is argued that some information networks have existed throughout history; the postal services that have established information networks through telephone and telegraph facilities being a major example. It is true that ICT today might speed up the pace of creating such networks yet, according to critics, it does not go so far as to be able to claim any kind of new social order construct.

2.9 CULTURAL FEATURES OF THE INFORMATION SOCIETY

The cultural concept of an information society is connected to the information environment in which people live. It is stated that such an environment has become more intimate, penetrative and more constituent of people's daily lives. Furthermore, such developments come with several dimensions. To begin with, there has been a dramatic soar of information in social dissemination because of technological developments. For example, there is now much more access to a plethora of entertainment, analysis and news, community and personal help from across the world via different media channels, such as newspapers, magazines, radio, television and the internet that an emergence of a media-laden society cannot be denied. It is true that the penetration of some degree of information in daily life has been inevitable due to the fact that more choices, with respect to a concrete medium, are provided in such a new social structure.

Next, social communication has become more verbal and complex. Moreover, written interactions have been inadequate to handle these difficulties. This has led to an increase in the symbolic import of body and dress. It has to be mentioned that in the industrial society,

the role of clothes was minimal in satisfying basic human needs. However, the abundance of fashionable and affordable clothing fostered the usefulness of clothing as a significant way of declaring power, social status and affiliation. Further, various problems have come to pass because of the unnecessary penetration of information. Some argue that "there is more and more information, |there is| less and less meaning"[87]. There are some diverse signals coming from different directions which are contradictory and fast-changing, thus their power to signify anything of note is reduced.

There are plenty of concepts and definitions of the information society. There is, however, a doubt in the actual emergence of such a society[88, 89]. While the rise of the information society might just be in the mind of the beholder, the conception itself can be a good organising aspect to examine and describe the transformations of the last half-century and of what is to come. Nevertheless, it is known that there are different approaches among various theories surrounding the information society but it is important to state that technological and sociological approaches can be found in the theory of *Everett M. Rogers* which are predicated on *Gabriel Tarde* and *Pitirim Sorokin's* diffusion theory. It is said that the views of traditional theory creators are synthesised in the general diffusion theory, in which the process of the dissemination of novelties as a communication process is demonstrated.

It is found that the basic components of diffusion process are as follows:

- The communication channels;
- The features of innovation;
- The social system experiencing the innovation;
- The time necessary for the dissemination of innovation[90].

The communication channels are significant due to the fact that a person forms their basic attitude right after a user has encountered the information about the innovation, which eventually will lead to the acceptance or denial of the innovation. It is believed that such communication channels are classified in several ways. At first, the innovation is expanded over the society borders of the examined person (cosmopolitan) and soon after, it impacts

[87] BAUDRILLARD, J.: *In the Shadow of the Silent Majorities, or The End of the Social and Other Essays*. Translated by FOSS, P., JOHNSON, J. and PATTON, P. New York: Semiotext(e), 1983, p.95.
[88] MAY, C.: *The Information Society: A Skeptical View*. -Bp.: Cambridge, U.K.: Polity Press, 2002.
[89] WEBSTER, F.: *Theories of the Information Society*. Second Edition. -Bp.: London and New York: Routledge, 2002.
[90] BUDAI, B. and TÓZSA, I.: *The Current Breakthrough Points in Public Administration*. -Bp.: Hungary: Corvinus University of Budapest, 2012.

attitude using the local communication channels. It is argued that among personal relationships, the homophile communities, in which some members are equal to others in terms of social status, attitudes and qualifications, are the ones which lead to acceptance. The opposite of this are the heterophile communities, in which such features are different. It is true that empirical research interprets the "effect diagram" of time that is in fact a diagram showing the dynamics of the dissemination of innovation as S-shaped.

In the first stage of establishing an innovation, the number of users is relatively low; in the next phase, it normally soars and finally, at the end, there is a decline. It is said that five groups are typified based on such a scale:

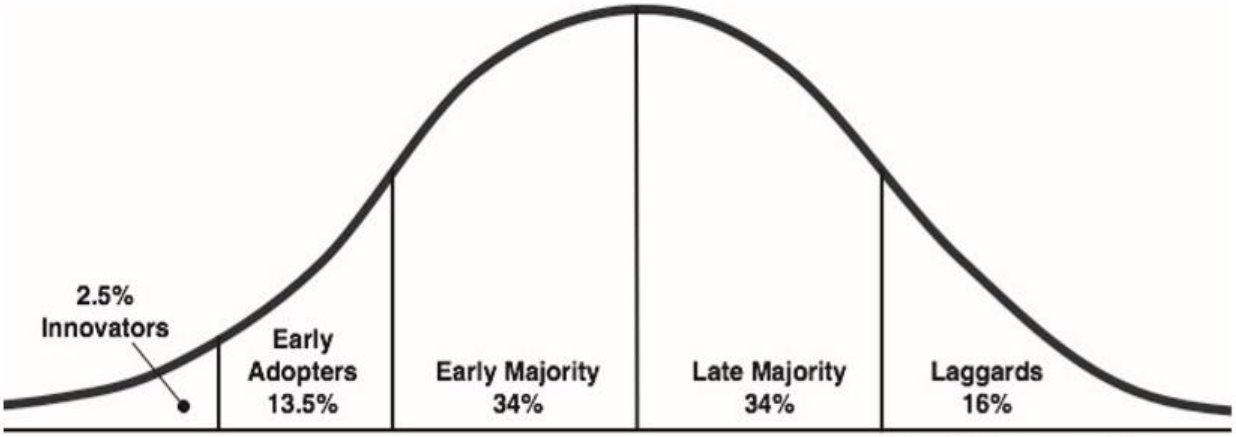
1. Innovators. It is stated that some 2.5% of all the audience belongs to this category. These are the people who normally take risks and are more sensitive to novelties. It is also noted that innovators are well-connected with one another in society, thus they may bring innovations into it.

2. Early Adopters constitute around 13.5% of all users. It is argued that these individuals are mainly shaping the perfection type people widely respected among all members of the community. Also, they are a role model for potential technology adapters.

3. Early Majority, representing 34% of all the members of society. For these people, a decision of adopting an innovation takes some time and is being thoroughly considered before they finally adopt it. However, their role in this process is vital since, arguably, they provide a transition between the early and the late adopters of the innovation.
4. Late Majority, also comprising 34% of individuals. It is believed that such people are more likely to be cautious and skeptical and whose need of innovation acceptance is mainly based on social and economic demand. This is because of the limited resources they normally have.

5. Laggards, embracing some 16% of the remaining users. This category is distrustful and rather conservative, living on the peripheries of society and who do not want or cannot afford the adoption.

Figure 2-1: Rogers's graph



Source: Budai, B. and Tózsa, I. 2012. The Current Breakthrough Points in Public Administration. Hungary: Corvinus University of Budapest.

It is known that each circulating process of innovations takes place in a social network in which a certain set of rules is applied and a concrete structure is designed. The adoption of innovations can be explained at either community or individual level. Furthermore, there are critical differences among early and late adopters of the innovation. Such differences are related to social-economic status, communicational behaviour and personal qualities. Nevertheless, the information society is a framework of notions full of solid ideologies which are based on which science studies it. The information society outlines an idealised situation in line with the given science. It is, however, apparent that there are technological and social aspects behind the conception.

It is true that almost all the approaches in the information society are linked to technology. It is said that whether you are a technophobe or technophile, it is obvious that the characteristics of the information society cannot be viewed without the information communication technology (ICT). In a book by Budai, B. and Tózsa, I., "The Current Breakthrough Points in Public Administration", the authors separated the elements of technology into several groups:

1. **Tools.** The hardware devices to which the network is connected and software applications are installed in order to make it run properly.
2. **Content.** The important, rather relevant information and experiences that are directed toward an end-user or audience.

3. **Knowledge.** A familiarity, awareness or understanding of ICT usage through the handling of various instruments to get the needed lore.
4. **Innovation.** Referring to a concept or behaviour perceived as never-before seen by generating the above three groups and is a catalyst that leads to the renewal of the tool, the content and the knowledge.

It is argued that some parallels are seen between these groups. To put this more precisely, in the digital age, it is evidenced that with communication possibilities becoming easier and cheaper, more and more content is suddenly available. Thus, people find it extremely easier to use the new channels and as a result, the larger audience is able to apply different and customised content. It is also argued that ICT instruments greatly increase the ability of economic and other institutions to launch and generate new knowledge, which eventually effects and stimulates innovation. However, innovation in the institution is not just a matter of technology but a matter of management and institution at the same time. Moreover, national and international experiences bring attention to the sophisticated involvement of technological innovations in institutional-cultural transformations. In addition, interactions of individual and collective learning processes are inseparably involved as well.

Furthermore, innovation is arguably considered to be an engine of economy that is an important aspect in implementing the information society. Therefore, the funding of innovation, particularly into research and development, can be seen in every important strategy. It is believed that, according to the Lisbon Treaty, investment into R&D should be around 3% of GDP. It is known, however, that such an objective failed. The EU has only reached 1.5% of GDP, while Hungary is just 1%[91]. It is universally accepted that the ongoing preparation and training of citizenry in the information society is a key attribute. Aside from education, the *knowledge intensive sectors,* which play the role of knowledge and information, also get a higher value. It is known that value structures change. Moreover, the welfare and training systems maintaining the information society are getting larger as well. Social regularities are being rearranged into a new logic; the regular logic of social symbiosis transformations[92].

[91] BUDAI, B. and TÓZSA, I.: *The Current Breakthrough Points in Public Administration*. -Bp.: Hungary: Corvinus University of Budapest, 2012.
[92] Ibid.

In such novel social formations, various cultures will start co-existing with one another where their values interact and new values will evolve too. It is believed that the new knowledge-centric social formation is about value-transmitting, value-conserving, value-creating and value-combining. It is a fact that due to conserving function, there are some projects which have all been digitally archived into the cultural contents to preserve them[93]. For instance, inclusiveness is considered to be a new value that creates a receiver society embracing legal, technological and educational elements. Moreover, inclusiveness is more likely to be a precondition of the information society, not just an objection. The inclusiveness has twofold goals. The first one is to allow access to the information communication infrastructure. The second is to assure the knowledge is needed for this.

It is indicated that the concept of literacy is extended to six categories, which are as follows:

1. **Basic literacy** – the ability to peruse and understand how internet browsing is operated, as well as how to navigate an online environment.
2. **Functional literacy** – the ability to comprehend the shown text. It is noted that functional illiteracy appears in relation to the mother-tongue of the user. It is now utilised as an assessment feature in foreign language learning.
3. **Professional literacy** – the necessary lore for involvement at the workplace with communication and professional competence to work efficiently.
4. **Technological or digital literacy** – the ability to utilise the information communication instruments and their software applications that makes the audience suitable for dealing with the modern technology of the information society at a specific level.
5. **Informational literacy** – the information that is put into the context, measured and processed.
6. **Adaptive literacy** – the ability of the audience to follow up on the new technological innovations consistently and to welcome the possibilities given by novelties[94].

It is noted that an educated individual of the information society possesses all these types of literacies. Interestingly, the image of employment and work in the information society has changed significantly. Such changes to the employment structure occur for the very first time

[93] Ibid.
[94] Ibid.

in an area of technology-oriented knowledge-intensive spheres and eventually, it disseminates all over. The primary characteristic is that they transform dramatically the working process and job demand. To put it more precisely, there are plenty of jobs becoming inessential and some positions can be performed in a transformed way.

Furthermore, the information society brings up some regulatory issues that are linked both to public and personal law. It is noted that the legal system in the information society diversifies civil law through digital signatures, e-business, copyright, competition law and media law, for instance. Criminal law is through copyright violations, electronic systems and content. In addition, administrative law is through the procedural and financial rights of e-governance, online public procurement and online company procedures. In respect to constitutional law, it is related to freedom of speech and freedom of press, freedom of digital information and the protection of personal information.

2.10 THE INFORMATION REGION

The concept of the information region occurs frequently in debates concerning the issues of competitiveness. It is believed that the information region was given more attention in the past few years, particularly since it was launched by the European Union along with a governmental intention to establish intelligent regions across the EU. Such an initiative has made possible the efforts of creators among Finnish scientific researchers, most notably, Ari Veikko Antiroiko, who is the most prominent[95].

It is noted that the information region is studied predominantly from the perspective of competitiveness, adaptability and flexibility. The author's work gives a fascinating insight with respect to the subject area. It is found that there are some conflicts between local conditions and business-oriented global networks. It is argued that the token for the development of the areas are concealed in the involvement of such networks, yet it is also indicated in his study that the undesirable side-effects of such developments need to be considered further. It is stated that this portrays the complexity for regional governments to

[95] ARI VEIKKO ANTIROIKO,: *Electronic Government: Concepts, Methodologies, Tools and Applications*. -In. Information Science Reference, 2007.

figure out the balance in such a conflict and to participate in efforts to diminish the negative effects of such participation.

It is proposed that in the UK, local as well as regional governments should play a critical role in the establishment of the information economy. It is explained how local authorities must react in order to be able to progress among the ever-changing circumstances. In such an evaluation, plausible challenges and the most common mistakes are predicted to reveal themselves. The matter of decentralisation is specifically examined. In other words, local officials, on some particular occasions, must initiate community governments on the grounds of functional decentralisation, community action groups or regional administration. It is true that regional governments must practise their managerial tasks independently with minimum supervision from the central actors. All this could lead to the creation of good co-operation which will eventually improve effectiveness and, more importantly, enable full autonomy.

In the information society, the role of settlements is predominantly dependent on ICT. Although the technology allows local governments to make their operation in the most effective ways possible, this also brings up some severe challenges in terms of human resource management and work organisation structures. It is noted that if local government wants to efficiently participate in the information society, they will have to be aware of the basic conditions of infrastructural development and ICT. Public officials must realise that ICT is not an objective but an instrument to help have their task implemented in the most effective way possible, to interact with citizenry and to make the office more transparent and accountable. It is true that IT is an invisible element that mainly operates in the background and which barely maintains individual operation. In some cases, it may play a more predominant role, particularly if something does not operate effectively.

Moreover, smooth operational state units and operation networks of reliability and great performance are critical for a continuous transfer of enormous amounts of data while complying with classified security protocols of data handling processes. In order to achieve this, the governmental authorities are required to set up ICT contacts between all state departments and outside providers. It is argued that local officials are in possession of peculiar knowledge that predominantly includes data but any other information belongs here too, even information provisions on individual cases. It is stated, however, that few information provisions have been provided which relate to the electronic publishing of official resolutions, resolutions of the assembly or professional committees, etc., which ultimately could be

processed by local actors at a minimum cost. Furthermore, it is apparent that public authorities should operate beyond their legal obligations just to attain a citizen information service with adequate quality. There is no doubt that local bodies are more interested in demonstrating their settlements in a positive way that is advantageous when it comes to investing such regions.

Therefore, the level of satisfaction on their web-platform must be clearly shown. In addition, it notes that under certain abilities required to possess in the information society, such abilities are only required from the perspective of utilising and handling ICT instruments but apart from that, they allow the workforce to identify the transformed situation of local authority and to be able to give concrete information and knowledge to international and national networks that help them to be present in such. It is also crucial to understand how the external connections of public authorities have gone through important transformations and the tasks concerning regional management, public administration and customer service are perceived as services not just by various companies but by the population itself, with appropriate quality expected across the board.

Generally speaking, such tasks are not merely present as specific activities but they refer to a change of perception concerning scopes of public officials, duties and the chosen methods. Nevertheless, it is apparent that the main problem of the information society is a conflict between individual identities and functional networks. It is argued that governments have to figure out the solution of how to settle such a conflict. Arguably, they may act as bridges in this process. It requires them to be a determining protagonist in society. Some argue that public officials should make their operation and case handling prompt and smooth, with information concerning these events accessible to all. Also, it has to be said that contacts with vendors and work-related parties should be visible and easy to find. Such openness will frame public figures as client-friendly and attentive officials that are there for people to support them whenever needed. Moreover, presence in networks is vital for communities. It is clear that successful communication with members of society is paramount for the information society.

CHAPTER THREE

THE CONCEPT OF E-GOVERNMENT

3.1 Introduction and Overview

3.2 The Adaptation of Web 2.0

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CHAPTER THREE

THE CONCEPT OF E-GOVERNMENT

3.1 INTRODUCTION AND OVERVIEW

The term e-Government is associated with the use of information and communication technologies to enhance the delivery of public services and to foster interactions with industry and business. Moreover, it is believed that people are empowered when information is free and easy to acquire. It is known that attempts to offer online public services to individuals have intensified across the world and arguably, Hungary is no exception. The figures reveal that a growing number of people, for example, in the UK, are employing the internet to reach central and local government official web-pages to obtain relevant and/-or personalised information, as well as downloading various types of forms for further transactions. It is noted that some 63% of adults in the country access the internet and about 57% of adults access central or local government webpages[96].

It has to be said that such numbers pushed the UK government and arguably other countries elsewhere in the world, to provide its public services through the internet more efficiently[97]. In addition, the UK Cabinet Office has established an e-Government Unit (eGU) that is responsible for different recommendations offered to central and local governments in order to assist in delivering services and products online[98]. Yet, it is empirically evidenced that the UK government's attempts to run e-Government structures efficiently have met with limited success, especially in terms of local government. While such initiatives in e-Government such as that implemented for the National Health Services Direct (NHSD) is mainly seen as successful, the same initiatives at local level have not achieved similar positive results. Instead and to some extent, they could be said to have failed. For instance, the expectations set by the UK government referring to e-Government have been met only by 22% of the 500 local

[96] Office of National Statistics: "Percentage of Adults in Great Britain Who Have Accessed Government Websites". [Online] Available at: http://www.statistics.gov.uk/statbase/product.asp?VLNK=5572,2006, on 07/18/06 [Accessed 14 September 2019].
[97] MIMICOPOULOS, M., G.: *e-Government Funding Activities & Strategies*, Department of Economics and Social Affairs, 2004.
[98] Please visit the site www.cabinateoffice.gov.uk for more information.

officials. It is important to note that little is known as to why such e-Government implementation has failed at the local level, despite the fact that the NHSD has achieved such positive outcomes.

It is stated that public administration has naturalised some of the features of the private sector through New Public Management (NPM). This is particularly evidenced in changing the organisational structures of government. It notes that regional councils are launching Customer Service Departments to take over front-of-house functions from operational services that are disparate. One council has gone much further by substituting the position of Chief Executive with a Managing Director[99]. It has been debated for a while whether or not private sector values should be mirrored in government dealings with people. However, NPM considers individuals of the public exclusively as service customers[100]. Thus, apparently, the values might be reflected.

That said, such a limited view is criticised by many scholars and practitioners. It is argued that people fulfil a complicated set of roles in their relationships with the public sector[101]. It is true that one role taken by an individual is as the owner of a public service[102]. Citizens are members of a broader community group. In addition, it is identified that such members might belong to three community groups, such as locale-centric, identity-centric (e.g. ethnic groups) or a community of particular interest[103]. Furthermore, most of the studies focusing on this topic have conducted their research on evaluating maturity in online service provision, either by examining web-based service delivery or offering stages of growth models. However, quite recently, there has also been an interest in examining the original discussion of the benefits and costs of ICT-based transformation in public administration and the involvement of central stakeholders. In Table 3-1, summaries of such evaluation activity are provided.

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[99] HUMPHRIES, P.: *Fury over Council Decision to Appoint Overseas MD*, 2004. [Online] Available at: https://www.theguardian.com/society/2004/apr/15/localgovernment.politics [Accessed 2 September 2019].
[100] FINGER, F. and PECAUD, G.: *From eGovernment to e-Governance.* -In. Proceedings of the 3rd European Conference on e-Government, D. Remenyi and F. Bannister (Eds.), Dublin, 2003.
[101] BEYNON-DAVIES, P. and WILLIAMS, D.: *Evaluating Electronic Local Government in the UK*. -In. Journal of Information Technology, 2003. no. 18, p. 137-149.
[102] STAHL, B. and BUTLER, C.: *e-Government and Transformation of Bureaucracies: Some Remarks About the Development of a CustomerCentred Information Society in Ireland'*. -In. Proceedings of the 3rd European Conference on e-Government, Remenyi D.and Bannister F. (Eds.), Dublin, 2003.
[103] BARNES, M., NEWMAN, J., KNOPS, A. and SULLIVAN, H.: *Constituting 'the public' in Public Participation*. -In. Public Administration, 2003. 81, no.2, p. 379-399.

Table 3-1: The Focus of Evaluation on e-Government

Focus of evaluation	Levels of government	References
Evaluation of e-Government stages of growth:		
Four stages of e-Government maturity	Federal, state and local agencies	Layne and Lee (2002)
Fifth stage added representing participative democracy	All levels	Moon (2002)
Evaluation of the barriers at each stage of growth	All levels	Moon (2002)
Evaluation of electronic service delivery via the internet:		
The website as an intermediary in service provision	Local authority	Griffin and Halpin (2002)
Website content, management and website design	Local authority	Criado and Ramilo (2003)
Evaluation of the integration of IT strategy and use of internet technologies	District council	Phythian and Taylor (2001)
Evaluation of implementation strategies	Unitary authority	Beynon-Davies and Williams (2003)
Evaluation of stakeholder involvement:		
The e-champion leading the e-Government program	Local authority	Foster and Griffin (2003)

Focus of evaluation	Levels of government	References
The need for e-Government hybrids	All levels	Heeks (2002)
Evaluation of the costs and benefits of e-Government:		
IS value in public administration	All levels	Bannister (2002)
Benefits/drawbacks arising from the Information Society	All levels	Bannister and Remenyi (2003)

Source: Griffin D. and Halpin E. 2005. "An Exploratory Evaluation of UK Local e-Government from an Accountability Perspective" The Electronic Journal of e-Government, 3, no.1, 13-28, p.15.

Notwithstanding this, in this chapter, the history of e-Government is outlined and the notion of e-democracy is examined, giving a background to better compare the methods of Lyotard and Habermas regarding disputes and as a general discussion surrounding the foundations of the interplay between local and national government. This is a difference among the acceptance of paralogy and the normative target of consensus. Moreover, the work of Foucault (1980) is contextualised with it by recognising individual voices and associated power relationships in publicised political disputes and if balanced and free access to the dispute is implemented[104]. It has to be said that such questions are pivotal to e-Government as a practice, as well as to the operating of Web 2.0 in general.

The tenets of the aggregation of joint intelligence, along with participation, is infeasible without admitting access to the discussion[105]. Such mutually assured access comprises both the shared ability of people to have access to the dispute and, within a digital framework, for all discussions to be allowed unequivocal access to prospective members. Herein lies the

[104] FOUCAULT, M.: *Power/Knowledge. Selected Interviews and Other Writings 1972-1977*.-Bp.: New York: Pantheon Books, 1980.
[105] O'REILLY, T.: *What is Web 2.0.*, 2005. [Online] Available at: http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html [Accessed 15 10 2019].

dispute of net-neutrality. Above all, the central point in Web 2.0 is that people are equal party to the debate.

Equality can be given through online anonymity, where gender, race and age are either shared or private and where access to the discussion is available to those who are interested in it because of the ubiquity of personal computing[106]. This gives an insight that equality abounds. Expertise must be handled in a different way to informal expertise and this is an issue of important relevance for government-citizenry relations. It is not yet clear if the recognised and formal expertise provided by the civil servant should be viewed as superior to the informal and local lore that has been advanced by citizenry in this context. In addition, how governments employ social media is discussed by analysing Twitter as a popular social media tool employed differently by policy makers across the globe.

Furthermore, how outsourcing might be influential when it comes to public services is also examined, considering that it is widely used in public administration. Analysing such matters is important because it shows how the public sector operates and it might also give a hint of how to delegate ICT infrastructure to the private sector that knows better how such services can be improved, not to mention it having financial resources and human capital to run such projects productively and efficiently. Such analysis is derived from identified empirical evidence regarding outsourcing British military support services and private involvement cases in the prison services of the United Kingdom and Germany. Noteworthy savoir-faire in these fields will also be dissected and laid out in greater detail.

3.2 THE ADAPTATION OF WEB 2.0

The internet is a web of linked and interconnected content[107]. It is a virtual hub for the linking and hosting of images, documentation and applications accessible by computer, TV or smart-phone from anywhere in the world. During the early days of the internet, it was frequently referred to as a virtual world. It has been argued that it is indeed virtual in the way that the pages viewed on a PC cannot be tangibly smelt or touched. The contents, in the way that they

[106] DUTTON, W. H., BLANK, G. and GROSELJ, D.: *Cultures of the internet: The internet in Britain*. – Bp.: Oxford: Oxford internet Institute, University of Oxford, 2013.
[107] O'REILLY, T. *What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software*. – In. Communications & Strategies, 2007. 65, no.1, p. 17 - 37.

have the potential to impact how we live our lives, are more than real. It is now apparent that the internet has become ubiquitous[108, 109] and has significantly changed the way that aspects of society operate[110]. In addition, the internet has the power to inform by spreading important (and useless) information across the globe while also providing an opportunity to trade. It is noted that corporations like AliExpress, eBay or Amazon cannot just be virtual and even though these are interacted with electronically, remain a conventional network of delivery firms and warehouses.

Moreover, it is true that the way of payment, mainly made through PayPal or credit cards, is in a sense virtual. It is fair to argue that the exchange of money for the items they offer is not seen, yet the authenticity of such transactions is not questioned, nor is the enforceability of the invoice at the end of the purchase. It argues that the line between *virtual* and *real* is a spurious one. It is noted that the way a PC is used is significantly different to face-to-face or voice-call communication. Furthermore, anonymity exists for the online audience, enabling behaviour that is not usually forbidden, or is hidden in tenets of normal community. In addition, the use of language and venting beliefs or views that might not be permitted is commonplace[111].

The second generation of internet usage emerged out of the ashes of the dot-come bubble crash[112,113]. It is stated that "Like many important concepts, Web 2.0 doesn't have a hard boundary, rather a gravitational core… a set of principles and practices that tie together a veritable solar system of sites that demonstrate some or all of those principles at a varying distance from that core"[114]. It goes without saying that e-Government or Web 2.0 do not exist

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[108] CHADWICK, C. and MAY, A.: *Interaction between States and Citizens in the Age of the internet: "e-Government" in the United States, Britain and the European Union*. – In. Governance, 2003. 61, no.2, p. 271 - 300.

[109] DUTTON, W. H., BLANK, G. and GROSELJ, D.*: Cultures of the internet: The internet in Britain.* -Bp.: Oxford: Oxford internet Institute, University of Oxford, 2013.

[110] MERGEL, I., SCHWEIK, C. and FOUNTAIN, J.: *The Transformational Effect of Web 2.0 Technologies on Government,* 2009. [Online] Available at: https://poseidon01.ssrn.com/delivery.php?ID=921074095001012088072071007079114089123035081036074048121093013014111007030093002026005050101012008098014079006126088101114088102059062029068018029103000002023127018084063091127101125009079020089088106007112086083123000000031094095020103030067009127&EXT=pdf [Accessed 15 10 2019].

[111] MCNEAL, R., HALE, K. & DOTTERWEICH, l.: *Citizen-Government Interaction and the internet: Expectations and Accomplishments in Contact, Quality and Trust*. – In. Journal of Information Technology and Politics, 2008. 5, no.2, p. 213 - 229.

[112] O'REILLY, T.: *What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software*. -In. Communications & Strategies, 2007. 65, no.1, p. 17 - 37.

[113] OSIMO, D.: *Web 2.0 in Government: Why and How*. Brussels: European Commission, 2008.

[114] O'REILLY, T. *What is Web 2.0:: Design Patterns and Business Models for the Next Generation of Software*. -In. Communications & Strategies, 2007. 65, no.1, p. 17 – 37, p. 19.

as a concrete field in the way print media does. Rather than being fixed in space or time, it is merely a notion, an insight to which several meanings and definitions can be attributed. Also, it is evolving as new content is established and various opportunities become available due to new applications. It is true that this concept lacks much of a growth background to speak of and therefore has not had many opportunities to establish a comprehensive root system for experts and analysts to dive into.

All in all, it has to be said that there is no accurate definition of what Web 2.0 actually means or is; rather, it can be likened to a number of tenets that distinguish it from Web 1.0 applications. Web 2.0 is substantially predicated on the distinction from previous experiences. Moreover, it is important to note that in addition to no precise definition being universally accepted, the time frame between Web 1.0 and Web 2.0 is difficult to ascertain. It is a fact that Web 2.0 and thus Gov 2.0, is noted by developments and transformations in two fields: the use and adoption of social interaction transparency, along with the freedom of and access to data not for their own personal benefit but with a view to raising a sense of the discourse and, as such, the connection between government and citizenry.

3.3 GOVERNING ELECTRONICALLY IN THE PUBLIC SECTOR

It is known that the commentary on the e-Government topic was started by Chadwick and May who quoted Barber (1997)[115], who said that "The trouble with the zealots of technology as an instrument of democratic liberation is not their understanding of technology but their grasp of democracy"[116]. This view is as relevant today as when it was first stated and will continued to apply in order to demonstrate one of the central topics in the development of this field of research. It is noted that one of the jeopardies of such a theme is the fear of being enticed with what technology could or probably will do. It is true, however, that technology can be considered a universal remedy and can make the mundane and existing appear new and fascinating. Furthermore, an online discussion on open government puts the brakes on the universal cure-all angle of technology in terms of how to react as if there is a *miracle cure* for

[115] BARBER, B.: *The New Telecommunications Technology: Endless Frontier or the End of Democracy*. – In. Constellations 4, 1997. p. 208-228.
[116] CHADWICK, C. and MAY, A.: *Interaction between States and Citizens in the Age of the internet: "e-Government" in the United States, Britain and the European Union*. – In. Governance, 2003. 61, no. 2, p. 271 – 300, p. 271.

the issues or supposed issues of a democratic system[117]. In addition, the author suggests the system based on the American example is viewed as: "...a form of engineering. Stir together judicial review, transparency, divided government and out of it, supposedly, comes good government. When that fails to work, we add something new, may be technological .... The real problem is that the drive for miracle cures can neglect or even counteract the political controls that actually do matter: internal controls, better known as civic virtue"[118].

It is critical to recap that Gov 2.0, alongside other online modern technology, does not merely transform the considerably natural desire of democratic thought. It is known that democratic participation can be enabled by such technology. However, it argues that it cannot impact politicians or individual policies. In addition, people can be reached in new ways by technology and it allows us to shed light on the facts and processes for the public to scrutinise but such processes of democratic discussions and any involvement in policy discourse prevails significantly those predicated on human relationships and actions.

3.4 A BRIEF HISTORY OF THE IMPLEMENTATION OF e-GOVERNMENT

It is noted that the history of e-Government, along with e-governance, goes alongside the developmental path of computing. In addition to this, information and communication technologies have been associated with the establishment of states. It is believed that governors have sought long and hard for schemes to collect and transfer information. In a prism of communication, public officials operated to establish postal delivery services and then operated alongside the expansion of tele-industries[119]. The development of 'analytical engines' coincided with the 19th Century's advances in red-tape and the aspiration to officially manage and govern the state, namely, the development of "punch cards as a data-storage medium that could be read by a machine", as adopted in 1890 by the US Census Bureau[120].

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[117] WU, T.: *TNR Debate: Too Much Transparency?* 2009. (Part 1). [Online] Available at: https://newrepublic.com/article/70159/tnr-debate-too-much-transparency-part-i [Accessed 1 October 2019].
[118] Ibid.
[119] OSBORNE, D.: *Reinventing Government*. – In. Public Productivity and Management Review, 1993. 16, no. 4, p. 349-353.
[120] LONGO, J.: *From Massive Mainframes to Massive Data, Databanks to #OpenData, "As We May Think" to Thinking Machines: Computer Supported Policy Analysis and the Future of Practice*. Working Draft for Dobell Symposium, 2011. pp. 1-26, p.5. [Online] Available at: https://jlphdcand.files.wordpress.com/2011/08/longo-working-draft-from-massive-mainframes-to-massive-data-computer-supported-policy-analysis.pdf [Accessed 5 November 2019].

Government agencies, as many other public bodies initiate and keep formal documents and files, historically stored data in "paper memory", a shared store of information which is arguably able to outlive the creators of such documents[121]. It is known that documents are also able to be indexed and retrieved at a later date, evolving an impersonal and governmental knowledge-stock of behaviours.

Furthermore, the growth of a bureaucratic apparatus as part of the state has been imitated by modern industrial developments. In addition, we find the extension of industries of mass production and scale, namely, General Motors, providing widely-produced options for a transforming world[122]. It is worth noting that industry since then has changed dramatically, whilst central and local government have widely preserved similar structures. The significance of automation in the area of management was indicated in Diebold's book *Automation: The Advert of the Automatic Factory,* by Gammon Howard of the US Bureau of the Budget.

It was noted that automation, along with digital technology, can "... make substantial savings and render better service through the application of electronic information processing methods" [123]. It is also important to mention the influence of computerisation by stating that "As the mechanisation of the office picks up speed - and it has only just begun - many white-collar jobs will become more routine and be subject to the same unemployment threats as waged work"[124]. It is assumed here in this statement that some of the influence of computerisation is correct, especially in terms of unemployment risks and consequently, it may lead to cost savings. It is noted that such lower transaction costs have fueled the search for technology-based project realisations in the public sector, in spite of the controversial arguments debated over time[125].

Nevertheless, the subject of e-Government is vast. e-Government is meant to employ computer technologies in order to simplify or resolve issues and actions of governance and governing[126].

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[121] DUNLEAVY, P., MARGETTS, H., BASTOW, S. and TINKLER, J.: *Digital Era Governance: IT Corporations, the State and e-Government*. – Bp.: Oxford: Oxford University Press, 2006. p. 11.
[122] FARMER, D. J.: *to Kill The King: Post Traditional governance and Bureaucracy*.- Bp.: London: M.E.Sharpe, 2005.
[123] GAMMON, H.: *The Automation of Office Paper Work*. – In. Public Administration Review, 1954. 14, no.1, p.63-73, p. 63.
[124] Ibid., p.66.
[125] DUNLEAVY, P., MARGETTS, H., BASTOW, S. and TINKLER, J.: *Digital Era Governance: IT Corporations, the State and e-Government*. - Bp.: Oxford: Oxford University Press, 2006.
[126] HENMAN, P.: *Governing Electronically. e-Government and the Reconfiguration of Public Administration, Policy and Power*. -Bp.: Basingstoke: Palgrave Macmillan, 2010.

Moreover, it was generally stated that the institutional structures evolved in the 19th Century were established following the technology of the time and thus, such a classic world view was held. It is true that mechanisation and steam-power provided enhancements in the effectiveness of the apparatus and 19th Century ideas of democratic principles assured that access to the apparatus continued to be bound to those pulling the strings, rather than most people. It argues that the instruments of the public sector: Organisation, Nodality, Treasure and Authority[127] are connected to and taken from the society they were used in, depending on the boundaries of the technology available. Moreover, it is noted that the successful delivery of the public sector includes organising the twin endeavours of politics and of administration. Yet, within the party-dominated representative democracy structure, these two are indissolubly intertwined. Furthermore, it is known that politicians operate the apparatus; the friction between the day-to-day bureau and the part-time puppeteer is well known[128, 129, 130].

The foremost version of e-Government and, some may suggest, the best possible implementation of the implementation of technological advances in the public sector, is the spread of smart cities. It argues that such a notion shifts technology from being a feature of the conventional public sector to becoming a critical aspect of urban space by giving the potential to respond to different types of situations and demands on a local and personal level. It notes that embedding smart technologies behind the scenes of towns and cities, like in the case of Chicago, where snow ploughs are guided by GPS, giving a second-by-second plough map, allows ordinary people to monitor online which roads have been treated[131].

In addition, an early example for a genuinely smart city has already been constructed in the city of Songdo, South Korea, which is constructed on 1,500 acres of viable land, very close to the city of Incheon, which is around 40 miles away from the capital of the country, Seoul, with a cost of over $35 billion[132, 133]. It is known that smart city projects try to integrate technology into every element of city life, for example, how rubbish trucks are not used for domestic

[127] HOOD, C. C. & MARGETTS, H. Z.: *The Tools of Government in the Digital Age*. – Bp.: Basingstoke: Palgrave, 2007.
[128] HELD, D.: *Models of Democracy*. – Bp.: Cambridge: Polity Press, 1995.
[129] FARMER, D. J.: *to Kill The King: Post Traditional Governance and Bureaucracy*. – Bp.: London: M.E,Sharpe, 2005.
[130] MILLER, H. T. & Fox, C. J.: *Postmodern Public Administration*. – Bp.: London: M.E. Sharpe, 2007.
[131] TOWNSEND, A. M.: *Smart Cities*. – Bp.: New York: W W Norton, 2013.
[132] Gale International LLC. Songdo IBD, 2014. [Online] Available at: http://www.songdo.com/songdo-international-business-district/thecity/master-plan.aspx [Accessed 9 November 2019].
[133] ARBES, R. and BETHEA, C.: *The Atlantic*, 2014. [Online] Available at: http://www.theatlantic.com/international/archive/2014/09/songdo-southkorea-the-city-of-the-future/380849/ [Accessed 8 November 2019].

waste but how it is taken from the living spaces right away into waste processing centres from where energy is then produced.

Moreover, sensors on public transport provide information to every citizen individually as to when their bus is approaching, as well as a tele-presence program developed with Samsung that lets citizens use an integrated video conference program (à la Skype) via their TV to partake in different activities[134, 135]. It is argued that whilst the city of Songdo provides a reference point for the future, it is also a place that only has a population one-third the size of the anticipated 210,000 people [136]. It has to be said that this project is designed and constructed via private and public investment, in which local government is co-operating alongside developers Gale International in order to render the location both profitable for investors and a unique place to live for inhabitants. It notes that the technology has been determined around living, not just governing. It assumes that similar projects in the future might take similar or more advanced steps towards using more advanced technology to maintain such a jointly beneficial project.

Furthermore, in the 21st Century, significant transformations have increased in both societal outlook and technology[137]. It is fair to say that smart city projects such as Songdo have not yet incorporated modern technologies into regular governance but they are indeed able to provide insights that technology is and will one day forever be integrated into future urban developments. Therefore, this technological industry is essentially fast-growing and changes in such an industry question the argument that the only realistic structure of decision-making is representative democracy. For instance, a Big Brother television show can receive anything up to 6 million votes per show, which downplays the notion that it is not practical or feasible for individuals to voice their opinion[138]. It is also argued that the 21st Century has provoked demands surrounding transparency and accountability by ordinary people of people in suits.

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[134] TOWNSEND, A. M.: *Smart Cities*. – Bp.: New York: WW Norton, 2013.
[135] ARBES, R. and BETHEA, C.: The Atlantic, 2014. [Online] Available at: http://www.theatlantic.com/international/archive/2014/09/songdo-southkorea-the-city-of-the-future/380849/ [Accessed 8 November 2019].
[136] Ibid.
[137] HOOD, C. C. and MARGETTS, H. Z.: *The Tools of Government in the Digital Age*. – Bp.: Basingstoke: Palgrave, 2007.
[138] WHEELER, B.: BBC News, 2005. [Online] Available at: http://news.bbc.co.uk/1/hi/uk_politics/4586995.stm [Accessed 11 October 2019].

It is suggested that if the question of accountability and transparency is of ever-increasing significance, as signs of a vibrant and healthy democracy can be made, the central question can also be brought to bear at least at a local level. It is said that "bureaucratic discretion is tantamount to the theft of popular sovereignty", however, the decision-making in planning departments in local government has moved from hidden committees to staff under delegated authority[139]. For instance, it is stated by South Oxfordshire District Council that "over 90% of planning decisions we make are under delegated powers granted to officers. Delegated powers are necessary to help the service achieve Government-set targets"[140].

It is noted that within the scope of local government, an example of providing e-Government in haste can be traced back to an announcement of the 2001 Labour election manifesto which provided that 100% of public services must be available online by 2005[141]. Such commitment to provide public services online was indeed optimistic at best and at the same time, misleading at worst[142]. It is believed that central government was in a position to measure the availability of online services by the Implementing Electronic Government return (IEG), whereby each public entity was self-assessing how much progress they had made with respect to the target of 100% of available online services. It is true that the IEG standards comprised the use of telephone services and contacts shown on the webpage. Moreover, the IEG was operated primarily with the expectation of Web 1.0, even though Web 2.0 was at the start of its life.

3.5 e-DEMOCRATIC PRINCIPLES IN THE PUBLIC SECTOR. e-PETITIONING AS A NEW FORM OF INTERACTION?

It does not mean there will be sudden miraculous improvements in the deliverance of democracy by adding technology to democratic projects. The standards of democracy are the attainment of steps which are decisive, inclusive and negotiated[143]. It is stated that technology may indeed enhance or ruin the democratic process by improving levels of public

[139] MILLER, H. T. and FOX, C. J.: *Postmodern Public Administration*. – Bp.: London: M.E. Sharpe, 2007. p.9.
[140] South Oxfordshire District Council, 2013. Planning targets. [Online] Available at: http://www.southoxon.gov.uk/services-and-advice/planning-andbuilding/application-advice/general-planning-advice/planning-target [Accessed 23 September 2019].
[141] STEWART, J.: *Modernising British Local Government*. – Bp.: Basingstoke: Palgrave, 2003. p.173.
[142] OLPHERT, W. and DAMODARAN, L.: *An Evaluation of the Information Content of Local Authority Websites in the UK using Citizen-based Scenarios*. – In. Library and Information Research, 2007. 31, no. 98, p. 45-60.
[143] MOSS, G. and COLEMAN, S.: *Deliberative Manoeuvres in the Digital Darkness:eDemocracy Policy in the UK*. – In. British Journal of Politics and International Relations, 2014. 16, p. 410-427.

engagement[144,145,146]. It notes that e-democracy is featured in scholarly documentation as being established in engagement either by the digitisation of conventional methods (via the shift to e-petitions, which is known as 'many-to-one'), or be suggestive of a more extreme method that mirrors Guttmann and Thompson's (2004) illustration of participatory democracy, where the dialogue might be labelled 'many-to-many'[147, 148, 149].

Nevertheless, e-petitioning is controversial [150]. Some argue that it is the most successful e-democracy online application ever[151]; others emphasise its ability to improve representative democracy[152] and empower ordinary people[153]. Wright (2012a) notes that tens of thousands of electronic petitions are created on state-led websites every year[154]. Of course, e-petitions are simply a new way to deliver the centuries-old and comparatively unchanged petition to the monarch. It has to be noted that e-petitions operate in many different ways. Usually though, this online platform does not generate e-mails; instead, any citizen in the country can author and post e-petitions.

There are, however, government-led platforms to moderate or block petitions before publication. Such procedures are of course controversial, for they can be seen as censorship[155]. Proponents believe that there is a necessity though, even in countries where freedom of speech is strongly protected. Editing petitions can stimulate free speech and improve the chances of

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144 EGGERS, W. D.*: Government 2.0: Using Technology to Improve Education, Cut Red Tape, Reduce Gridlock and Enhance Democracy.* – Bp.: Lanham, Mayland: Rowman & Littlefield, 2007.
145 CHADWICK, C. and MAY, A.: *Interaction between States and Citizens in the Age of the internet: "e-Government" in the United States, Britain and the European Union*. – In. Governance, 2003. 61, no. 2, p. 271 - 300.
146 DUNNE, K.: *Can online Forums Address Political Disengagement for Local Government*. – In. Journal of Information Technology and Politics, 2010. 7, no. 4, p. 300-317.
147 DIXON, B. E.: *Towards e-Government 2.0: An Assessment of Where e-Government 2.0 Is and Where It Is Headed*. – In. Public Administration & Management, 2010. 15, no. 2, p. 418-454.
148 OATES, B. J.: *The potential contribution of ICTs to the political process*. – In. The Journal of e-Government, 2003.1, no.1, p. 31-39.
149 ELLISON, N. and HARDEY, M.: *Developing Political Conversations?* – In. Information, Communication and Society, 2013. 16, no. 6, p. 878-898.
150 SEITKAZIN, R.: The Role of Knowledge Management in Public Sector: New Digital Perspectives. – In. Transylvanian International Conference in Public Administration, Romania, 2017.
151 CHADWICK, A.: *'Web 2.0: New Challenges for the Study of e-Democracy in an Era of Informational Exuberance'*, in Coleman, S. and Shane, P. (eds), *Connecting Democracy: Online Consultation and the Flow of Political Communication*. Cambridge, MA: MIT Press, 2012. pp. 45-75.
152 BOCHEL, C.: *Petition Systems: Contributing to Representative Democracy?* -In. Parliamentary Affairs, 2013. 66, no. 4, p. 798-815.
153 COTTON, R.: *Political Participation and E-petitioning: an Analysis of the Policy-making Impact of the Scottish Parliament's E-petition system*. -In. University of Central Florida, 2011.
154 WRIGHT, S.: *Assessing (e-) democratic innovations: "democratic goods" and Downing Street E-Petitions.* -In. Journal of Information Technology and Politics, 2012a. 9, no.4, p. 453-470.
155 WRIGHT, S.: *Government-run Online Discussion Fora: Moderation, Censorship and the Shadow of Control*. -In. British Journal of Politics and International Relations, 2006. 8, no.4, p. 550-568.

their success. Banning others can prevent frivolous elections that cost millions or which protect minorities[156]. In the US, for instance, controllers impose terms of participation alongside a user-led system to prevent e-petitions that would violate the law. In the UK, a web-team in the Prime Minister's office moderates e-petitions[157], while in Germany, over eighty staff members run the system[158]. Transparency can be a problem since some examiners removed several petitions without any elucidations[159]. Downing Street publishes every e-petition but sometimes only after editing.

It is possible to shape the agenda of e-petitions in other ways though, for example, by determining how many signatures must be obtained in order to receive an official response from government and how long is given to reach this point. With Downing Street petitions, only 500 signatures are needed to get a reply and online users may select to leave a petition open for a year or more. The WeThePeople platform does not allow a petition unless it gets 150 signatures in one month and to get a reply, a petition must have 100,000 signatures within a month. The chance of getting a reply in this system is less than 0.5 percent[160]. The epetitions.direct.gov.uk website requires 100,000 signatures for consideration of petitions in Parliament but signatures may be gathered over a year. Nonetheless, only a small number of petitions have met the requirement. Out of 26,672 closed petitions, for instance, only thirty-two had 100,000 signatures and only 211 obtained the 10,000 signatures needed to get a reply[161].

These platforms remain popular, nonetheless. PetitionOnline generates more than 5,000 petitions from different countries and has some 30,000 unique visitors every day. In the last eighteen months, this portal has collected over 3 million e-signatures[162]. There is no doubt that e-petitions have an impact on agenda-setting. Coton's (2011) examination of Scottish e-petitions unveiled that "…12.7 percent of E-petitions were closed as a result of the issues raised being implemented, indicating that e-petitions do have the ability to affect policy

[156] WILHEM, A.: *Democracy in the Digital Age: Challenges to Political Life in Cyberspace*. – Bp.: London: Routledge, 2000.
[157] WRIGHT, S.: *Government-run Online Discussion Fora: Moderation, Censorship and the Shadow of Control*. -In. British Journal of Politics and International Relations, 2006. 8, no. 4, p. 550-568.
[158] LINDER, R. and RIEHM, U.: *Broadening Participation through E-petitions?* An Empirical Study of Petitions to the German Parliament. – In. Policy and internet, 2011. 3, no.1, p. 1-23.
[159] COLEMAN, S., HALL, N. and HOWELL, M.: *Hearing Voices: The Experience of Online Public Consultations and Discussions in UK Governance*. – Bp.: London: Hansard Society, 2002.
[160] SNIDER, J.: *Updating Americans. First Amendment Right to Petition their Government*, paper presented at the Harvard Law School Luncheon, 20 September, 2013.
[161] WRIGHT, S.: *E-Petitions. Handbook of Digital Politics*. -In. Edward Elgar, Cheltenham Glos, 2015.
[162] Washington Post Newsweek Interactive, LLC. Foreign Policy, No. – Dec. 2001. p.96-97.

formulation, that the Scottish Parliament takes e-petitions seriously and that e-petitions have the ability to become or change laws"[163]. Successful e-petitions attract media attention; thus, a wider audience is aware of the message[164].

It is argued that the question for an enhancement in how democracy is operated relates to the status of people who are rightfully eligible by means of location and age in order to be able to be part of the decision-making process, either through the use of a representative intermediary or by way of direct engagement. It is worth noting that the positive aspect in such a case is moving the citizenry and their views nearer to decision-making activity.

It is noted that tactics for an improvement of democracy via modern technology are being sought to employ the role of knowledge and data in two ways, precisely by giving information to empower and inform people and picking up little numbers of information from large volumes of citizens. It is said that captured information might be for publicly delegated co-decision or for a consultation. What's more, another aspect of utilising technology in order to support democratic principles is auto-organising possibility of the online world to work outside direct government control. Moreover, it also provides an extension of the public sector and to provide contestations and dialogues away from already establish official diktats. It goes without saying that democracy cannot exist without a dispute between opposing opinions because things arguably become sterile and a public discussion comprising entirely heterogeneous individuals is the essence of deliberative democracy[165]. Such discussion does well when accessible, precise data and information is provided. This narrative of a heterogeneous set of views stimulates an issue of the hierarchy of engagement and goes back to the issue of equality of expertise and knowledge.

[163] COTTON, R.: *Political Participation and E-petitioning: an Analysis of the Policy-making Impact of the Scottish Parliament's E-petition system*. – In. University of Central Florida, 2011. p. 38.
[164] CLARK, S., LOMAX, N. and MORRIS, M.: *Classification of Westminster Parliamentary Constituencies Using E-petition Data* - In. Springer Open Journal, 2017.
[165] WITSCHGE, T.: *Online Deliberation: Possibilities of the internet for Deliberative Democracy*. In: P. M. Shane, ed. *Democracy Online*: *The Prospects for Political Renewal Through the internet*. – Bp.: Abingdon: Routledge, 2004, p. 109-122.

3.6 HABERMAS'S AND LYOTARD'S PUBLIC AGREEMENT

It is argued that Habermas positions himself within the Kantian ideals of moral philosophy which are well-rooted in the search for logical truth. Discourse and its values are employed to expand the wisdom of impartial moral guides[166, 167]. Communicative rationality is "the unconstrained, unifying, consensus-bringing force of argumentative speech" that is pivotal to the experience of being human and is critical to the operating of a viable democracy[168]. Furthermore, universalisation is the guiding tenet at work, as is that ethical and moral rules should be widely applied. It is argued that an idealised logic is provided by the discourse ethics[169]. The discourse ethics fit into the frame of *Ought*, rather than *Does*. The Habermas's ethics are appealing insomuch as they give a set of rules rather than just guidelines

Furthermore, the increase in audience participation in conversations and disputes, be it verbal, pictorial or written, is a determining status of a functioning democracy. It is argued that a determining characteristic of the undemocratic, repressive power structure is the pressure put by the government on involvement in conversations concerning the laws, structures and nature of politics and society. Such disputes might be held in public and it is stated that testing before a public is a feature of a democratic society[170].

Public arguments and thinking involve a process of seeking out a mutually beneficial approach; a non-confrontational method to searching for resolutions on the matter of differing beliefs of what constitutes a "good life"[171]. Moreover, the basic reason of political discussion is the different kinds of beliefs of what exactly makes the good life conflicting. The key issue here is whether or not it is desirable or plausible to look for a compromise among such various world beliefs. It argues that the search for conflict resolution is a discourse, as defined by

[166] REHG, W.: *Insight and Solidarity: A Study in the Discourse Ethics of Jürgen Habermas*. -In. Berkeley: University of California Press, 1994.
[167] ERIKSEN, E. O. and WEIGARD, J.: *Understanding Habermas: Communicating Action and Deliberative Democracy*. – Bp.: London: Continuum, 2004.
[168] FLYVBJERG, B.: *Habermas and Foucault: Thinkers for Civil Society*. – In. British Journal of Sociology, 1998. 49, no. 2, p. 210-233, p.2.
[169] HABERMAS, J.: *Justification and Application: Remarks on Discourse Ethics*. -Bp.: Cambridge: MIT Press, 1993.
[170] RAWLS, J.: *Political Liberalism*. – Bp.: New York, NY: Columbia University Press, 1993.
[171] REHG, W.: *Insight and Solidarity: A Study in the Discourse Ethics of Jürgen Habermas*. – Bp.: Berkeley: University of California Press, 1994. p.3.

Habermas[172,173], yet the search for the development of a solution and the generation of a compromise is a sound endeavour. Furthermore, it is also suggested that "no vintage point other than discourse itself can provide the objectivity once grounded in religious authority and metaphysical world views"[174].

In contrast, there is an argument that it is "… neither possible, nor even prudent, to follow Habermas in orienting our treatment of the problem of legitimation in the direction of a search for universal consensus through what he calls Diskurs (discourse), in other words, a dialogue of argumentation"[175]. Nevertheless, according to Habermas, open debate delivers justice and compromise. However, the other point of view, that of Lyotard, is that rather than looking for such an agreement, the goal of social discussion is paralogous, by which sterility of the imagination is led.

It is also argued that the "consensus is a horizon that is never reached", since leading studies are taking place in an environment not able to adopt a single interpretation of the truth that such a consensus would provide[176]. It is believed that progress is mainly driven by revising and disturbing the existing accords. Therefore, consensus is identified as an immovable state of mental degeneration which inherently opposes what is needed for societal development: mutual agreement on the notions of unattainable truths. In such a way, the opportunities around opening up public discussion and deliberative democracy all provide a critical possibility to confront consensual atrophy.

Notwithstanding this, Foucault (1980) examines the case for the connection between knowledge and power. It is suggested that the "insurrection of subjugated knowledge" that "we have repeatedly encountered … in the course of most recent times, represents an entire thematic to the effect that it is not theory but life that matters; not knowledge but reality"[177]. Furthermore, subjugated knowledge is defined in a few ways. First, as historical knowledge that has been hidden for a long time. Next, as that which has been discounted because of its

[172] Ibid.
[173] ERIKSEN, E. O. and WEIGARD, J.: *Understanding Habermas: Communicating Action and Deliberative Democracy*. -Bp.: London: Continuum, 2004.
[174] REHG, W.: *Insight and Solidarity: A Study in the Discourse Ethics of Jürgen Habermas*. – Bp.: Berkeley: University of California Press, 1994. p.33.
[175] LYOTARD, J.-F.: *The Postmodern Condition: A Report on Knowledge*. -In. Manchester: Manchester University Press, 2004. p.65.
[176] Ibid., p.61.
[177] FOUCAULT, M.: *Power/Knowledge. Selected Interviews and Other Writings 1972-1977*. -Bp.: New York: Pantheon Books, 1980. p. 81.

location on the hierarchy of cognition, or more precisely, the idea of popular knowledge as being in opposition to professional knowledge; the raw lore of uneducated patients as opposed to the educated, respected and qualified doctor.

3.7 e-PARTICIPATION AND ITS ROLE AS A DEMOCRATISING FORCE

E-participation[178] is outlined as "…the extension and transformation of participation in societal democratic and consultative processes, mediated by information and communication technologies (ICTs)"[179]. Therefore, it can be noted that it reflects a perceived reduction in how many people engage politically, a significant disconnect between people and political actors and an obvious decrease in the authority of political organisations. ICT and especially the internet are frequently viewed as a plausible solution to such issues – giving new opportunities and possibilities for political participation. Thus, the public sector across the globe invests in e-participation policies and seeks to increase civic engagement in the decision-making processes.

Yet Chadwick (2003) notes that such democratic trends are earnestly ignored and managerial initiatives which interest more conventional efforts to modernise and establish more efficient public services through offline interaction are given more attention[180]. What is more, e-participation can take many types, such as e-Informing, e-Consulting, e-Involvement, e-Collaboration and e-Empowerment[181]. It is apparent that there are several ways to be involved in the decision-making process and an array of new technology has been employed to assist; for instance, blogs, chat rooms and webpages.

For instance, e-petitioning was a controversial and popular initiative in British politics, especially between 2006 and 2010. It recorded over 12,000,000 signatures in about 33,058

[178] SEITKAZIN, R. Digital Civic Engagement in Hybrid Regimes: The Case of Kazakhstan (Master thesis, Queen Mary University of London), 2016.
[179] SÆBØ, Ø., ROSE, J. and FLAK, L.: *The Shape of e-Participation: Characterising an Emerging Research Area.* -In. Government International Quarterly, 2008. 25, no. 3, p. 400-428, p. 403.
[180] CHADWICK, A.: *Bringing e-Democracy back in – Why It Matters for Future Research on e-Governance.* - In. Social Science Computer Review, 2003. 21, p. 443-455.
[181] TAMBOURIS, E., LIOTAS, N. and TARABANIS, K.: *A Framework for Assessing e-Participation Projects and Tools.* – In. Proceedings 40th Annual Hawaii International Conference on, 2007. p. 90-90. IEEE, 2007. p.7.

different petitions[182]. Moreover, research on e-participation in developing and non-democratic states has considerably increased in recent years[183] but the study field is still in its formative stages[184]. Katchanovski and La Porte (2005) argue that there is a small amount of research on cross-national variations in e-participation, yet there is still only a tiny amount of academic literature that examines the use of e-participation by local authorities[185].

It has been noted that scholars in this realm have frequently debated that empirical research of e-participation has been incidental and sparse rather than sustained and comprehensive[186]. Moreover, some researchers accentuate the possibility of new technologies to strengthen obligatory processes in new ways [187]. It may be argued that new electronic tools are mainly used for vested goals and politicians usually endeavour to shift online tools to match their own interest and needs. In other words, a variety of reactive measures is normally employed by such states, namely, filtering content, restricting internet access or forbidding internet use entirely. It is called reinforcement politics[188].

For instance, the United Arab Emirates and Saudi Arabia are regulating the social and political influence of the internet using ambitious censorship schemes[189]. What's more, a further literature review provides a more radical view in which such online tools might give a possibility for political actors to pose new questions and shift people's attention. To be precise, there is "an ideological bias" in technology, a proclivity to design the world in one particular way instead of valuing one thing over another[190].

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[182] PANAGIOTOPOULOS, P. and ELLIMAN, T.: *Online Engagement from the Grassroots: Reflecting on Over a Decade of e-Petitioning Experience in Europe and the UK*, In Charalabidis, Y. and Koussouris, S. (Eds.), *Empowering Open* and *Collaborative Governance: Technologies and Methods for Online Citizen Engagement in Public Making*, 2012. p. 79-94. Berlin, Germany: Springer-Verlag, p.7.

[183] MURPHY, E.: *Agency and Space: The Political Impact of Information Technologies in the Gulf Arab States*. – In. Third World Quarterly, 2007. 27, no.6, p. 1059-1089.

[184] LINDE, J. and KARLSSON, M.: *The Dictator's New Clothes: The Relationship Between E-Participation and Quality of Government in Non-Democratic Regimes*. -In. International Journal of Public Administration, 2013. 36, no.4, p.269-281, p. 270.

[185] KATCHANOVSKI, I. and LA PORTE, T.: *Cyberdemocracy or Potemkin e-villages? Electronic governments in OECD and post-communist countries.* – In. International Journal of Public Administration, 2005. 68, p. 665-681.

[186] FLAK, L. and ROSE, J.: *Stakeholder Governance: Adapting Stakeholder Theory to e-Government Field*. -In. Communications of the Association for Information Systems, 2005. 16, p. 642-664.

[187] CHADWICK, A.: *The Electronic Face of Government in the Information Age: Borrowing from Murray Edelman*. -In. Information, Communication and Society, 2001. 4, no. 3, p.435-457.

[188] DANZIGER, J., DUTTON, W., KLING, R. and KRAEMER, K.: *Computers and politics: High technology in American Local Governments*. -In. New York: Columbia University Press, 1982.

[189] KALATHIL, S. and BOAS, T.: *The internet and State Control in Authoritarian Regimes: China, Cuba and the Counterrevolution. Information Revolution and World Politics Projects*. -In. Carnegie Endowment for International Peace, 2001. 6, no.8, p. 1-21, p. 2.

[190] POSTMAN, N.: *Technology: The Surrender of Culture to Technology*. – Bp.: New York: Vintage, 1993. p. 13.

In addition, Åström et al. (2012) note that although it may not be in their primary demand, politicians could adapt new ICTs for personal gain and to assure their ongoing relevance[191]. As power begins to drift away from political institutions, their futures will be defined by their ability or inability to line up with digital solutions and flows of information which are beyond themselves. In doing so, they may simultaneously leapfrog into democratisation. In such disputes, the essence of e-participation itself is now a significant problem.

Nevertheless, the occurrence and dissemination of different political systems have, in multiple ways, transformed the playing field for participation in non-representative modes. Moreover, it is argued that participation is a determining element of democracy, therefore, it has been argued that since participation is crucial because political regimes try to maintain the façade of a democratic image in the global arena, possibilities for participation cannot be considerably retained by said regime[192]. Moreover, economic globalisation must also be seen as a significant force for non-democratic states.

It has been argued that the "Washington hypothesis", or the proposition that the liberalisation of the financial market, as well as exporting, leads to more open political communities in less developed states[193]. In other words, in such countries, the conceptual ground of e-participation policies might be economic rather than democratic. Moreover, it still brings tangible advantages for such non-democracies in a way of securing international resources and investment and increasing their external legitimacy. Therefore, although the internet might have a democratising or liberalising impact in such states, democracy is most likely not the abstract ground of public–headed e-participation strategy.

Notwithstanding, Chadwick (2001) argues that a new electronic face of the public sector is enabled by the internet which had not been available previously[194]. Moreover, it has been argued that many possibilities are offered by the internet to political actors to diversify and intensify the paths in which they sustain their positions of power. It has been noted that

[191] ÅSTRÖM, J., KARLSSON, M., LINDE, J., PIRANNEJAD, A.: *Understanding the Rise of E-Participation in Non-Democracies: Domestic and International factors*. -In. Government Information Quarterly, 2012. 29, p. 142-150.
[192] SMITH, S. and DALAKIOURIDOU, E.: *Contextualising Public (e) Participation in the Governance of the European Union*. -In. European Journal of ePractice, 2009, p.2.
[193] RUDRA, N.: *Globalisation and the Strengthening of Democracy in the Developing World*. -In. American Journal of political Science, 2005. 49, no. 4, p. 704-730, p. 704.
[194] CHADWICK, A.: *The Electronic Face of Government in the Information Age: Borrowing from Murray Edelman*. -In. Information, Communication and Society, 2001.4, no.3, p.435-457.

authoritarian states might react to international influence to show legitimacy and modernity via government webpages. However, Jaeger (2005) argues that these webpages are effective in order to ease the position of public institutions because they have an influence on the behaviour of users seeking information[195]. In recent years, more people use web-based tools to question decision makers and if the public sector is only giving one side of the problem, people are being given the strong message that only one solution to that concrete problem is acceptable or correct.

Moreover, Ekman (2009) notes that people are still unconcerned with participation in decision making[196]. In the research, he identified that in some political regimes, the unwillingness and indifference of citizens to shift decision-making was significant. Citizens simply adjusted to the existing political environment and did not even consider that they have power to impact agenda setting and decision-making. Moreover, the political steadiness of hybrid regimes and the role of people remains crucial in this context. Ekman (2009) believes that the steadiness of such regimes goes hand-in-hand with the public sector's ability to suppress the opposition. This proposition explicitly justifies the apathy among citizens[197].

His findings indicate that lower levels of civic engagement are predominantly the result of feeling that nothing can be changed. Nevertheless, Habermas (1996) notes that democracy and political processes are considerably impacted by efficient communication and informed policy-making about public problems among relevant stakeholders who might be influenced by their collective policy decisions[198]. This view is supported by Van Dijk (2000) in the way that online democracy cannot be disengaged from civic engagement[199].

Furthermore, it is important to describe several domestic perspectives that may help to understand why non-democratic as well as democratic countries have enhanced their position in the e-participation index. Theories on modernisation dispute that the adaptation and dissemination of e-participation policy is a purpose of socio-economic modernisation or the

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[195] JAEGER, P.: *Deliberative Democracy and the Conceptual Foundations of Electronic Government*. -In. Government Information Quarterly, 2005. 22, p. 702-719.
[196] EKMAN, J.: *Political Participation and Regime Stability: A Framework for Analysing Hybrid Regimes*. -In. International Political Science Review, 2009. 30, no.1, p. 7-31.
[197] Ibid.
[198] HABERMAS, J.: *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*.- Bp.:. Cambridge, MA: MIT Press, 1996.
[199] VAN DIJK, J.: *Models of Democracy and Concepts of Communication. Digital Democracy: Issues of Theory and Practice*, 2000. p. 30-53.

level of development. To be more specific, long-term secular transformations in economic design have a greater influence on political and social transformations. It has been proposed that development brings about democracy. More freedoms are demanded, as well as open democratic public institutions, especially when people have more wealth[200]. Moreover, modernising economies in western countries have resulted in knowledge-based economies which depend on human capital and which is viewed as a significant factor in the growth of e–participation initiatives[201]. Their conclusions say that e-participation policies are expected above all to be located in more developed and affluent states.

On the contrary, some scholars have concentrated on technology-based justifications. Scholars of this point of view highlight a significant deficiency of developmental research in that the frequent emergence of deviations from the anticipated relationship between e-participation and modernisation cannot be explained. For instance, there are remarkable variations in how many people are online and the spread of e-politics. In addition, many developing countries are moving further forward in comparison to some other post-industrial states in this regard.

The technological perspective notes that social and political institutions are reacting to changes and employ ICTs because technological development is said to be shifting communities in the same way as communities shift technology. The degree of technology impacts the dissemination, rate and influence of e-participation[202]. The last explanatory factor is the level of democratisation. It has been noted that the technological and development points of view see e-participation policies as a purpose of profoundly originated structural phenomena and therefore minimise the role of any government-orientated context. As the development of ICTs gives opportunities for more openness in the decision-making process, new and broader kinds of public involvement in political problems and new possibilities for political institutions and mobilisation and various kinds of political structures must reflect upon this progress in different ways. Moreover, it has to be said that e-participation cannot be viewed outside democracy as it was stated earlier and a literature review suggests that countries with various political regimes are less eager to promote participation, either offline or online.

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[200] NORRIS, P.: *Digital Divide: Civic Engagement, Information Poverty and the internet Worldwide*. -Bp.: Cambridge: Cambridge University Press, 2001. p. 105.
[201] SIAU, K. and LONG, Y.: *Factors Impacting e-Government Development*. -In. International Conference on Information Systems, 2004. 50, no.1, p. 221-234, p. 225.
[202] NORRIS, P.: *Digital Divide: Civic Engagement, Information Poverty and the internet Worldwide*. -In. Cambridge: Cambridge University Press, 2001, p. 106.

In addition, the majority of previous research in the e-participation realm has been concentrated on western states implying that there are strong ties between democratic principles and public participation. In other words, it is explicit that developed states are more inclined to facilitate e-participation than countries with hybrid regimes which mostly seek to suppress civil and political freedoms. However, in recent years, several non-democracies have started to outstrip developed states in e-participation initiatives and the results are conflicting and raise a number of controversial questions. In addition, it could be proposed that the role of citizens cannot be forgotten because they play the role of users of public services for which feedback is provided, or the issue is prioritised rather than initiated.

Therefore, the government at both central and local level is consulted through an ICT-based platform. It might be argued that if the citizens start actively using bottom-up e-participation tools, it would lead to more open government and the main problem of public administration in some countries – corruption for instance - will be diminished by such active use because all decisions would be made transparently and all claims as well as responses would be observable for the public; however, webpages sometimes do not allow people to comment on them or discuss as, for example, other social platforms do, namely, Twitter or Facebook. Moreover, it could be suggested that as they bestow more possibilities for cultural variety in government spheres, activism and public dispute, democratic government structures are much more likely to facilitate e-participation initiatives in which political, as well as civil freedoms, are not suppressed.

3.8 SOCIAL MEDIA USE IN e-GOVERNMENT

Social media comprises social network platform, namely, Google+ and Facebook, micro-blogging services like Twitter, wikis, blogs and media sharing sites including Flickr and YouTube[203]. Social media is viewed as part of the Web 2.0 advancement that is arguably featured by global user content sharing, relational networking and online identity creation[204]. Social media has significant opportunities for e-participation. It is stated that social media comes with four strengths: collaboration, participation, empowerment and time.

[203] SEITKAZIN, R.: *Political Communication and Influence through Twitter*. – In. Pro Publico Bono – magyar közigazgatás, 2021 (pending publication).
[204] MAGRO, M., RYAN, S., and SHARP, J.: *Using Social Networking for Educational and Cultural Adaptation: An exploratory study*, 2009. Conference: Proceedings of the 15th Americas Conference on Information Systems, AMCIS 2009, San Francisco, California, USA, 2009.

Social media inherently involves collaboration and participation due to the fact that it is deeply and firmly rooted in social interaction. Users worldwide are able to interact and establish communities to socialise, share information or work towards common goals or interests. Social media empowers users by being an immediately accessible platform for self-expression. It allows anyone with internet access the freedom to inexpensively or at no cost to publish information, effectively rendering such media democratic. The technology also permits users to share their content in real time [205].

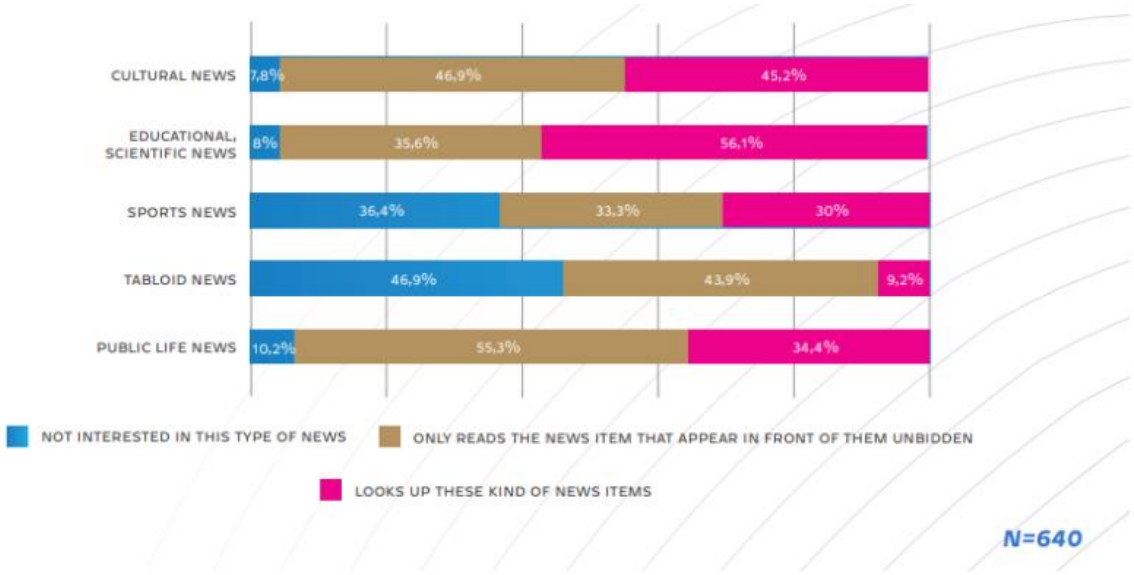
The power of social media is such that the number of users worldwide is supposed to reach some 2.77 billion monthly active users by the end of 2019[206]. Since the number of users is gradually increasing, mainly among youths, it is undoubtedly important for political actors to employ social media channels as a significant tool in political communication, particularly in times of elections. It is assumed that millennials and generation X will represent some two-thirds of the electorate in the near future. Thus, prescient political leaders will need to embrace social media in an extremely innovative way in order to get support from the largest bloc of young voters.

In Hungary, for example, Facebook has become a significant forum for national public discourse and is widely present in the country. It is known that 79% of internet users employ Facebook at least once a month, while 59% utilise it on a daily basis and only 16.5% of individuals use it at least once a week. However, other social media outlets, namely, Instagram, LinkedIn, Twitter, etc. are utilised at least once a month by 27% of respondents, on a daily basis by 12% and weekly only by 11%[207]. It is important to note that the role of social media is important in news consumption as well. It is found that some 75% of internet users use these services[208] (Please see Figure 3-1). In addition, the UK's 2017 General Election demonstrates that the Labour party had huge wins in gaining 21 seats from Conservative rivals because of efficient digital media campaigns that were all about spreading the right messages at the right

[205] BERTOT, J., JAEGER, P., and GRIMES, J.: *Using ICTs to Create a Culture of Transparency: e-Government and Social Media as Openness and Anti-Corruption Tools for Societies*. - In. Government Information Quarterly, 2010. 27, no.3, p. 264-271.
[206] The Number of Social Network Users Worldwide from 2010 to 2021 [Online] Available at: https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/ [Accessed 8 October 2019]
[207] Institute of the Information Society. 2019. Trust, Awareness and Alarm on the internet. National University of Public Service. Available online at: https://iis.uni-nke.hu/hirek/2020/07/15/trust-awareness-and-alarm-on-the-internet
[208] Ibid.

times. Croud.com notes that "… in the six weeks after the announcement of the 2017 General Election, "We Are Social" revealed that the Labour Party increased its following by 61% across all social media platforms"[209].

Figure 3-1: Online news consumption in terms of awareness and topics



Source: Institute of the Information Society. 2019.
Trust, Awareness and Alarm on the internet.

Furthermore, in the UK, the Conservatives' social media following rose by just 6% in the same period [210]. It is argued that the party employed celebrity endorsement, positive messaging and ads to stimulate youths to go to the polls. It is noted that a record 622,000 people registered to vote in the final 24 hours of the registration period with the majority being young individuals. Yet, it is believed that US political leaders are known to play a leading role in this regard. For instance, Barack Obama is the most well-known example of successfully using social media channels in his last election campaign, introducing new strategies for political information diffusion, organising, fund-raising and mobilising [211,212]. It is fair to argue that social media has gained popularity among politicians, even in those countries where transparency of decision-making is questioned.

[209] More: https://croud.com/blog/news/the-2017-general-election-shock-results-the-work-of-digital-marketing/
[210] Ibid.
[211] WATTAL, S., SCHUFF, D., MANDVIWALLA, M. and WILLIAMS, C.: *Web 2.0 and Politics: The 2008 U.S. Presidential Election and an E-Politics Research Agenda*, - In. MIS Quarterly, 2010. 34, no. 4, p. 669-688.
[212] GIBSON, R. K.: *Party Change, Social Media and the Rise of 'Citizen-Initiated' Campaigning.* – In. Party Politics, 2013. 21, no.2, p.183-197

Generally speaking, it provides them an opportunity to interact with previously unengaged people, hence social media platforms have become a legitimate and frequently utilised communication tool. Some researchers argue that political parties and candidates employ Twitter, for instance, to bypass the news media, trying to reach straight for voters[213]. Yet, in some campaigns, Twitter was used to impact the "agendas and frames of professional journalists" [214]. It is also true that politicians utilise Twitter to mobilise their base and attain wider attention[215]. It is noted that due to its use predominantly for political communication purposes, Twitter has developed a sense of mirroring collective emotive trends which provides prognostic power in regard to some events in social, cultural and political areas[216] which can be used positively in many ways, especially in times of elections. For example, if Twitter may predict electoral results, then its content could be used as a real-time supplement to traditional polling.

Moreover, some scholars suggest that the sentiments of tweets correspond with voters' political preferences and opinions[217]. Furthermore, Twitter is said to be an ideal place to disseminate information because it has a retweeting feature which is a simple but powerful mechanism. To put it more precisely, Twitter allows individuals to follow tweets outside of their regular networks through keywords or hashtags. This provides the possibility to monitor tweets from media, politicians and other members of society. Furthermore, journalists, for example, integrate with the public, bloggers and the politicians to produce a massive array of electoral commentary.

Generally, retweeting is linked to certain values of the primary information items. It is suggested that besides just sharing information, people can retweet to publicly agree with someone, to entertain a concrete audience or comment on someone's post. It is apparent that Twitter allows journalists to design narratives, politicians to campaign and the public to spread

[213] STROMER-GALLEY, J.: *Presidential Campaigning in the internet Age*. -Bp.: Oxford, England: Oxford University Press, 2014.
[214] KREISS, D.: *Seising the Moment: The Presidential Campaigns' Use of Twitter During the 2012 Electoral Cycle*. – In. New Media & Society, 2014. 18, no. 8, p. 1473–1490, p.1.
[215] PARMELEE, J. H. and BICHARD, S. L.: *Politics and the Twitter Revolution: How Tweets Influence the Relationship between Political Leaders and the Public*. – Bp.: Lanham, MD: Lexington Books, 2011.
[216] BOLLEN, J., A. PEPE, and H. MAO: *Modeling Public Mood and Emotion: Twitter Sentiment and Socio-economic Phenomena*, Proceedings of the Fifth International AAA1 Conference on Weblogs and Social Media. Available at: https://www.aaai.org/ocs/index.php/ICWSM/ICWSM11/paper/viewFile/2826/3237 [Accessed 19 December 2018].
[217] O'CONNOR, B., BALASUBBRAMANYAN, R., ROUTLEDGE, B. R. and SMITH, N.: *From Tweets to Polls: Linking Text Sentiment to Public Opinion Time Series*, Proceedings of the Fourth International AAAI Conference on Weblogs and Social Media, Washington, DC, 2010.

their political views and opinions about processes and candidates. Twitter serves as an input for them to direct their attention, strategise, vote and campaigns, etc. Researchers from different fields have studied the role of sentiment in online communication. There is an increasing amount of research examining the relationship between sentiment originating in real world phenomena or events and tweets. It is found that events in the economic, political, cultural and social fields do have an important, prompt and highly determined impact on the different dimensions of public mood as shown in tweets.

The results unveiled that large-scale examination of mood can give a "… solid platform to model collective emotive trends in terms of their predictive value with regards to existing social as well as economic indicators" [218]. In the following study of the 2009 German federal election, it was analysed that tweet sentiment correlated to voters' political preferences[219]. Moreover, party sentiment profiles can mirror the similarity of political positions among political parties. It has also been attempted to describe the performance of political debates during the election campaigns by aggregating Twitter sentiment[220].

Further to this, an analytical methodology and visual representations were advanced that may have helped to understand the temporal dynamics of sentiment in reaction to the debate video. The scholars provided metrics and visuals that could be used to notice sentiment pulse, even anomalies in the pulses and indications of debatable topics that could be utilised to apprise the design of visual analytic systems for social media events.

Connecting measures of public opinion obtained from polls to sentiment measured from tweets was also attempted[221]. The findings showed that sentiment word frequencies in tweets met with public opinion several times, much like political opinions in the 2008 to 2009 period and surveys on consumer confidence. At the level of individual communication, research has investigated the role of sentiment in communication in discussion forums, groups or other

[218] BOLLEN, J., A. PEPE, and H. MAO: *Modeling Public Mood and Emotion: Twitter Sentiment and Socio-economic Phenomena*, Proceedings of the fifth International AAA1 Conference on Weblogs and Social Media. Available at: https://www.aaai.org/ocs/index.php/ICWSM/ICWSM11/paper/viewFile/2826/3237, p.450. [Accessed 19 December 2018].
[219] TUMASJAN, A., SPRENGER, T., SANDNER, P. and WELPE, I.: *Election Forecasts with Twitter: How 140 Characters Reflect the Political Landscape*. -In. Social Science Computer Review, 2011. 29, p. 402-418.
[220] SHAMMA, D. A., KENNEDY L. and CHURCHILL E. F.: *Tweet the Debates. Understanding Community Annotation of Uncollected Sources*, Proceedings of WSM' 2009, Beijing, China. Available at: http://www.ee.columbia.edu/~lyndon/pubs/wsm2009-twitter.pdf. [Accessed 20 December 2018].
[221] O'CONNOR, B., BALASUBBRAMANYAN, R., ROUTLEDGE, B. R. and SMITH, N.: *From Tweets to Polls: Linking Text Sentiment to Public Opinion Time Series*. Proceedings of the Fourth International AAAI Conference on Weblogs and Social Media, Washington, DC, 2010.

contexts[222]. The key outcome of such research showed that emotive dimensions of messages[223] that contain both negative and positive tones can trigger more feedback, attention or participation[224]. Moreover, the literature provides that emotional states circulating in messages may disseminate through various types of networks[225]. It is important to note that given the nature of political polarisation which has demonstrated to also predominate in Twitter communication, sentiment associated with certain political parties, politicians and political topics may play a significant role, especially in times of elections.

It is also noted that the diffusion of such sentiments may have an influence on the political opinion-making process. It is clear that governments have employed various tactics to impact elections in other countries through sophisticated online methods which can affect both the balance of political power and more importantly, confidence in political institutions. Although social media has become a necessary instrument in political communication, the potential and peculiarities that various online platforms involve make them much more attractive for politicians in many different countries with various political regimes[226].

As is argued above, Twitter has become one such digital platform of reference in online politics[227]. It is noted that it is particularly politicians who see Twitter as the ideal place in which to construct the interpersonal communication that they have to maintain with the citizenry[228]. Furthermore, the ease of spreading content and making it viral, consulting which issues concentrate on political disputes and evaluating their performance in some of the events they participate in are some of the features that make Twitter one of the most useful digital platforms for political leaders[229].

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[222] SMITH, S. M., and PETTY R. E.: *Message Framing and Persuasion: A Message Processing Analysis*. -In. Personality and Social Psychology Bulletin, 1996. 22, no.3, p. 257-268.
[223] HUFFAKER, D.: *Dimensions of Leadership and Social Influence in Online Communities*. -In. Human Communication Research, 2010. 36, no.4, p. 593-617.
[224] JOYCE, E., and KRAUT, R.E.: *Predicting Continued Participation in Newsgroups*. -In. Journal of Computer-Mediated Communication, 2006. 11, no. 3, p. 723-747.
[225] HILL, A. L., RAND, D. G., NOWAK, M. A. and CHRISTAKIS, N. A.: *Emotions as Infectious Diseases in a Large Social Network: the SISa Model*, - In. The Royal Society Publishing, 2010. 277, no.1701.
[226] JUNGHERR, A.: *The Logic of Political Coverage on Twitter: Temporal Dynamics and Content*. -In. Journal of Communication, 2014b. 64, no.2, p. 239-259.
[227] KRUIKEMEIER, S.: *How Political Candidates Use Twitter and the Impact on Votes*. -In. Computers in Human behaviour, 2014. 34, p. 131-139.
[228] TUMASJAN, A., SPRENGER, T., SANDNER, P. and WELPE, I.: *Election Forecasts with Twitter: How 140 Characters Reflect the Political Landscape*. -In. Social Science Computer Review, 2011. 29, p. 402-418.
[229] CHADWICK, A.: *The Hybrid Media System: Politics and Power*. -Bp.: New York, NY: Oxford University Press, 2013.

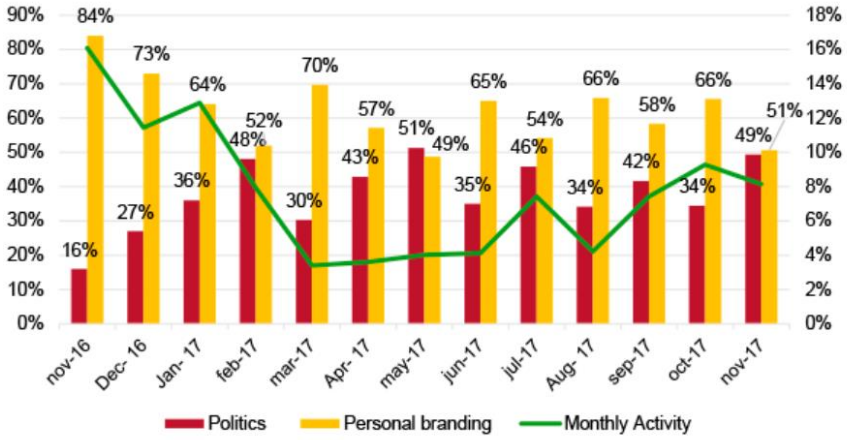
Arguably, Twitter has become a new mainstream medium to promote personalisation in politics. It is noted that such a strategy is one of the most practical resources, both to strengthen and humanise personal ties with other social actors and win the attention of a wider audience. However, similarly, political leaders employ Twitter as a marketing tool since the objective of their content is to provide various types of information about their campaign activities, share links to their personal brand and offer political declarations[230]. Moreover, some other political actors use Twitter as a means by which to spread their messages, whose content is primarily based on self-promotion.

The former reality television star and businessman-turned-Republican candidate who is now serving as 45th President of the United States, Donald Trump, is widely known for turning to Twitter to send out more politically unconventional messages which often consist of attacks of or snarky replies to his critics and army of followers. It is true that his personal Twitter account @realDonaldTrump has been the main information source to generate sentiment and opinion on civil society and has become the White House's public diplomacy channel that produced the most headlines in the media worldwide.

It is even more noteworthy that Donald Trump is the first US President who completely communicates with the public in a personal manner, reshaping the conventional ways of political communication in terms of the use of negative sentiment and formality of language. It certainly creates some tension in global politics; however, his tweets enabled him to shape the ways in which he is covered by media outlets or even by individual journalists. Broader disputes about policies and political agenda in the US also played a significant role[231]. In addition, some may argue that his way of using the Twitter channel is more about self-promotion or more precisely, the promotion of his personal brand. The figure below indicates that sixty-four percent of his tweets are connected directly to branding. The public policy and international relations topics are about 38 percent of the total content. It is clear that during the election campaign, personal branding peaks from November 2016 to January 2017 and again from September to October 2017 when he had a speech at the UN, followed by tax reforms and Obamacare.

[230] GOLBECK, J., GRIMES, J. M. and ROGERS, A.: *Twitter Use by the U.S. Congress*. -In. Journal of the Association for Information Science and Technology, 2010. 61, no. 8, p. 1612-1621.
[231] WELLS, C., SHAH, D., PEVEHOUSE, J., YANG, J., PELLED, A., BOEHM, F., LUKITO, J., GHOSH, S. and SCHMIDT, J.: *How Trump Drove Coverage to the Nomination: Hybrid Media Campaigning*. -In. Political Communication, 2016. 33, p. 669-676. Available at: https://www.tandfonline.com/doi/full/10.1080/10584609.2016.1224416. [Accessed 20 December 2018].

Figure 3-2: Dimensions of Twitter @realDonaldTrump



Source: Information and Documentation Service, Elcano Royal Institute [232]

During his first year of presidency, particularly during the second half of September, 2017, he published a total of 143 tweets, which accounts for more than 9.5 posts a day. For instance, on the 30th September, he had 18 entries[233]. The topics of such tweets mainly concerned the Trump-Republican Tax Relief plan, criticism of certain NFL players' attitudes to the national anthem, the Health Bill, terrorism, immigration, North Korea, etc. It is important to note that personal branding and identity are ever-present elements of Trump's tweets and promotion of such values accounted for 71% of his output in the first year alone.

What is more, in his personal branding dimensions, messages are normally comprised of direct and simple slogans whose aim is to shape the marketing impact of his personal brand. It is argued that such types of slogans are meant to place the "us or them" – those who agree with "making America great again" versus those who are "opposed" to the Trump brand and consequently, opposed to the notion of "making America great again".

It is apparent that such tweets highlight a positive reinforcement to 'us' and promote his image as a brand. It is true that there is no difference in Trump's tweets before and after being elected, since he keeps using this slogan-heavy practice in tweets, which can be argued as being better done during electoral campaigns only. For instance, "MAKE AMERICA GREAT AGAIN", "BUY AMERICAN and HIRE AMERICAN", "THE UNITED STATES IS OPEN FOR

[232] Information and Documentation Service. Elcano Royal Institute. [online] Available at: http://www.realinstitutoelcano.org/wps/portal/rielcano_en/publications/Books [Accessed 23 December 2018].
[233] More tweets: https://twitter.com/realDonaldTrump

BUSINESS". Moreover, his way of sending one-way and directly confrontational tweets do not add value to diplomacy but can only reduce trust and intercultural communication. In addition, it is believed that not promoting diplomatic negotiations, which is the core element in diplomacy, will only de-institutionalise international institutions and diplomacy as a whole and more importantly, the colloquial style in tweets diminishes the weight of intelligence from the diplomatic community. As a result, this could lead to serious consequences and tensions between different nations.

Twitter research is at a very early stage. Literature reviews suggest that tweets containing words that mirror emotive states are more likely to be retweeted more frequently than those which do not have such words. However, both negative and positive emotions circulated in messages help them get disseminated through Twitter. Therefore, it is assumed that not only information in general but also sentiment in political context can be spread, which may impact the political opinion-making process and, as a result, electoral manipulation, which still remains a significant field for future analysis since little is known in this regard.

Thus, it is important to understand the value of social media in contacting voters directly and heavily influencing the results of campaigns. Nevertheless, there is no doubt that the key to the success of Twitter can be connected to the possibilities it provides: for following and responding to specific topics and affairs, for gauging public sentiment online, for informing the general public about issues and actions and for communicating directly with voters, politicians, journalists and other stakeholders.

That said, it is argued that when looking closely at the tweets of some politicians, it is seen that they use social media channels merely for self-promotion and do not concern themselves with interpersonal communication. Hence, it is suggested that, considering the new structures and practices that have been advanced with the advent of the new mainstream mediums, comparative study among various contexts and countries could contribute with important and somewhat interesting insights regarding the use of Twitter in political communication.

3.9 OUTSOURCING IS ONE OF THE MAIN PUBLIC SERVICES

Outsourcing has always been a driver in public services and it is seen in many parts of government, including education, criminal justice and even defence [234]. Flynn (2012) believes that markets play a critical role in the public sector [235]. It is evidenced, for example, that there are private suppliers who provide complex and strategic products for government, such as modern weapon systems, fighter planes and nuclear submarines. It is argued that private companies are now well-equipped in producing defence systems or even know a little bit more about military products.

Therefore, the role of the private sector in national security is increasing. Yet, it is true that, as a client, government normally retains regulatory functions and monitors the process, or even replaces the contractor in case of any failure. This rarely occurs though. Especially with military outsourcing, where defence products are usually constructed following a lengthy delay and items by the end of the contract frequently obsolete, as was the case with Astute class submarines in the UK [236]. Furthermore, Domberger and Jensen (1997) point out that contracting is based on competition [237].

One objection to this argument concerns purchasing. For instance, there are many suppliers of stationery for schools and so headteachers can easily identify whether suppliers meet the requirements or not and therefore whether stationary should be bought directly from only one vendor. Alternatively, the poor quality of products or their price might result in switching to another supplier. It is argued that contracts are written in order to transfer risks with the aim of attaining more cost-effective procurement from the public sector to private companies, as with private involvement in prison services, for instance [238]. It has been known that public prisons are poorly run, whereas private ones are arguably not, even though they have a smaller budget. However, it arguably points out that prison privatisation frequently leads to the entrenchment of incumbent contractors and limits the freedom of governments in replacing

[234] SEITKAZIN, R.: *The Role of Private Sector in Outsourced Military and Prison Services: Experience of the UK and Germany,* Slovakia: Univerzity Pavla Jozefa Šafárika v Košiciach, 2019.
[235] FLYNN, N.: *Public Sector Management,* 2012. -Bp.: UK: Sage.
[236] The National Audit Office. *The Operational Performance of PFI Prisons, 2003*. Report by the Comptroller and Auditor General. HC 700 Session 2002-2003.
[237] DOMBERGER, S. and JENSEN, P.: *Contracting out By The Public Sector: Theory, Evidence, Prospects*. -In. University of Sydney, 1997.
[238] BLANC-BRUDE, F.: *Risk Transfer, Self-Selection and Ex Post Efficiency in Public Procurement. An Example From UK Primary and Secondary School Construction Contracts,* 2013. -In. UK: EDHEC-Risk Institute.

contractors. While it may be true that the state frequently resolves problems when the main supplier has failed, this issue is normally resolved by attracting another firm; for instance, in cases where two companies are competing to deliver infrastructure projects and the first firm is efficient and can control risks and reduce costs while the second is and cannot. State authorities need to delegate the task of operating and building public infrastructure but do not always know which organisations to give contracts to.

If the contract entails the transfer of little or no risk, effective companies have a stimulus to imitate ineffective ones at the bidding stage (adverse selection) and make no attempt to control or reduce costs (moral hazard) [239]. Flyvbjerg and Holm (2003) argue that in such cases, the government must cover any future expenses [240]. Hence, why does the government not elaborate appropriate stimuli schemes within a fixed cost in order to cover any future overruns? It is noted that the core issue concerns how the government should select the contractor and how incentives might be created for the latter [241]. Moreover, if too many risks are transferred to the contractor, a small number of companies will seek to enter the market and competition might be reduced. Notwithstanding this, the most important aspect of contracting is how the contract is written, agreed and implemented. Flynn (2012) notes that poor contracting may bring ineffectiveness or poor service quality rather than failure, whereas intelligent contracting may lead to innovation, responsive services and more importantly, the enforcement of costs will be downwardly maintained [242].

In an attempt to diminish the costs or extend the reach of public services, many countries have engaged private companies in various areas traditionally overseen by the public sector. Private agents feature in the management of national defense in many countries. However, the militaries of the UK and Germany have significant experience in outsourcing with the main transformation and reforms beginning in the 1990s [243]. This includes the delegation of activities to the private sector that was conventionally operated by military entities.

[239] Ibid.
[240] FLYVBJERG, B. and HOLM, M.: *How Common and How Large are Cost Overruns in Transport Infrastructure Projects?*,2003. -In. Transport Reviews.
[241] ABDI, A., LIND, H., BIRGISSON, B.: *Designing Appropriate Contracts for Achieving Efficient Winter Road and Railway Maintenance with High Performance Quality.* -In. International Journal of Quality and Service Sciences, 2014.
[242] FLYNN, N.: *Public Sector Management.* -Bp.: UK: Sage, 2012.
[243] KRAHMANN, E.: *Private Military Services in the UK and Germany: Between Partnership and Regulation*,2005. -In. UK: Routledge. Taylor and Francis Group.

The UK has been one of the leaders in this respect, with the Labour government having dramatically extended the role of the private sector in the provision of international and national security systems. The development of a private military service has been fostered since the mid-1980s. The Thatcher government began this process with the privatisation of the Royal Ordnance, Rolls Royce and Aircraft Corporation [244]. Later, New Labour progressively improved the use of the private sector with the outsourcing of an increasing variety of military services.

In 1998, the flight instructors and simulators for the Hawk Synthetic Training Facility were first outsourced [245]. State participation in the private area has been recognised as hindering value for money, since it would retain the ability of firms to work according to market principles. Instead, authorities were told to view companies as partners that must have similar input into how services are supplied. Nonetheless, it has often been claimed that the use of civilians in place of military personnel may have a negative influence on the 'fighting spirit' and morale of the armed forces [246]. However, civilian contractors have been increasingly involved in military operations in Iraq and elsewhere. Moreover, the UK has created a "new class of reservist, a Sponsored Reserve" [247]. The Sponsored Reserve concept allows the private sector to deliver military support services in conflict situations by accepting parts of their personnel as voluntary "sponsored reservists" [248].

Moreover, according to the contract that was signed in 2001, one third of reservists must serve in the new Heavy Equipment Transporter. The contract will outsource the evacuation, transport and deployment of tanks and other heavy transport in international conflict situations. Furthermore, more operations with reservists were planned as ground and aircrew of the "Future Strategic Tanker Aircraft for in-flight refueling", which cost some £13bn[249]. Interestingly however, it is noted that these reservists have only been involved in the Armed Forces Mobile Meteorological Unit. It is important to note that most contracts produce a tight rapport between private companies and the Ministry of Defense and such projects normally

[244] EDMONDS, M.: *Defense Privatisation: From State Enterprise to Commercialism*. -In. Cambridge Review of International Affairs, 1999.13, no. 1.
[245] KRAHMANN, E.: *Private Military Services in the UK and Germany: Between Partnership and Regulation*. -In. UK: Routledge. Taylor and Francis Group, 2005.
[246] HARTLEY, K.: *The Economics of Defense Policy: The Economics of Military Outsourcing*, -Bp.: UK: Routledge Taylor and Francis Group, 2012.
[247] Ibid.
[248] KRAHMANN, E.: *Private Military Services in the UK and Germany: Between Partnership and Regulation*. -Bp.: UK: Routledge. Taylor and Francis Group, 2005.
[249] Ibid.

entail long-term commitments[250]. Therefore, if a project fails, renegotiation will be fairly expensive. It cannot be denied that the possession of defense service facilities and technical expertise is retained by companies, hence the defense authority might find it complicated to opt out of such contracts due to deficiencies of staff and facilities that could replace the private firm.

By contrast, many European countries have looked to Britain as an example for the outsourcing of defence services and have begun to use this approach [251]. Germany, for instance, launched the reform known as Bundeswehr with assistance from the private sector in the mid-1990s. The German way of outsourcing has been completely different from that of Great Britain. Although Germany planned to incorporate market tenets into the Bundeswehr, it has been more cautious than its British counterpart. For example, privatisation has only slowly developed. Germany has tried to maintain direct regulation over defence support services through partial or even full-state ownership. The main progress began after the signing of the Framework Agreement, which meant that 14 pilot programmes would be privatised. In these outsourcing projects, the Bundeswehr retained ownership of defence assets while companies took over operation, training and management services. Yet, the two projects have been successfully implemented, with training for the Eurofighter aircraft and the Army Combat Training Centre [252.]

It can be argued that these projects were similar to the UK's early outsourcing efforts. The major regulatory mechanism is the short-term contract with private companies as a service provider. However, the short-term contract, in comparison to similar UK projects, presents a controlling aspect. The intended goal is to prevent the Bundeswehr developing long-term dependence on a single service supplier. In addition, it can also perform a coercive function due to the continuation of contracts being predicated on the satisfaction of the Bundeswehr. Nevertheless, the German authorities have used a different management approach with respect to the central segments of the Bundeswehr, namely, clothing suppliers, information technology and the white fleet. Soon after, they launched a private company, the Corporation for Development, Procurement and Operations [253]. In contrast to the UK, the entirely state-owned

[250] Ibid.
[251] ROOS, J.: *Bundeswehr Embraces defence Reform. Troop Cuts, Out-of-area Operations Spur German MoD's Pursuit of ''Partnership'' with Industry*. -In. Armed Forces Journal International, 2000.
[252] KRAHMANN, E.: *Private Military Services in the UK and Germany: Between Partnership and Regulation*. -Bp.: UK: Routledge. Taylor and Francis Group, 2005.
[253] Ibid.

CDPO appears to have been eager to support straight participation in the provision of military services.

Furthermore, this body has argued that the constitution demands that a co-ordinated function and control over the private suppliers of military services must be kept by Bundeswehr. Unlike the UK, Germany used joint ventures and corporate shareholders as a way of controlling the private companies, rather than depending exclusively on the terms of the contract. In Germany, strategic concerns were more paramount issues than cost efficiency. Furthermore, the Higher Regional Court of Dusseldorf stated that companies with a "minority public ownership" were subject to procurement procedures [254]. This decision may push the Bundeswehr towards entire privatisation and traditional outsourcing.

On the other hand, private involvement in prison services has been used in many countries in the context of New Public Management theory. There are two different types of private involvement in the management of prisons: The French and North-American models [255]. In the North-American version, private companies might participate in all aspects of the prison services, whereas in the French, the state retains the major functions such as controlling, maintaining and occasionally punishing inmates [256]. Quality outcomes from outsourcing emerge from suitable safeguards that the public sector puts into the contract [257].

There is perhaps some evidence to support the idea that private participation in public services, as in prisons, will result in cost-shortening at the expense of quality. Furthermore, correctional maintenance must be assessed in terms of the capacity to circumvent overcrowding, reduce recidivism and restrain violence. Hart, et al. (1997) suggest that quality is complicated to enforce and measure, for example, with respect to the adequate legal and medical assistance of inmates or the use of force within prisons since qualitative issues are barely contractible and compensation for the activities of prisons is fixed and private companies are driven by cost-reduction efforts [258]. In other words, the quality of service improvement is neglected [259].

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[254] Ibid.
[255] ARAÚJO, J.: *Privatisation of Prisons*. -Bp.: San Paulo: Revista dos Tribunais, 1995.
[256] CABRAL, S. and AZEVEDO, P.: *The Modes of Provision of Prison Services in a Comparative Perspective*. -In. Brazil: Universidade Federal da Bahia, 2008.
[257] SEGAL G. and MOORE A.: *Weighing the Watchmen: Evaluating the Costs and Benefits of Outsourcing Correctional Services.* -In. USA: Reason Public Policy Institute, 2002.
[258] HART, O., SHLEIFER, A., VISHNY, R.: *The Proper Scope of Government: Theory and an Application to Prisons.* -In. Quarterly Journal of Economics, 1997.112, no. 4, p. 1127–1161.
[259] CABRAL, S., LAZZARINI, S., and AZEVEDO, P.: *Private Entrepreneurs in Public Services: A Longitudinal Examination of Outsourcing and Statisation of Prisons*. -In. Brazil: Strategic Entrepreneurship Journal, 2013.

Drawing on this anticipated quality-cost trade-off, Hart, et al. (1997) argue that in significant dimensions, such as the quality of the workforce and prison violence, prison contracts are notably incomplete [260]. What's more, in many cases, private companies are involved in outsourcing but the public sector also retains some supervisory functions. Baun and McGahan (2009) believe that outsourcing might feature a hybrid arrangement [261]. The contracting prison industry and government-business relationship is employed where oversight is only provided by the government in the way that the service conforms to public specifications. Therefore, the question is: to what extent does the private sector adequately operate such complex services?

While both countries use private entities in prison services, the UK is the leader in this movement[262]. In 2001, private prisons held about 9.4 percent of the UK's total adult correctional facility population, representing more than 90,000 offenders[263]. The privatisation of prisons was achieved by addressing the problem of prison overcrowding. The role of private involvement in prison services is substantial and signs of abatement are emerging. The Altcourse is the first designed, erected, operated and financed private prison in the UK and was opened in 1997. In addition to this, in the UK, 14 prisons were contractually operated by private firms, namely, G_4S, Serco and Sodexo. It has been argued that the quality of private prisons is decreasing to enhance efficiency. The main arguments for this tendency are deficiencies of experienced personnel and high workforce turnover[264].

Therefore, it has been said that the environment in such prisons is less safe than in public prisons because of the experience of wardens and officers. However, the report concluded that the prison service had benefited from private sector participation. It may be suggested that allocated funds for private sectors in both countries were directed away from prison improvement. More precisely, it has been claimed that private prisons have a tendency to set more CCTVs up in place of security personnel for the purpose of maximising profits. Does this mean less security in such prisons? It is noteworthy that the UK government could not

[260] HART, O., SHLEIFER, A., VISHNY, R.: *The Proper Scope of Government: Theory and an Application to Prisons*. -In. Quarterly Journal of Economics, 1997. 112, no.4, p. 1127–1161.
[261] BAUM, J. and MCGAHAN, A.: *Outsourcing War: The Evolution of the Private Military Industry After the Cold War*. -In. Rotman School of Management, University of Toronto, Toronto, Canada, 2009.
[262] POZEN, D.: *Managing a Correctional Marketplace: Price Privatisation in the US and the UK*. -In. USA: Journal of Law and Politics, 2003.
[263] Ibid.
[264] The National Audit Office: *The Operational Performance of PFI Prisons. Report by the Comptroller and Auditor General*, 2003. HC 700 Session 2002-2003.

find any private operator for the failing Brixton prison. The situation in Germany is rather different, as the German constitution does not allow prisons to be operated entirely by private companies[265].

The massive financial issues entailed by the reunification of the country have pushed the government to develop the idea of having a private sector presence in the building of prisons and to then lease these to the state. In some administrations, prison personnel are to be replaced by security agencies such as Serco, which runs five detention facilities in the UK[266]. However, because of the law's limitations, direct supervision will be conducted by public servants. As in the UK, overcrowding is the central and most controversial issue in Germany. In some states, such as Bavaria, Berlin and Thuringia, the prisons are overcrowded, whereas in Hamburg, there are a lot of empty cells[267]. Overall, the capability of private companies to run prisons must be profoundly questioned in these countries because the G_4S Olympics debacle showed that constant control and supervision is needed from the government side.

It is believed that these examples show that governments tend to delegate risks to the private sector, even if the contract does not cover future overruns. It may be suggested that a lack of professional personnel could lead to poorly written contracts. For example, military products are usually out-of-date. Why is this? Such contracts are designed for a long-term commitment and normally the contractor rarely monitors the project. It is crucial to co-ordinate and update the terms and conditions of contracts in order to prevent future delays and trade-offs. In the case of prisons, the number of inmates is climbing but some public prisons are poorly operated and there is limited funding, whereas private companies can and will eagerly run prisons in a good way and spend less money to accommodate prisoners. It is therefore apparent or can be at least considered that the private sector must be involved in operating state ICT projects, not in the form of sub providers but from task one - preparing the project - to evaluating it. However, of course, this should be executed under the constant supervision of public officials.

[265] WOLFGANG, L.: *The Public and Private Sectors in Germany: Re-Thinking Developments in German Penal Control*. -In. Germany: University of Munich, 1996.
[266] BENOIT, B. *Serco Fraud Probe Halts Prisons Deal*, 2013. The Financial Time.
[267] BOETTICHER, A. and FEEST, J. *German Criminal and Prison Policy*, 2008. Germany: University of Bremen.

CHAPTER FOUR

HUNGARIAN PUBLIC ADMINISTRATION IN THE DIGITAL AGE

CHAPTER FOUR

HUNGARIAN PUBLIC ADMINISTRATION IN THE DIGITAL AGE

4.1 INTRODUCTION AND OVERVIEW

It is quite important for the Hungarian government to bring its public administration system into the modern era by increasing the utilisation more recent information and communication technologies (ICTs) in the relationships between public entities and citizenry. It is true that over the past several years, substantial steps have been put in place by the Hungarian government to reform the field of public administration. The most significant outcomes include the alleviation of excessive red-tape, as well as the minimisation of bureaucratic processes.

In 2000, the Prime Minister's Office created the governmental commissioner institution to be put in charge of information technology (IKB). Its central objective is to initiate the program of "Electronic Government". It argues that a serving public administration is one that is monitoring the needs of its residents and reforms its administration in such a way that every voice is heard and taken into account. Moreover, all public services are to be available to all while being efficient, transparent and providing downloadable information. The platform used to operate public services has experienced relatively speedy development thanks to advances in the area of ICT in the country since the 90s.

There exist three principle aspects supporting the implementation of e-Government in Hungary:

- The availability and accessibility of communicative and computing technologies relying on the financial aspects of the economy;
- Platform security;
- Enhancing awareness of Hungarian society, including citizens and government employees, to establish an information society which cannot only provide but be involved in e-Government services as well.

It is known that the IKB project identified the importance of training and enabling civil servants to implement and work with e-Government approaches. Yet, the IKB program only had two significant projects out of 36 engaged in the higher-education training of civil servants[268]. This is important to emphasise because not only are public services embraced by the information society but other categories as well, such as students and ordinary individuals countrywide.

It argues that the knowledge they possess, relevant experience and needs are indispensable for any e-Government to operate successfully. The survey conducted by the IKB in 2001 demonstrated that 70% of the respondents declared that they used the customer service of the mayor's office in person and only 30% of survey participants admitted that postal correspondence was the way of such interaction[269]. It is clear that this has changed dramatically since then, yet it may still be relevant in some areas in Hungary since digital illiteracy is arguably still widespread. Therefore, it is important to outline steps towards minimising such trends at state as well as EU level.

To begin with, it is important to indicate that since 2010, the number of ministries has decreased to 9 and the number of public administration bodies reduced from 649 to some 300[270]. Similarly, at territorial administration level, 17 former administrative entities were transformed into county (or in the case of the Budapest District) government offices. It has to be said that such integrations enabled front and back office structures and functions to be separated. In addition, the electronic reshuffling of back-office functions was established according to the frameworks of initiatives supported by EU funds.

Furthermore, another noteworthy step implemented towards making public administration less bureaucratic is establishing a system of physical points of single contact (PSC), which has actually been practised since 2011[271]. These are also known as Government Windows. Such PSCs totalled 278 in Hungary by autumn, 2015. It goes without saying that these PSCs simplified citizens' affairs in many ways. The PSCs engage digital resolutions via a centralised electronic PSC platform. It is arguably stated that the general requirement for the inclusion

[268] TÓZSA, I. and BUDAI, B.: Electronic Government of Local Administration in Hungary. – In. Public Management Forum: A Quarterly Newsletter for Public Administration Practitioners in Central and Eastern Europe, 2002.
[269] Ibid.
[270] Please see more key facts about eGovernment in Hungary available at: http://eugo.gov.hu/key-facts-about-hungary/egovernment-hungary
[271] e-Government in Hungary. Edition 18.0, February 2016.

principle has been met by creating such PSCs. It is known that there are some 300 procedures that can be administrated via such Government Windows[272]. In addition, the legal preconditions for e-Government services were launched after Act CXL of 2004 on the General Rules of Administrative Procedures and Services was replaced by Act CLXXIV of 2011[273], with the implementation of regulated services of e-administration taking place in April, 2012. Also, in July, 2015, a new act regarding Hungarian eID cards was implemented, with the new card being issued nationwide as of 2016 and acting as a replacement to three other cards. Presumably, this made people's lives easier to some extent.

It was assumed that the new legal initiatives systematically adopted after 2012 seemed to be technology-neutral and therefore were positively adapted to rapidly changing environments due to the development of ICTs. It is true that while the deregulation process was in progress, some 200 outdated e-Government-related legal frameworks were revoked. Moreover, while the extent of Hungarian e-Government progressively evolved, a distinct e-Government legal system became necessary. However, some developments on this matter have already been undertaken which maintain the successes of the reforms almost a decade ago and opportunities for the digitisation of procedures have been further extended.

Above all, European Union joint-financed programs to advance front- and back-office functions of e-administration under the guise of the comprehensive New Széchenyi Plan were implemented between 2007 and 2015 in the country. Such financial resources were made available thanks to the State Reform Operational Program (AROP) and the e-administration Operational Program (EKOP). However, the funding for further advancements were provided through the Public Services and Public Administration Development Operational Program (KÖFOP) during the actual financial time-frame between 2012-2020[274].

Furthermore, the institutional framework for e-Government is mainly predicated on the following central actors:

- The Interior Ministry is responsible for legal aspects and the developments of e-Government services;

[272] Ibid.
[273] Ibid.
[274] Ibid.

- The Central Office for Administrative and Electronic Public Services (KEK KH) is responsible for maintaining the authentic central registries and providing official documents such as passports, ID cards, etc. In addition, it provides relevant database for public administration institutions, local government, the private sector and residents. It also operates some of the major systems of Hungarian public administration by supporting governmental web-platforms and other state websites, as well as taking care of the 24/7 Government Hotline and customer service of the EUGO Portal. Moreover, this authority provides ICT support for national elections, referendums and consultations;

- The National Info-communications Service Provider Ltd. (NISZ Zrt.) is in charge of maintaining maximum ICT support for public authorities and entities by running governmental ICT infrastructure and providing eGovernment solutions[275].

In addition, there are other major players in the Hungarian e-Government landscape, such as:

- The Prime Minister's Office, which co-ordinates development of physical points of single contact and territorial public administration;

- The Ministry of National Development, which oversees ICT infrastructure development

- The National Council for Telecommunications and Informatics (NHIT), which is an advisory institution working alongside the Hungarian Government[276].

4.2 E-INITIATIVES IN THE EUROPEAN UNION

The hierarchic public administration framework put forth by Max Weber featured political neutralism and administrational expertise. Its main aim is to respond to objections formulated by the state. The Anglo-Saxon model is made up of the foundation of the executive administration, unlike the structure of EU public administration. It is noted that when

[275] e-Government in Hungary. Edition 18.0, February 2016.
[276] Ibid.

compared with the unlimited precedence of public interest that the European model features, the Anglo-Saxon structure is featured by a blend of interests. In other words, it accentuates the dominion of the balance system. Nevertheless, the European Union does not reveal any specific expectations in regard to the member states' public administration. It is known that it is only necessary to be trustworthy, transparent and to function with democratic tenets in mind. Yet, things changed considerably since this tenet was settled. The EU's former primary priorities have shifted rather than transformed. Growth led to unexpected effects considering the EU's operation as a supranational community.

Public administration and the collaboration of administrational systems are key to resolving the issues of enlargement and integration by working in line with the EU. It argues that the EU is not expected but permitted to neglect the objective to synchronize the public administration of Member States since the day-to-day functioning of public administration is directly related to the daily life of its citizenry. There are numerous significant steps in establishing a well-designed e-Government in the EU.

For instance, an eEurope that is a member of the Lisbon strategy to help the EU become the most dynamic and competitive knowledge-based economy with better social cohesion and employment by 2010[277]. It is noted that in eEurope 2002, there was a part dedicated to e-Government. In addition to cheaper, more secure and quicker internet, the following was proposed: EU institutions and national public administrations should do all they can to employ information technology to develop reliable services for citizens and businesses. Public administrations are recommended to:

– develop internet-based services to enhance access to public information and services, use the internet to improve openness of public administration matters and interactively involve citizens and businesses in decision-making. Public sector information resources should be more easily available for all.

– guarantee that digital technology is well implemented within administrations, including the use of open source software and electronic signatures and establish electronic marketplaces for e-purchasing and building on new community frameworks[278].

[277] eEurope: *An Information Society For All, Draft Action Plan*. European Council in Feira, 19-20 June 2000.
[278] Csáki-Hatalovics, G.: *eGovernment in the Past Few Years in Hungary*. -In. Acta Univ. Sapientiae, Legal Studies, 3, no. 1, 2021, p. 5-15.

Furthermore, the draft common list of basic public services was introduced by the Action Plan. For e-Government, the following two indicators are the main ones for benchmarking:

1. percentage of basic public services available online;
2. use of online public services[279].

It is believed that in order to make such indicators workable, the Member States have agreed on a common list of 20 basic public services, in which 12 concern ordinary citizens and 8 are dedicated to businesses. It has to be said that a four-stage framework was measured to make progress in placing such online services together.

These are:

1) posting of information online

2) one-way interaction

3) two-way interaction

4) full online transactions including delivery and payment.

Public Services for Citizens:

1) Income taxes: declaration, notification of assessment

2) Job search services by labour offices

3) Social security contributions (3 out of the following 4) – unemployment benefits – family allowances – medical costs (reimbursement or direct settlement) – student grants

4) Personal documents (passport and driver's license)

5) Car registration (new, used and imported cars)

6) Applications for building permission

7) Declarations to the police (e.g. in case of theft)

8) Public libraries (availability of catalogues, search tools)

9) Certificates (birth, marriage): request and delivery

10) Enrolment in higher education/university

11) Announcements of moving (change of address)

12) Health-related services (e.g. interactive advice on the availability of services in different hospitals; appointments for hospitals).

[279] eEurope: *An Information Society For All, Draft Action Plan*. European Council in Feira, 19-20 June 2000, p.30.

Public Services for Businesses

1) Social contributions for employees
2) Corporation tax: declaration, notification
3) VAT: declaration, notification
4) Registration of a new company
5) Submission of data to statistical offices
6) Customs declarations
7) Environment-related permits (incl. reporting)
8) Public procurement[280].

It is clear that the EU is more likely to enhance service provisions and this not just by defining demands which result in the success of e-Government in every sector of public administration. The European Administrative Space has a core role in enabling the EU Member States' legal framework to accept this approach. It is argued that the plan is to get governmental services to equal levels in each EU state. In other words, uniformity has to be established based on a perception of public services but not from the perception of various institutions.

Moreover, the eEurope 2005 Action Plan indicated among its main objectives an interactive public service being provided on multiple platforms and accessible for all. It is known that in the eEurope 2002 Action Plan, Member States consented to digitally deliver every basic service by the end of 2002.

Table 4-1: Action Plan

Action	Actor(s)	Deadline
Essential public data online including legal, administrative cultural, environmental and traffic information	Member States, supported by European Commission	end 2002

[280] Csáki-Hatalovics, G.: eGovernment in the Past Few Years in Hungary. -In. Acta Univ. Sapientiae, Legal Studies, 3, no. 1, 2021, p. 5-15, p. 7.

Action	Actor(s)	Deadline
Simplified online administrative procedures for business e.g. fast-track procedures to set up a company	Member States, European Commission	end 2002
Develop a co-ordinated approach for public sector information, including at European level	European Commission	end 2000
Set up pan-European portals of interactive public services (implementation through IDA program)	European Commission, Member States	end 2001
Promote the use of open source software in the public sector and e-Government best practice through the exchange of experiences across the Union (through the IST and IDA programs)	European Commission, Member States	mid 2001
All basic transactions with the European Commission must be online (e.g. funding, research contracts, recruitment, procurement)	European Commission	end 2001

Source: eEurope, An Information Society For All, Draft Action Plan. European Council in Feira, 19-20 June 2000, pp. 22-23.

However, some of these were included in the proposed eEuope 2005 Action Plan:

– broadband connection for all public administrations;

– interoperability framework to support the delivery of pan-European e-Government services to citizens and enterprises;

– interactive public services;

– electronic public procurement;

– public internet Access Points;

– culture and tourism – e-services to promote Europe and to offer user-friendly public information[281].

It is clear that based on these actions, some progress has been realised but countless services remain untouched.

4.3 THE IDA PROGRAMS

The IDA (Interchange of Data across Administrations) initiative was launched in 1995 as a result of a Community Decision that assisted in the development of the IT infrastructure, as well as to set up common standards and bring together business processes from across the European Union. In 1999, two interrelated Community Decisions initiated the second stage of the IDA program known as IDA II[282]. The main objective was to maintain the prompt e-exchange of information between EU Member States. The mission was to establish pan-European technological networks for public administrations. The annual budget of the project was around €24 million and IDA II was set to motivate the use of information technologies to various sectoral policy levels and stimulate the interoperability of national infrastructures[283]. It is noted that the initial target was a back-office orientated approach, however, when it came to an end in 2004, the project was leaning towards the development of services focusing on citizens and businesses.

Moreover, the second stage of the IDA Program (IDA II) was implemented after the adaptation by the European Parliament and the Council of Decisions of Nos 1719/1999/ EC and 1720/1999/EC (The Guidelines and Interoperability Decisions) on 12 July, 1999[284]. Overall,

[281] Csáki-Hatalovics, G.: eGovernment in the Past Few Years in Hungary. -In. Acta Univ. Sapientiae, Legal Studies, 3, no. 1, 2021, p. 5-15, p. 8.
[282] Report on the Evaluation of the IDA II Program. Communication from the Commission to the Council and the European Parliament. COM (2005) 493 Final.
[283] Ibid.
[284] Ibid.

IDA II funded joint-interest programs in almost 20 policy areas. It argues that the EU's requirements of the interchange of data can be matched through uncoordinated efforts by each Member State. Therefore, it was necessary to assure collective co-ordination to reach a full integration of systems across the EU. In addition, the five-year program on the interoperable provision of European-wide e-Government services to businesses and citizens and public administrations was established by decision of the European Parliament and of the Council (the IDABC Decision) on 1 January, 2005, as an outcome of the IDA and IDA II programs[285].

The main goal of the IDABC program was to recognise, promote and support the establishment and development of pan-European e-Government the interoperable telematic networks and services to be underlined. It is said that such an initiative was designed to assist in achieving objectives set up in the field of e-Government by:

– continuing to promote the introduction of IT in policy domains, especially when assisted by legislation;

– building a common infrastructure for cross-border information exchanges for more efficient communication between departments;

– encouraging the emergence of new services for citizens and businesses[286].

Furthermore, the final report of the IDABC program was primarily positive, indicating that the initiative was quite successful with respect to e-Government policy priorities of the European Commission, as outlined in the i2010 strategy[287]. What is more, the initiative played a crucial role in promoting the alliance of Europe via jointly operable public administration and by evaluating its implementation. Notwithstanding the positive outcomes, the final report had some suggestions for further improvements that must be considered when follow-on programs are drawn up (ISA- Interoperability Solutions for European Public Administrations).

[285] Corrigendum to Commission Decision 2004/387/EC of 28 April 2004 — Decision 2004/387/EC of the European Parliament and of the Council of 21 April 2004 on the interoperable delivery of pan-European eGovernment services to public administrations, businesses and citizens (IDABC).
[286] Csáki-Hatalovics, G.: eGovernment in the Past Few Years in Hungary. -In. Acta Univ. Sapientiae, Legal Studies, 3, no. 1, 2021, p. 5-15, p. 9.
[287] I2010: Information Society and the Media Working Towards Growth and Jobs. Communication from the Commission of 1 June 2005 to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions. COM (2005) 229 Final.

4.4 THE ACTION PLAN OF THE COMMISSION

The European Commission's e-Government Action Plan 2011-2015 is mainly related to provisions of a newer incarnation of e-Government services. There are four objections predicated on the Malmö Declaration:

– Empower citizens and businesses;
– Reinforce mobility in the Single Market;
– Enable efficiency and effectiveness;
–Create the necessary key enablers and pre-conditions to make things happen[288].

This Action Plan is aimed at making European and national policy measures operate in harmony by supporting e-Government into a more modern era of transparent, open, collaborative and flexible services at regional, local, national and European level. The main objection is about optimising the development of cross-border e-Government services given to businesses and citizens, no matter their native country. The development of a platform which stimulates system harmony and prior enablers, namely, e-identification and e-signatures, is included.

Moreover, services within the EU enhance the electronic single market and benefit any current legal frameworks in realms such as e-Procurement, e-Identification, e-Health, social security, e-Justice and mobility, while providing specific advantages to governments, citizens and businesses in Europe. It is believed that the Commission must lead by example in further implementing e-Government within its institutions. The goal was that by 2015, half the population and 80% of businesses should have been employing e-Government services.

4.5 E-GOVERNMENT BENCHMARK

It is true that rapid developments in society bring forth new expectations and demands which are fueled themselves by simultaneously evolving tools and technologies. Understanding the full potential of such technologies is the key challenge for public administration. It argues that this requires new ways of managing, digitising interactions with businesses and citizens and

[288] Ministerial Declaration on eGovernment approved unanimously in Malmö, Sweden, on 18 November 2009.

optimising internal processes and user experiences to launch new institutional models and partnerships. Spanning such attempts across national borders under a common e-Government plan is critical to understanding the Digital Single Market.

Europe's vision on e-Government is clearly emphasised in the Tallinn Ministerial Declaration on e-Government, as in "…remains to strive to be open, efficient and inclusive, providing borderless, interoperable, personalised, user-friendly, end-to-end digital public services to all citizens and businesses – at all levels of public administration"[289]. It is known that for a while, the e-Government Benchmark has been a yearly observing tool of the EC to give insights into how ICT is being enjoyed in the public sector. It is an inter-annually identified Benchmark of e-Government services within Member States. The e-Government Benchmark framework corresponds to the main policy priorities in the e-Government Action Plan and brings insights into the state-of-play of e-Government in 36 European states[290].

The e-Government Benchmark report regularly observes the evolvement of e-Government in states across Europe. This assessment is predominantly predicated on concrete indicators that are categorised into several top-level benchmarks:

- **User Centricity** marks how much of a particular service is offered and how it is received;
- **Transparency** specifies how transparent public authorities are with respect to:
- i) their own performance and responsibilities,
- ii) how the service is delivered and
  iii) the kind of data being shared;
- **Cross-Border Mobility** reveals how much EU businesses and citizens can employ digital services in another country;
- **Key Enablers** indicates to what point technical pre-conditions are provided online[291].

These are:
i) Electronic Identification (eID),
ii) Authoritative sources,

[289] Tallinn Ministerial Declaration on e-Government, p. 3.
[290] European Commission (2016). The EU e-Government Action Plan 2016-2020.
[291] e-Government Benchmark 2020: e-Government that Works for the People. Shaping Europe's Digital Future. Report, 23 September 2020.

iii) Electronic documents (eDocuments),
iv) Digital Post, which refers to the opportunity that public authorities have at their disposal to interact with citizens or entrepreneurs using various email solutions[292].

What is more, the data collected from the above are handled by Mystery Shoppers. Mystery Shoppers are selected from residents of each of the monitored states who are briefed and trained to monitor, measure and experience a how a public service is operating. Moreover, Mystery Shoppers act as potential clients and are required to adhere to a strict, standardised and objective assessment. This approach was the choice for the evaluation of all top-level benchmarks under scrutiny, except for the evaluation of cyber-security and Mobile Friendliness that use automated open instruments.

In addition, after the Mystery Shopping exercise, the outcomes are approved by representatives from the Member States. It notes that such procedures are viewed as a thorough co-operative process that involves countries at the beginning of the assessment approving the sample of websites to be evaluated and defining key features of the services under evaluation, then at the end of the assessment, approving the research outcomes in co-operation with appropriate institutions in the country and potentially rectifying or fixing inaccurate findings.

It argues that such benchmarks are assessed by having a life-events method; precisely, the e-Government Benchmark spans a set of eight life events. It is stated that each one includes a user journey which is similar to frequent public services used by businesses and individuals. Moreover, eight life events are comprised in the overall e-Government result. Four of them have already been studied a few times: 2013, 2015 and 2017, while the other four were evaluated in 2012, 2014, 2016 and 2018. Figure 1 gives an overview of the eight life events and the relevant measurement years.

[292] Ibid.

Figure 4-1: Overview of life events under evaluation

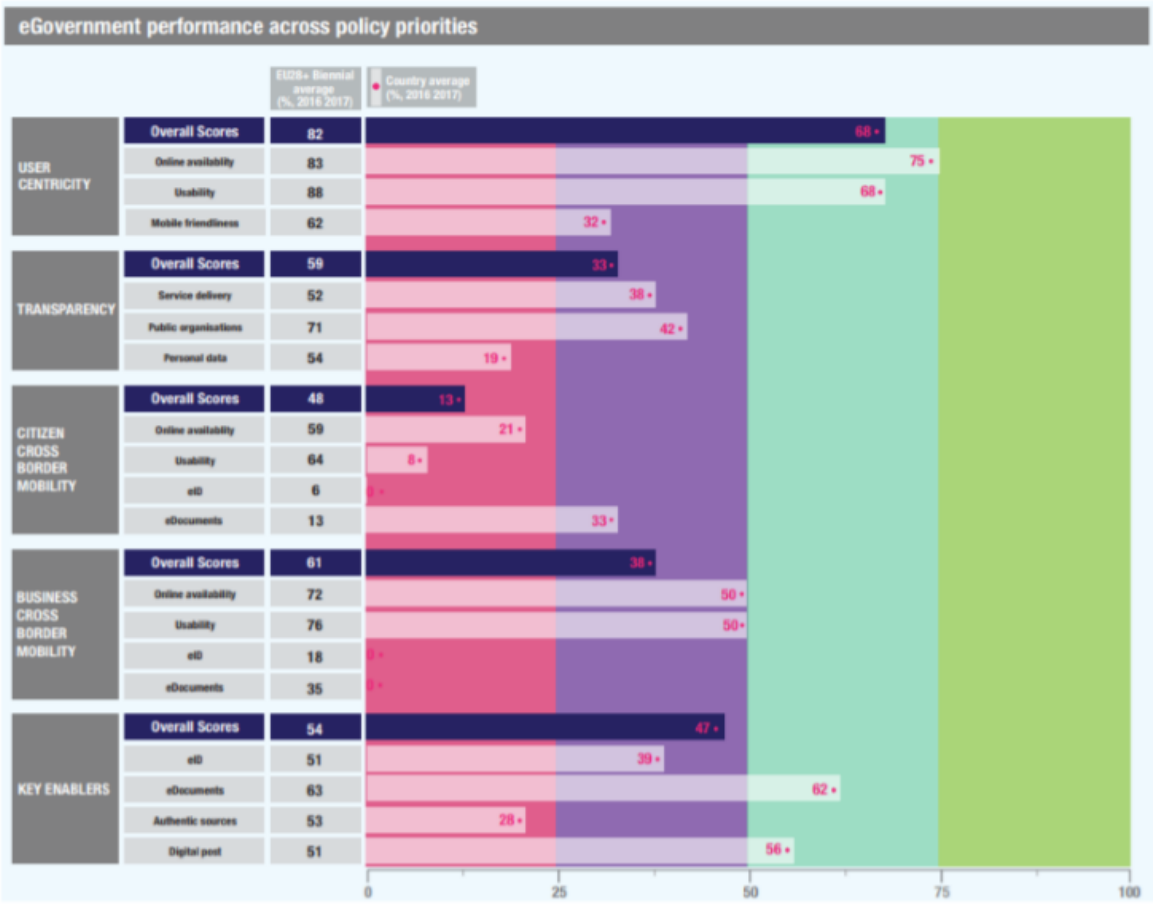
	Data collected in 2018 (2016, 2014 and 2012)	Data collected in 2017 (and 2015 and 2013)
Business life events	Business start-up	Regular business operations
Citizen life events	Losing and finding a job Studying Family life (as of 2016)	Starting a small claims procedure Moving Owning and driving a car

Source: e-Government Benchmark 2019

Life events measured in 2017 included: daily business operations, moving home, owning a car and initiating a small claims procedure. Life events measured in 2018 were: starting up a business, job changes, family life and studying. The following graph is the outcome of the latest e-Government Benchmark report[293].

[293] Ibid.

Graph 4-1: An overview on e-Government performance



Source: e-Government Benchmark Report 2018 Country Factsheets

It has to be said that this two-year cycle provides the states the opportunity to follow up on the outcomes and realise improvements after each assessment. It is argued that with the adaptation of the EU e-Government Action Plan 2016-2020 and in line with its targets, the assessment underwent a constructive-approach update in 2016. All in all, it notes that this hinders full comparisons with the series before 2016. Yet, this is still possible for several indicators as presented in Figure 4-1. Moreover, where possible, some historical comparisons are given for single indicators to demonstrate dynamics in e-Government development.

4.6 THE REGULATION OF E-ADMINISTRATION

It is universally accepted that a definition of e-Administration is hard to determine due to its developing part of law with no recognised conception admitted by most scholars. It is true that

a relevant definition is difficult to set up, mainly because of traditional ideas of administrative law that cannot be employed without appropriate amendments in the field. The underlying reason behind this is that the characteristics of e-Government are simply a conception of administrative law. It can be seen in the legal world – especially when companies are registered – and in every other area where the services provided by the state are integrated with public law.

It is stated that before revising the predominant regulations of e-transactions of affairs, the place of such regulations has to be examined within the legal system. It is clear that on the one side, these rules are linked to administrative law, thus it is considered public law. However, at the same time, it is not such an apparent issue when it comes to info-communication. In this respect, this part of law is an element of jurisprudence but is not a distinct branch of law that could incorporate all incarnations of e-administration.

It is apparent that to acquire a comprehensive view of e-administration, the relevant notions must be taken into account. János Verebics, for example, argues in his work that e-administration is more like "… the utilisation of info-communication technologies and information tools by state organs"[294]. Moreover, the concept of e-Government is framed in the Act on Administrative Procedures as "it has become a universal factor of improving the prospects for the future. Its scope is wider than the central governmental administration; it covers the whole system of administration".[295]

Moreover, it is noted that such a perception is relevant and could be applied to analysing all matters concerning this issue, although the conception is too broad, or rather, too general. In addition to this, Gábor Polyák identified e-administration as follows: "The widest sense of electronic government is the utilisation of digital information and communication technologies in the relationship between the government and the society. The realisation of e-Government is a modernisation process affecting all levels of administration, where the quality of relationships is transformed based on technological development" [296].

[294] VEREBICS, J.: *Elektronikus kormányzat és jogi szabályozás.* -In: *Infokommunikáció és Jog*, 1. szám, 2004. június, p. 5.
[295] 2004. évi CXL. törvény a közigazgatási hatósági eljárás és szolgáltatás általános szabályairól – Act CXL of 2004 on the General Rules of Administrative Proceedings and Services.
[296] Dósa, I., Polyák, G.: *Informatikai jogi kézikönyv*, Budapest, KJK-Kerszöv, 2003.

The idea is clearly defined while being quite all-inclusive. Yet, the terms of administration and government are alike and in his interpretation, these are synonymous. Therefore, the eventual definition is predicated on the supposition that e-administration is more likely just a modification of info-communication instruments in the relations between society and the state. However, this can be understood in a narrower way: that it is a whole collection of rules in charge of the e-affairs.

4.7 ONLINE DOCUMENTS IN AUTHORITY PROCEEDINGS

It is known that the provisions of the Act on Administrative Procedures are considered a critical point in initiating e-administration in Hungary[297]. However, it is argued that the previous framework, the Act on State Administration, did not eliminate the requisition of the electronic approach theoretically after the Act on Electronic Signature was adopted[298]. Moreover, the most significant stage in organising e-transactions in regard to affairs was the acceptance of the validity and force of digital invoices made by the Parliament through the Act on Electronic Signatures. The Act became effective in September, 2001 and some provisions of the Act on State Administration were amended to assure the predominance of benefits of authentic electronic communication in administration.

Furthermore, one of the most significant provisions of the Act on Electronic Signatures was the incorporation in the procedural act that legislative provisions would ensure options to submit applications digitally[299]. While the laws surrounding applications were altered, the opportunity of using e-documents emerged within the provisions that linked resolutions and documents of administrative structures. It is believed that in contrast with the predominant regulations, the entirely digital management of affairs was distinctive since it demanded the allowance of laws. Moreover, the Act on Administrative Procedures oversees the electronic transaction of affairs from a different perspective. To be more precise, the way electronic affairs are conducted is the conventional transaction and the general rule of affairs – predicated on paperwork – is unique. Such uniqueness is to be stated only through acts, decrees of state

[297] 2004. évi CXL. törvény a közigazgatási hatósági eljárás és szolgáltatás általános szabályairól – Act CXL of 2004 on the General Rules of Administrative Proceedings and Services.
[298] 2001. évi XXXV. törvény az elektronikus aláírásról – Act XXXV of 2001 on Electronic Signatures.
[299] Ibid.

government or local authority. Thus, definite segments are unable to avoid or deviate from meeting the commitment of launching e-administration.

Not to include any exceptions is rather unrealistic to implement because of digital illiteracy, especially amid elderly people in rural areas that lag behind. It is also true that in such places, the issue of even having an internet connection, as well as the provision of modern technology needed to make basic electronic transactions is unacceptable. Nevertheless, legal regulations can somewhat forbid the entire adaptation of electronic documents, particularly in the law of succession and family law. Moreover, local authorities are in the position to ban the electronic conduct of problems on some occasions by decrees, since many Hungarian regions are not well-equipped with technologies to create interactive online environments with users.

4.8 GETTING IN TOUCH WITH THE AUTHORITIES ONLINE

It is a fact that Hungary was one of the first countries in the EU that started to realise the 1999/93/EC Directive on electronic signatures in 2001[300]. It argues that technology was not widely used or wide-spread in the past decade due to the high cost of single digital signature certificates and the national system lacked appropriate applications and services. It has to be said that the amendment of the Act XXXV of 2001 on Electronic Signatures[301] made e-signatures more cost-efficient and, more importantly, allowed for simpler and easier implementation. Moreover, the National Info-communications Service Company Ltd. (NISZ Zrt.) has operated a Governmental Certification Service Provider (Certification Authority) since 2014 by providing both qualified and non-qualified digital signature and time-stamping services[302]. Moreover, it gives complete packages, including e-signature applications, certificates, chipcard readers and USB/chipcard tokens to public entities and government institutions.

It is noted that through two-way interaction, the validation of the conclusive force of statements made digitally is arguably significant. It is true that electronic documents and

[300] Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures.
[301] Act XXXV of 2001 on Electronic Signatures that is available online at: https://www.uaipit.com/uploads/legislacion/files/0000004315_Electronic%20signature.pdf
[302] Please visit their webpage for more details at: https://nisz.hu/hu/node/118

statements have to fulfil some specific requirements and conditions. In such cases, there is a need for the files to correspond with the true individual via recognition of the individual who is making an application or statement while also being aware of the unchangeability of the provided documents. In other words, the supervision of the content of submitted and obtained files must be assured and such contents and statements must not be disputed.

It is believed that digital signatures assure the above-indicated criteria. In ICT, the public key infrastructure makes it possible and its legal conclusive force is the same as that of the printed, hard-copy ones. It is of note that in legal frameworks, the tenet of the neutrality of technology prevails. Legal force statements can be filed using any technological process corresponding with the rules and requirements stated by law. However, there is no suitable approach for such purposes than the public key infrastructure. Several conclusive forces of electronic documents are known. The Act on Electronic Signatures and the law of civil procedure established three categories in regard to the conclusive force.

To begin with, the *Simple* electronic signature is the first category in which a stated conclusive force is lacking. In addition, during legal action, acknowledgement of the application is predicated at the court's discretion. It is important to mention that the individual is in a position to establish the electronic signature by themselves. The second level is comprised of the electronic signature of advanced security. This can be initiated only by the assistance of an independent institution; the authentication provider, for instance. The task of such bodies is to identify the client by producing and recording a certificate which corresponds to the signature. Also, it is asked to provide the insurance of the relevant technical tools. In fact, its conclusive force is enforceable by law, yet an application with this signature is seen as if it were a written document if the written form is demanded for the valid duration of the statement. The last level is the approved digital signature. It is known as an electronic signature of advanced security, yet its certificate is given by the authorised verification issuer, by whom more rigorous security conditions are met.

What is more, the National Communication Authority is the institution that registers all authentication issuers and regulates their operation. The applications signed by authorised digital signatures come with equal conclusive power as private applications representing conclusive evidence. It is noted that once the officials provide an e-document with an authorised digital signature in relation to its operation, it must be considered as a notarial or

public document. In addition, whenever authority cases in electronic procedures are arranged, there is a need to be in possession of at least one electronic signature of advanced security.

It is also true that if someone has an e-signature of advanced security, they can directly contact the authority by electronic means. Moreover, the application may also be submitted through the central electronic system of the government. This opportunity to use the central system is given for those who do not possess an electronic signature of advanced security or an authorised e-signature but still wish to organise affairs digitally. It is obvious that not everyone is asked to have an electronic signature of advanced security yet access to online interaction and the implementation of affairs should be provided for anybody. Such issues of inconsistency are resolved through the initiation of the Client Gate that is available in the central system. This is considered an information tool to assure the identification of the user and their secure connection with public authorities.

4.9 CLIENT GATE (ÜGYFÉLKAPU) – THE HUNGARIAN CENTRAL e-ADMINISTRATION WEB PORTAL

For a decade, a joint statement was made by European Union Member States on the establishment of a pan-European network of contact points where businesses and people could receive information about conducting business. Hungary was no exception and introduced a central administration platform known today as the Client Gate platform. It is known that the European Services Directive encourages EU Member States to simplify administrative procedures for its residents when carrying out such activities. The focal point here in the realisation process of the Directive is the establishment of a European network of points of single contact (PSCs), where existing businesses and future entrepreneurs can receive all needed support, as well as relevant information on legal environments and businesses of any specific state.

It is noted that such contact points are created by all EU Member States, normally in electronic form and also in the form of physical offices located in various parts of the state. Moreover, such platforms can be used by enterprises and entrepreneurs to obtain detailed and specific information about conducting business in foreign countries and on completing administrative formalities related to the creation of a cross-border provision of service or business.

In Hungary, in particular, a significant step in the direction of less bureaucratic public administration was the initiation of the system of physical points of contact that took place in January, 2011. It is known as Government Windows. Soon after, in 2015, the number of PSCs in the country soared up to 300, which were predominantly located in post offices and railway stations. It is believed that such PSCs allow members of the public to handle their personal affairs in an easier way. In addition, it draws on the online solutions provided by the central electronic PSC website. As of 2015, citizens can use more than 300 different procedures at Government Windows.

Notwithstanding the creation of physical offices, EU Member States are stimulated to advance a second generation of PSCs which must include all the procedures throughout the business's life cycle, be more user-friendly and multilingual. To reach that objective, Hungary decided to initiate activities in the area of e-Government in 2000. Following this, the Magyarorszag.hu (Hungary.hu) platform started to operate in 2003, which was created on the successes of the original eKormanyzat.hu (eGovernment.hu) website. However, it is widely accepted that the Client Gate portal [303] is the most utilised instrument in dealing with public administration online and the most essential e-Government product for national e-administration since 2005.

Generally speaking, the Client Gate platform requires an account (registration) in order to start using it. This can be done either by visiting the Central Office for Administrative and Electronic Public Services or any of the Document Offices. There is an alternative way which is online, provided the user has a qualified digital signature. Further, the authentication procedure is merely predicated on a password and a login name, which is valid for two years. The user is also asked to provide an existing email address. The following step is the confirmation of the registration through email. It is stated that the Client Gate platform is used mainly for the administration of personal affairs and interaction with public officials. There are specific administrative procedures that run entirely online. For instance, annual tax returns.

Moreover, there is the possibility to make an appointment at one of the physical one-stop shops, such as a PSC or Government Window. The following procedures are available on the platform:

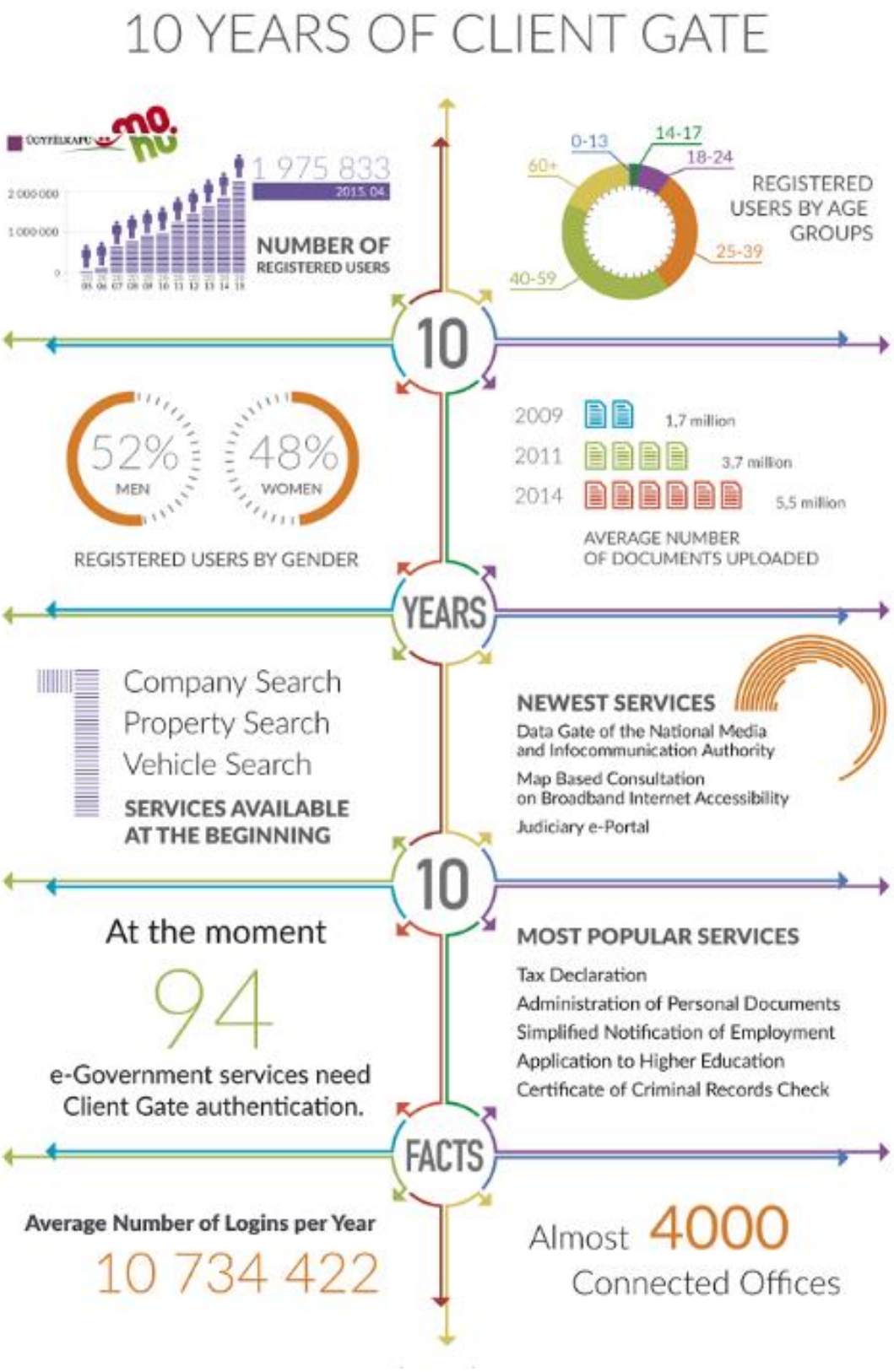
[303] Please visit https://ugyfelkapu.magyarorszag.hu/ for more information.

• electronic submission of personal income tax returns,
• viewing, amending and approving the tax authority's draft version of your tax return,
• submission of any NTCA forms,
• retrieval and tracking of the tax account,
• submission of the tax certificate, income certificate, declaration of residence and the application for the registration of taxpayers without public debt,
• submission of claims on paying in instalments,
• reviewing of registration by employers,
• information on insured periods,
• information on patient records,
• information on the validity of personal documents,
• initiation of summary of service time,
• submission of college or university entrance,
• amendment of permanent or temporary address,
• registration with the Land Registry (claim on non-authentic, authentic and e-property deed),
• certain services of the Registration Office or making appointments with Customer Service[304].

In 2015, some 2 million people registered on Client Gate and over than 2,000 forms were available for download, with healthcare and social status, tax declaration, account services, notifications and company registration inquiries being the most popular (Please see Figure 2). It is known that new forms and services are made available on a continuous basis.

[304] Ibid.

Figure 4-2: The Summary of Services provided by Client Gate



Source: https://regi.magyarorszag.hu/

The compilation of a database of typical life situations is commissioned by the Hungarian government which can be applied through the Client Gate. Part of such knowledge bases includes procedures for PSC team members, comprising instructions on how to proceed in different, complex situations and to analyse cases through to their logical resolutions. In total, more than 2,500 life situations are available. They were classified into 21 categories, namely:

- retirement;
- marriages;
- births;
- beginning of studies;
- deaths;
- tax agenda;
- job search;
- social dues;
- ownership rights;
- consumer protection and others.

In 2013, the first version of the knowledge base was provided to PSC team members and most life situations were displayed on the state's main website, which is https://ugyintezes.magyarorszag.hu. A dedicated website http://www.etudasportal.gov.hu for the training required by government personnel was also created. Moreover, a special contact centre is available for users who utilise this platform (https://magyarorszag.hu) in order to get help through an email support system or a special phone line. Since it is operational 24/7, users can ask some concrete questions or seek guidance when they have any difficulties surfing on the website. It is argued that the feedback that customers receive will enhance the credibility and transparency of the Hungarian government.

The Hungarian government is driven by the idea of having a modern digital infrastructure established in the country. It is the public authority's intention that every household in the country must have at least 30Mbps internet access and half of all households at least should have access to 100Mbps by 2018. It is hard to say if such objectives can be realised, even in the years to come. It is noted that the basic infrastructure of e-Government in Hungary is formed by the National Telecommunications Backbone Network (NTG), which is a secure countrywide broadband network. It was established in 2012 by the merging or rather upgrading of the former Electronic Government Backbone (EKG). NTG is viewed as a fast

network that joins up the 19 county councils with the capital, Budapest, giving the national administration, along with local government, a securely monitored communications infrastructure that maintains internet access, data communication, government Intranet, electronic mail and other IT related services.

Above all, the pillar of the electronic economy includes the advancement of information and communication technologies (ICT) in a more specific way, such as digital services (commercial, bank, etc.) and the stimulation of research and development, as well as corporate information technology systems and innovation activities. It has to be noted that the main objection is to increase the number of individuals obtaining ICT education, along with the value of exports in the field of software and IT services by 2020, in comparison with current values and goals.

In the sphere of digital competences, the most critical aim is to advance the digital skills of people, public administration workers, enterprises and particularly small and medium-sized businesses. The government also expects that the rate of digital illiteracy among adults is to reduce to 40% by 2016 and 30% by 2020. In addition to this aspiration is that regular internet use rises to 65% by 2016. It is stated that such targets set up in the strategy could help 90% of all micro and small businesses have internet access by 2020. It is clear that the use of e-Government is expected to increase yet the question is whether the infrastructure is in place for the growth, not to mention people's confidence in wanting to utilise all the online services provided.

In the Act on Electronic Signatures, the online exchange of affairs is the common rule but online administration cannot be addressed on some occasions, the Act determines. It has to be said that legalities can bypass such regulations, thus some affairs can be conducted online as well. It states that in 2015, the number of registered users in the Client Gate system was around 2 million people (Please see Figure 4-2). Also, more than 2 thousand forms were available for download with account services, tax notifications and declarations, as well as social and healthcare status. It is important to mention that the most downloaded form among them all was company registration inquiries.

4.10 DIGITAL GOVERNMENT POLITICAL COMMUNICATION

National Info-communication Strategy 2014 – 2020

Info-communication networks, services, instruments and competences positively enhance our quality of life, the efficiency of state operations and the competitiveness of business. The National Info-communication Strategy has provided a detailed brief of the ICT market and the Hungarian information society to determine the perfect situation and to recognise development targets and professional trends. It argues that such a strategy covers elements of the electronic environment, in which any market error, task, bottleneck and backlog can be easily recognised and tackled more efficiently by the state with the assistance of support and regulatory policy instruments than via the organic development of the market. It also determined the targets and specified the instruments as follows:

- **Digital Infrastructure**

The government's firm intention was that internet access with a speed of at least 30Mbps was provided to every household by 2018. In 2018, the full range of the National Telecommunication Backbone Network was launched. Moreover, further aims were set by the government insofar as providing internet access of at least 20Mbps made available to each and every education establishment in the country, as well as the mobile broadband coverage attaining 95% by 2016.

- **Digital Competences**

It is stated that the main development of the digital skills should be concerned predominantly with residents, public administration employees and enterprises, particularly SMEs. The main target is that the level of adult digital illiteracy be decreased to 30% by 2020 and that consistent internet usage be at 65%. Moreover, the target values indicated in the strategy that 99% of small and micro businesses could all have access by 2020.

- **Digital Economy**

In this respect, the ICT sector is developed in a narrower way: corporate IT systems such as banks, as well as the promotion of innovative R&D activities. The main idea was to multiply the number of individuals by two who take part in ICT training and improve the value of Hungarian software and service exports by 2020 in comparison with current indicators. It is believed that one third of SMEs might operate online by 2020 if the strategic goals are met.

It is noted that the new e-Government service development guidelines published by the National Council for Telecommunication and Information Technology, in co-operation with the Interior Ministry and the Prime Minister's Office, included the following documents embracing various projects on delivering new e-Government services:

- Services assessment guide;
- Criteria and guidelines for designing the order of digitising administrative processes;
- Guide for digitising;
- Communication guidelines.

The instrument for creating a Digital State is the adequate Info-communication background provided, whereas developing eServices allows for the improvement of people's quality of life. In addition, in order to reach such targets, the uniform governmental IT background has been established and has let enterprises and individuals organise all their affairs online since 2018.

In this part, there is an attempt to demonstrate how digital experiences have been developed in the country. Moreover, it is shown how public services are provided and work and that they are increasingly available. However, it is necessary to point out that the use of these services is still on the rise with 2 million people registered on the Client Gate system and having used an online service. This is a positive trend. This number has arguably increased to date. However, it is critical to ensure an inclusive society where every citizen is able to participate.

Therefore, continuous investment from the Hungarian government to enhance the readiness of local inhabitants and businesses, especially in the regions that lag behind, is crucial when moving forward in this direction. Progress in the accessibility and availability of the internet brought about by progresses in the supply of computing and infrastructure have led to essential transformations in various fields in ways not broadly anticipated in past years.

Such transformations can be seen in many different sectors such as education, government and even retail. It is believed that for the government, such transformations have appeared thanks to a few repeated projects marked as e-Government, transformations that have frequently concentrated on the automation of existing processes and internal institutions, instead of developing newer methods to provide public services. Institutionally speaking, the viability of e-Government has maintained important transformations to conventional bureaucracy. It is true that services are now digital and reaching local government has never been easier; even via social media, many political actors can be contacted. Yet, the core nature of the relationship among local officials and citizenry remains unchanged.

Furthermore, the differential experience of the internet between the implementation of Web 2.0 tenets by local authorities and its uptake by various institutions has given a chance to act as a cause for good. The uniqueness of the internet to improve and foster democratic dialogue, the public discourse as defined by Habermas brings up the possibility for a participatory and comprehensive democracy. However, Lyotard believes that such a search is not merely for a suitable trade-off but the embrace of continuing and repeated disputes as determined by paralogy.

To do so, local authorities must think about how tenets of public dialogue, as examined by Habermas in his writings on ethics, influence the position of appointed managers and the hierarchy of knowledge. It is also believed that local authority should be informed of the need not the compromise or perfect consensus alone to be searched but the notion of paralogy, as well as the continual contesting of truth which should also be accepted in such a way that policy is always open for discussion and never seen as done and dusted and thus untouchable.

What is more, the need of Gov 2.0 and a change in local authorities cropping up because of wider tendencies should not come as a surprise. It is noted that bureaucratic government kept developing due to industrial revolutions of the 19th Century. The metaphor of the machine state that has made progress in the modernist search for perfect bureaucracy came to prominence alongside advances in the manufacturing industries. However, on the contrary, the digital era has been remarkably impacted by a move from the control and command of modern life to a jointly created, shared and transforming environment. The enhancement and progressiveness of Gov 2.0 is a response to such transformations across a much wider demographic.

CHAPTER FIVE

MEASUREMENT OF E-GOVERNMENT

5.1 Introduction and Overview

5.2 Measuring e-Government Development

5.3 The Nature of e-Government

5.4 Stage Models of Website Development

5.5 How to Measure e-Government?

5.6 Assessment of e-Participation and Online Services

5.7 Citizen-centric Methods to Measure e-Government

5.8 e-Openness

5.9 Capacity Constraints

CHAPTER FIVE

MEASUREMENT OF E-GOVERNMENT

5.1 INTRODUCTION AND OVERVIEW

Public administrations across the world subsidise tremendous funds in e-Government through launching various government projects and initiatives in order to be transparent and accountable by serving the society in an online manner. It is known that e-Government incorporates many elements of public administration, ranging from presenting new technology to business operations. Thus, the evaluation of effective e-Government is not such an easy task. In addition, the strategy of development of e-Government systems and its further implementation has now reached a certain level and ensuring that there is consistency of such positive evolution, the best evaluation of progress, goals and visions of strategies, programs and policies, then assessment, is a critical element in these directions.

In fact, we all know that relevant and reliable e-Government measurement approaches can provide significant indicators and insights on how to direct government officials and other involved parties in the right way in terms of offering good public services online. However, in the plethora of various approaches, it is difficult to find a universal method in measuring e-Government. Therefore, various assessments are required to meet the initial goal of the administrators of the e-Government services, yet, due to contradicting priorities and objectives, little consensus exists around a clear and concise list of assessments required for the juxtaposition of progressive e-Government implementation. Conventional approaches of evaluating e-Government resource usage and influence are far below the abundance of data needed for the efficient measurement of e-Government policies. However, it is not yet easy to see how the evaluation of e-Government can be arranged to make it successful and this is the question that has not yet been answered.

There are some common factors, however, that comprise the economic strength of the country, such as the cumulative level of education and technological development. It must be said that many of those only pertain to capacity, but education and technology are integrated with immediate gauging of the country's national public digital services in which the UN e-

Government development index is produced. It is a fact that step by step efforts in relation to the UN e-Government survey has enormously improved the way how e-Government measurements should be assessed but as of yet, there is no consensus on a joint framework. In addition, there is no shared position of how such factors must be framed in order to remain forever practical and relevant.

In this chapter, existing methods of e-Government evaluation approaches are covered. Some restraints of practised techniques are also outlined. It is noted that assessment is concentrated mainly on the front process, meaning that the number of online services is only considered in the evaluation. That makes an evaluation process obscured to some extent. Moreover, another problem is how to interpret or translate such measures, since the utilised measurement tools lack a standardised system identifying correlations between how resources are used and the indicators themselves.

5.2 MEASURING E-GOVERNMENT DEVELOPMENT

It is true that business organisations, along with public entities, utilise the internet to provide a wide array of public services and information at a growing level of sophistication[305]. Yet, web portals and related information systems and business processes are arguably difficult to observe and as a result, public officials find it complicated to set up appropriate measures for assessing the efficacy of spending their financial resources on the development of measuring e-Government. In addition, evaluating the interface or the starting page of state platforms alone is a narrow technique practiced almost everywhere in the world on e-Government websites. It can be argued, however, that e-Government comprises the communication and co-operation between all parties, as well as an integration of multi-agency procedures.

A significant objection of a well-founded theory on evaluating e-Government is that of benchmarking or comparing. Such ways of examining benchmarks, for example, provide an opportunity to separate positive from negative approaches, as well as giving some clear directives or recommendations to administrators of e-Government services. Further, the most critical part of such evaluations is that they may assist in recognising how efficient public

[305] LEE, J.K.: *A Model for Monitoring Public Sector Website Strategy*. -In. internet Research. Electronic Networking Application and Policy, 2003, 13, no. 4, p. 259-266.

investments are used. In other words, it allows measuring the relationships between outcomes and resources as utilised in the project.

Given the circumstance of choosing between various options, comparison tends to be an interesting method which comes with various aims and objectives. There are three certain types of comparisons:

1. Comparing alternatives that make a choice between possible solutions;
2. Horizontal comparisons that benchmark various solutions;
3. Vertical comparisons over time that assess improvements of versions.

It is suggested that whatever kind of comparison is used, a set of desired outcomes must be available in order to be compared. It is argued that several assessment tools that are currently used are not explained well enough that the preferences fundamental to the tool have been made distinctly. Furthermore, the measurement approaches primarily applied are predominantly executed by setting up indicators and elements for further assessment. Realisation of e-Government programs from establishing a plan to the realisation of initiatives is apparently different from country to country because of difference in economic, political, cultural, technological and social paradigms. Thus, markers for evaluating the pros and cons of e-Government projects should mirror the status of the country and the vision of the respective e-Government plan.

It is noted that there are three types of occasions that are needed in the assessment of e-Government: Environment, measuring e-Government projects or programs in terms of their performance and lastly, the overall influence of e-Government on people servicing, general state functioning and economic development[306]. It is also suggested that an assessment system must incorporate social, economic and technical aspects. Such aspects must be further elaborated into accessibility, openness, trust, performance, cost-efficiency and e-Government initiative practicality. Moreover, other markers utilised in the measurements are consumer confidence and e-Government influence over its audience.

[306] GUPTA, P.: *Challenges and Issues in e-Government Project Assessment*. -In. Proceedings of the 1st International Conference on Theory and Practice of Electronic Governance, ICEGOV, Macao, China, 2007.

It is known that there is a framework used in assessing e-Government in developing countries predicated on the ITPOSMO framework (Information, Technology, Processes, Objectives and values, Staffing and skills, Management systems and structures and Other resources) developed by Heeks (2002). He applies a framework to examine any divergences between the status of the country realising e-Government and the blueprint of e-Government policies in which a significant disparity has been considered a factor in the failure of the majority of e-Government projects[307]. Moreover, there are several forms that have been derived from the existing literature on this matter and are presented in Table 5-1 as a summary.

Table 5-1: Evaluation Form

Re-analyse investing preferences
The return e-Government investment drives
Evaluating the status of development
Evaluating people's expectations and needs
The influence of e-Government projects on public authorities
Enhancing future realisation
The overall influence on general e-Government functioning

Source: Author's own compilation

It is apparent that taking into account a measurement approach that fits with all state aims and objectives is simply dust in the wind. It is true that each e-project has a specific target and goal; businesses have various perspectives just like dealing with people's needs does. Therefore, each evaluation method has been arguably used in accordance with country-specific aspects, including social, political and economic aspects to get a whole picture of such an evaluation.

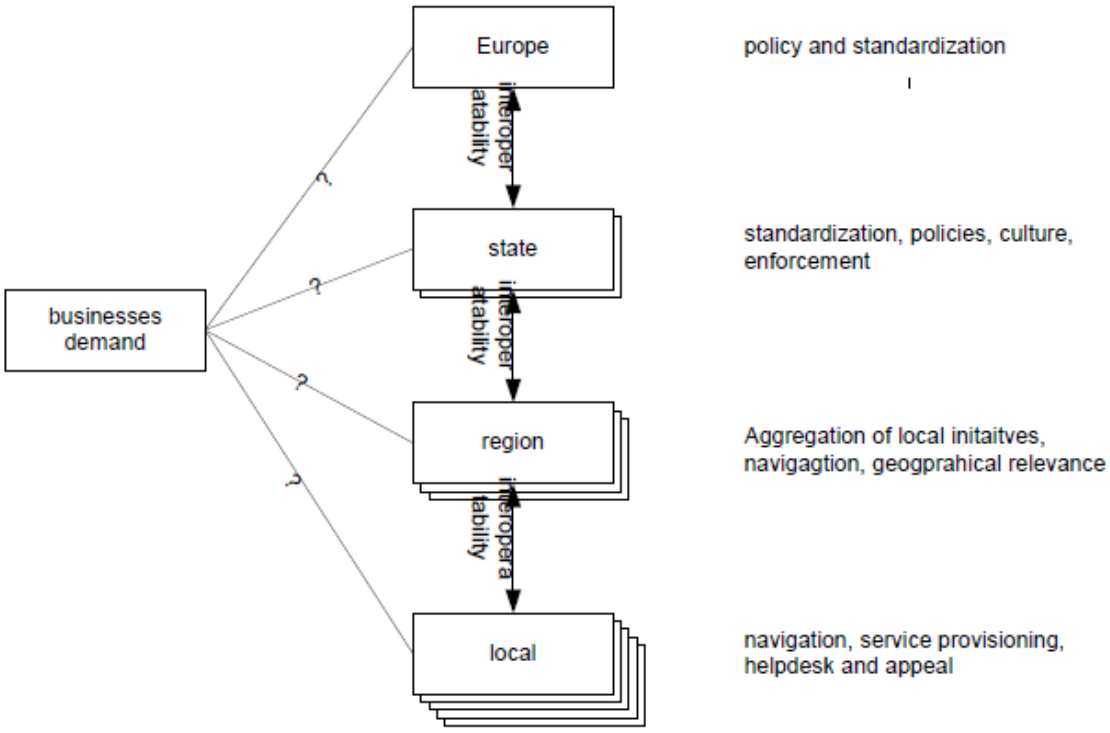
[307] HEEKS, R.: *Information Systems and Developing Countries: Failure, Success and Local Improvisations*. - In. The Information Society, 2002. 18, no. 2, p. 101-112.

5.3 THE NATURE OF E-GOVERNMENT

It is apparent that before examining existing measurement approaches and the tools being used to assess e-Government, it is quite important to be aware of e-Government through the prism of legal aspects. Public administration comprises different processes. When it comes to regulations and laws that are being dramatically changed, procedures and their supporting structures have to be complied with and adapted to accordingly. A transition period is initiated, followed by a series of business processes ranging from converting law tests into supporting systems, defining specifications and designing processes, developing systems and processes and the realisation of their use. The difficult aspect is that there are several state layers which exist, thus interaction among such layers has become an issue. Particularly, the need to adapt legal frameworks from the EU is more than an ever-dominant aspect that makes such a process even harder to accomplish.

In the fragmented nature of public administration, it is clearly demonstrated that service and legislation supply attempts are disseminated throughout European, state, regional and local levels. Moreover, it is getting all the more difficult as at each level, many entities of different kinds exist. For instance, local taxes, water boards and private and public bodies all exist at the local level of government. Therefore, many authorities impact e-Government and, as a result, such measurements should comprise them all in the assessment model.

Figure 5-1: Fragmented nature of public administration.



Source: Peters, R. and Janssen, M. 2005. Public Administration Networked with Business: Towards Architectures for Interoperable and Retrievable Law. *Smart Business Networks*, p.12.

It is argued that this fragmented landscape is being impacted by two types of interactions: those of policy-making, realisation, activation and law enforcement and the businesses and people looking for services and information. Nevertheless, public officials are seeking ways to improve their efficiency, effectiveness, minimise pressure on administrations and decrease adoption times of new legal acts and provisions while implementing e-initiatives. It is believed that the outcomes of new legislation at the production phase are only known vaguely.

Arguably, only after the new laws in the support systems are implemented can the addressing of such rules become apparent. It is certain that when the translation and interpretations become reality at regional level, it will likely be impossible to inform people and businesses who are influenced by the new regulation in time since little information about specific effects on their cases is provided. Moreover, in most occasions, processes are maintained by

discordant information structures and many various actors are involved in adapting such new regulations, making it harder to achieve quick and smooth changes.

It is noteworthy that most of the institutions' ERP (Enterprise resource planning) software components require updating as often as possible in order to continue working in line with minor modifications in administration law. The same issue concerns Time reporting software, Human Resources software, Tax Reporting software, etc. All of these must be updated promptly because of changes in the law. Nonetheless, it is widely seen that the private sector expects the administrative burden to be reduced for businesses by public authorities. This arguably may only be reached by establishing public administration that is not only smart but service-orientated.

However, from a demand-side perspective, businesses and people find it difficult to access relevant legal provisions, local rules, legislation and procedures. Public institutions are arguably engaged in a chaotic way of law-making and policy activities. It is believed that it is not just a sophisticated mish-mash of legalities but information being generated for various public agencies, incorporating local, regional, national and EU levels. It is universally accepted that electronic country-specific information on laws must be obtainable equally to all, everywhere, anytime[308].

Therefore, all member states are trying to make such information retrievable and accessible. It has to be said that this covers some issues related to technology, describing the type of legislation, simple and understandable user interfaces and the accessibility of electronic documents and files.

5.4 STAGE MODELS OF WEBSITE DEVELOPMENT

Some argue that there are stages of web-site development which are attracting, transforming and utilising modern technology[309]. It is argued that in the area of e-business, such stages are widely addressed and practised. For instance, it concentrates on attracting, improving and

[308] FAGAN, J.C. and FAGAN, B.: *An Accessibility Study of State Legislative Websites*. -In. Government Information Quarterly, 2004. 21, p. 65-85.
[309] GREEN, S.H.B.: Cyberspace Winners: How They Did It. In. Business Week, 1998. P. 154-60.

restraining customer relationships through website applications. Moreover, in some sectors, even a five-stage system is proposed[310]. However, the model concerning e-Government issues has four stages[311]. To expand on this, stage one is about launching a government website by creating an individual entity responsible for running the internet platform. It is noted that there is no incorporation between the business process in the front and back offices. The portals focus on establishing a presence on the web and offering relevant details or information about the institution. Moreover, transaction opportunities for clients are limited to printing electronic applications and sending them conventionally by post.

The two-way interaction system, known as transaction, is stage two of website development. Online users carry out transactions with public authorities by completing the applications or forms and normally public officials respond to them by providing receipts, confirmations, etc. It has to be noted that the volume of transactions is considerably small and the institution is being opposed by sending the required data from and back to the front office. It is often the case that an active database is created in the front office to ensure that some transactions are handled immediately. It notes that such data in the system is occasionally exported to and derived from the different state systems in the back office.

Vertical integration is stage three, in which the focal point is moving to a modification of public services rather than digitising and automating existing services. It is noteworthy that most information processes are fragmented and localised. It is believed that public entities often support individual databases which are not related to other public institutions at similar levels or with similar organisations at the federal or local level. Natural progression is the harmonisation of unclustered information processes at various layers (vertical) within public services[312]. It is expected that vertical integration in relation to corresponding functional walls, albeit across various administrative levels will occur first since the disparity between government levels is less than those between various functions[313]. Information systems, however, are linked together and can interact back and forth.

[310] MOON, M.J.: *The Evolution of e-Government Among Municipalities: Rhetoric or Reality*? -In. Public Administration Review, 2002. 62, no. 4, p. 424-433.
[311] LAYNE, KJL and LEE, J.: *Developing Fully Functional e-Government: A Four Stage Model*. -In. Government Information Quarterly, 2001. 18, no. 2, p. 122-136.
[312] Ibid.
[313] Ibid.

It is argued that the issue with the interpretation of such public processes is that there is no difference between the administrative and legal knowledge saved in them and the personal information of associated individuals. Particularly, the sharing of such information is restrained. It is known that the vulnerability for the misuse of personal information and the intention to guarantee a high level of privacy have been reasons for state officials to restrain storage, sharing and reusing personal information among various public entities.

In addition, the difficulty is how to implement the full potential of IT from the requester side, the people's perspective, because this can only be done by horizontally harmonising public services across various silos. This is stage four. It is important to note that the main concern here is how, without needing databases located at various operation spheres, to get everything to interact. It is undesirable that information received by one institution can be utilised for CRM (Customer Relationship Management) by another organisation through divulging that information. However, the knowledge kept in such information systems can be reused and shared, thus letting public services be better integrated.

Generally speaking, the conceptions of perceived satisfaction and quality are two main pillars of evaluation research. Most of the time, the most basic unit of examination has been an insulated service because different provisions might be provided by an institution which has not been considered[314]. That is to say that entities providing more than one service have not been thoroughly reviewed.

It can be argued that issues such institutions encounter in the way of management and the measurement of perceived satisfaction and quality are far too complicated than in those institutions where only one service is provided. When it comes to assessing the quality of integrated services, it is important to bear in mind not just the perceived quality of the basic service but the perceived overall quality. It is identified that the scale utilised to define the perceived quality of the main services of universities and hospitals[315] is made up of five components, as suggested by Parasuraman, et al. (1988) such as tangibility, reliability, responsiveness, confidence and empathy[316].

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[314] BIGNE, E., MOLINER, M.A., and SANCHEZ, J.: *Perceived Quality and Satisfaction in Multiservice Organisations. The Case of Spanish Public Services*. -In. Journal of Services Marketing, 2003. 17, no.4, p. 420-442.

[315] Ibid.

[316] PARASURAMAN, A. ZEITHAML, V.A. and BERRY, L.L.: SERVQUAL: *A Multiple Item Scale for Measuring Consumer Perceptions of Service Quality*. -In. Journal of Retailing, 1988. 64, p.12-40.

Performance indicators

It is argued that performance indicators act as proxies to work out the quality of e-Government performance[317]. In a similar vein, evaluations predicated on development states are provided[318]. They are items that define the affect **(1. Attracting)** of a main page on the website, namely:

- Design of tagline and logo (website overview);
- Graphics (figures, colours, layout of home page);
- Organisation's self-advertising (interstitials, buttons, banner);
- Services for attracting (maps, download service, channels, e-cards);
- Contents for attracting (gallery, culture, tourism).

2. **Informing** includes nine components developed by modifying Simeon's (1999) items such as educational content, local links, projects, content for publicity, administrative service briefs, descriptions on institutions, contact information, counselling and reports[319].

3. **Community** comprises ten components such as events, online forums, e-magazines, user participation (personal links, articles, photos, etc.), partner links and ads, vision and values, focus of news, community services, domain identity, message boards.

4. **Delivering** is defined by the absence or presence of characteristics like mailing lists, search engines, password systems, frameworks, FAQs, multimedia, update indications, downloadable publications.

5. **Innovation**. Public agencies are expected to use the internet for service innovations. Thus, two variables concerning innovative outcomes are included, such as frequency of new innovative services and transformation level of existing services. It notes that such variables are classified using a five-point scale, namely:

[317] JANSSEN, M.F.W.H.A.: *Designing Electronic Intermediaries. Doctoral Dissertation*. -In. Delft University of Technology, 2001.
[318] LEE, J.K.: *A Model for Monitoring Public Sector Website Strategy*. -In. internet Research. Electronic Networking Application and Policy, 2003. 13, no. 4, p. 259-266.
[319] SIMEON, R.: *Evaluating Domestic and International Websites Strategies*. -In. internet research, 1999. 9, no.4, p. 297-308.

(1) Never;

(2) Only descriptions;

(3) Online request;

(4) Partial;

(5) Full processing[320].

Regarding items pertaining to the transformation level of existing services, the scale is from (1), never, to (5), many new systems. It is mentioned that such specificity is allowed since the introduction of newer, more innovative systems on governmental web platforms is still developing and the following examples do clearly demonstrate that.

Citizen Assessment Systems, Citizen Satisfaction Monitor, Online Procedures Enhancement (OPEN) System of Seoul[321] and Request for Proposals of Philadelphia, Docket Access, View Property Assessments[322]. It has to be noted that such measures concentrate on elements viewable by customers and do not consider back-office elements such as implementation activities. In the following table, website evaluation criteria over five groups is shown. It is apparent that such criteria are arguably related to e-commerce but some also apply to e-Government.

Table 5-2: Website evaluation criteria groups

Phase	Criteria group	This criteria group measures/evaluates
Interface	Graphic design principles	The effective use of colour, text, backgrounds and other general graphic design principles
	Graphic and multimedia	The effectiveness of the multimedia and graphics on the website
	Style and text	Whether or not the text is concise and relevant and the style good

[320] Ibid.
[321] Please see more info on https://citizen.seoul.kr/sso/index.jsp
[322] Please visit the website of city of Philadelphia https://www.phila.gov/

Phase	Criteria group	This criteria group measures/evaluates
	Flexibility and compatibility	The degree to which the interface is designed to handle exceptions, for instance, text-only versions of pages
Navigation	Logical structure	The organisation and menu system of the website
	Ease of use	The ease of navigation to find the pages that the user is searching for
	Search engine	The search engine's ability to find correct pages and provide clear descriptions of the search results
	Navigational necessities	Other important aspects of navigation like the absence of broken links and "under construction" pages
Content	Product/service-related information	Whether or not the products/services are described precisely and thoroughly
	Agency and contact information	Whether or not it is easy to find information on the company, its employees and its principals
	Information quality	The currency and relevance of the content on the website
	Interactivity	How much input the user has on the content displayed on the website
	Stored customer profile	The registering process and how the company use the stored customer profile

Phase	Criteria group	This criteria group measures/evaluates
Reliability		
	Order process	The effectiveness and ease of use of the online order process
	After-order to order receipt	The company's actions from order placement until the order is delivered
	Customer service	How the company communicates and helps its online customers
Technical	Speed	Different aspects of the loading speed of the website
	Security	Security systems and the ways used by the company to protect customer's privacy on the website
	Software and database	Flexibility in terms of different software used. Also looks at the data software and data communication systems used on the website
	System design	The correct functioning of the website and how well it integrates with internal and external systems

Source: Merwe, R. van der and Bekker, J. 2003. A Framework and Methodology for Evaluating E-Commerce Websites. Internet Research: Electronic Networking Applications and Policy, 13, no.5, 330-341, p. 334.

5.5 HOW TO MEASURE E-GOVERNMENT?

It is discussed in literature that the current level of government evaluation systems is becoming an essential issue in public administration but little is known about its effectiveness. Studies into the impacts of e-Government focus only on usage and content analysis measurements[323] but it is clear that such metrics are not quite appropriate to determine the success of such developments. It is noted that aspects of services relevant in this context might include the following components: the level of trust and consumer perceptions, timely updating of information, response times, download time, navigability of the website, website functionality and effectiveness[324]. Moreover, e-services must be considered as granting assistance in terms of service delivery, not just replacing them[325].

Yet, it is assumed that such channels allow some positive changes in their format and citizen participation. It goes without saying that one of the simplest elements in measuring the performance of e-Government is the assessment of the quality, utility and scope of online services. Some argue that markers of mobile and electronic service delivery are relatively uncomplicated, yet reality shows that assessing online and electronic services is complex. Thus, there are plenty of challenges related to methodological and definitional aspects in assessing and observing the effectiveness and efficacy of public service delivery via online media outlets. For instance, the edges of a webpage are not always clearly indicated, nor is there any site map standard, how it must be named and where it must be shown.

It is noted that all main attempts at coming to understand such matters, especially the state of governmental online services, bring up assumptions about what a minimally-accepted layout could be, the variety of modern technology and general notions of what kinds of interactions can be expected between state actors, citizenry and businesses. Above all, assessment approaches require flexibility, structure and simplification when it comes to evaluating steps, given the variety of options and contexts available.

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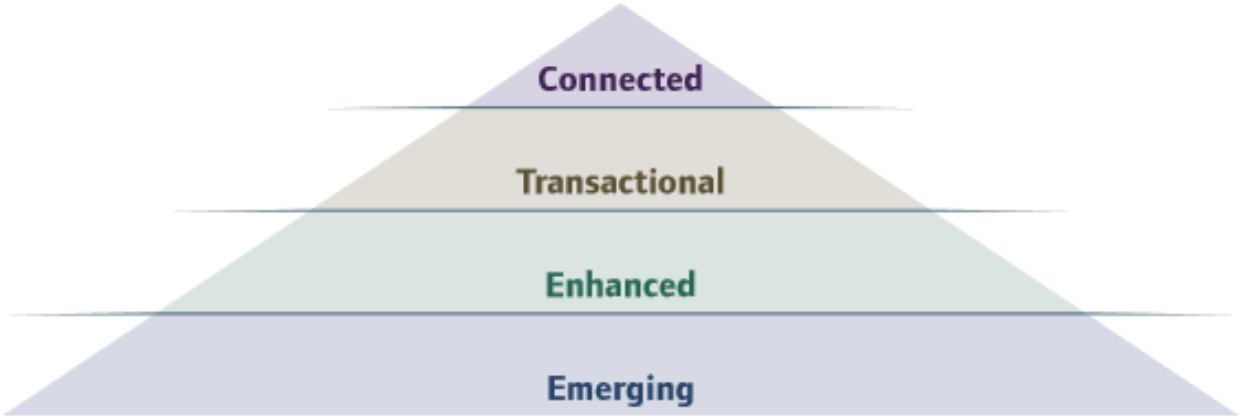
[323] KAYLOR, C., DESHAZO, R., and VAN ECK, D.: *Gauging e-Government: A Report on Implementing Services among American Cities*. -In. Government Information Quarterly, 2001. 18, no. 4, p. 293-307.
[324] VOSS, C.: *Developing an eService Strategy*. -In. Business Strategy Review, 2000. 11, no.1, p. 21-33.
[325] Ibid.

Figure 5-2: The four stages of online service development



Stage 1 Emerging information services

Government websites provide information on public policy, governance, laws, regulations, relevant documentation and types of government services provided. They have links to ministries, departments and other branches of government. Citizens are easily able to obtain information on what is new in the national government and ministries and can follow links to archived information.

Stage 2 Enhanced information services

Government websites deliver enhanced one-way or simple two-way e-communication between government and citizen, such as downloadable forms for government services and applications. The sites have audio and video capabilities and are multi-lingual. Some limited e-services enable citizens to submit requests for non-electronic forms or personal information, which will be mailed to their house.

Stage 3 Transactional services

Government websites engage in two-way communication with their citizens, including requesting and receiving inputs on government policies, programs, regulations, etc. Some form of electronic authentication of the citizen's identity is required to successfully complete the exchange. Government websites process non-financial transactions, e.g. e-voting, downloading and uploading forms, filing taxes online or applying for certificates, licenses and

permits. They also handle financial transactions, i.e. where money is transferred on a secure network to government.

Stage 4 Connected services

Government websites have changed the way governments communicate with their citizens. They are proactive in requesting information and opinions from the citizens using Web 2.0 and other interactive tools. E-services and e-solutions cut across the departments and ministries in a seamless manner. Information, data and knowledge is transferred from government agencies through integrated applications. Governments have moved from a government-centric to a citizen-centric approach, where e-services are targeted to citizens through life-cycle events and segmented groups to provide tailor-made services. Governments create an environment that empowers citizens to be more involved with government activities to have a voice in decision-making.

Source: UN e-Government Knowledgebase[326]

Nevertheless, it is true that measurement has many more evaluation methods available now than ever before. As they come up against various challenges, it is an opportune time to take into account all those evaluation developments existing in the field already. There are many more methods but here are just a few used in the development of e-Government services.

OECD Evaluation Approach

It is a significant way of evaluating e-Government that was initiated by OECD in 2002. It is rather an assessment typology that evaluates e-Government in terms of its effectiveness, relevance, efficacy and behind-the-scenes operation.

Effectiveness measures how much the initiative has delivered on expected outcomes. It is noted that most of the metrics utilised to evaluate advantages grade the frequency and quality

[326] UN e-Government Knowledgebase that is available online at: https://publicadministration.un.org/egovkb/en-us/About/Overview/-e-Government-Development-Index/Online-Service

of use of online services in comparison to conventional methods, as well as assessing financial benefits. Such indicators assess the direct effects of e-Government.

Relevance describes the reasons behind e-initiatives by verifying the adequateness of their key political aims against driving socio-economic factors or needs. It is believed that governments may use the outcomes to establish their own blueprints. In addition, one of the components utilised by OECD governments is how much different population groups show a need for e-Government. It is done by evaluating online population capacities and assessing groups' expectations and behaviour. Comprehensive instruments are utilised at both the project and program level, namely, large surveys and official statistics. It is believed that monitoring instruments which cover wide population areas can be rather expensive and most importantly, may not be effective in acquiring comprehensive data and figures. Under such circumstances, focus groups, provisional surveys or specialist panels are often employed instead.

Efficiency and internal functioning are to verify whether the e-Government project could have similar impacts but with less resources, or even provide better results with the equal resources. It is known that there are two main techniques of evaluation in order to understand the efficiency of a project or program:

1. Cost benefit analysis (CBA), which evaluates the efficacy of an institution financially speaking;
2. Cost effectiveness analysis (CEA), with comparable tools that generate identical outcomes.

What is more, it is said that the correct application of conventional financial metrics to evaluate the genuine effectiveness of e-Government programs, namely, ROI and CBA, is quite a challenge in terms of applying appropriate methodology. Such complexity is related predominantly to the definition of impacts, the number of people involved, the indirect impacts, etc. and as a result, makes the quantification of costs and advantages quite hard to handle. Moreover, the measurement approaches like benchmarking and CEA tend to be more adequate in the eyes of e-Government.

It is true that predicated on the implemented criterion, it is suitable to weigh up the effectiveness of an initiative with comparable programs abroad or with other methods. It is important to emphasise that the UK started an international benchmarking study based on a template that embraces the primary interests of Great Britain for e-Government. This is just to

examine its functioning when put against such indicators and to attempt to fill its operation failings through analysing best practices as identified in such research[327].

The assessment approaches utilised by the European Union

There are three approaches used by the EU: EC1, IDA and EC2. What follows is a brief introduction of them.

EC1 Model

This method is mainly concentrated on assessing e-service development, particularly the organisational and technological aspects. This level points out to which stage a particular service has progressed as part of full online operation. It is noted that the mean score is utilised to evaluate how many public services are provided online in the country.

IDA Model

This model allows for the assessment of maturity-level e-services as predicated on the following components:

- Accessibility: ease of use for local residents and other EU members to connect to the service and whether or not it can be used abroad.
- Usability: the user's requirements are covered by the service, nice and easy to use, provided in other languages, not difficult to learn, does not allow too many user errors.
- Supply: supply quality and completeness. The framework is of interest since the assessment of services is adopted from the point of view of the user.

EC2 model

It is known that one of the European Commission studies measured 20 basic services from the demand side. It is noted that the EC1 model was supplemented, allowing them to make direct

[327] ALLAS, T.: *Insights from International Benchmarking of the UK Science and Innovation System*. BIS Analysis Paper, no. 03. -In. Department for Business Innovation and Skills, 2014.

comparisons between what is offered and what is needed. In the EC2 model, quality is evaluated with respect to the following aspects (as perceived by users):

1. Overall service measurement;
2. Service usability: evaluated by negative or positive responses on questions about web portal accessibility, ease of use, service accessibility, site reaction time and clarity of language;
3. Benefits of service: determined by what users want amid listed benefits such as saving money, saving time, getting quicker service, gaining flexibility, obtaining wider information and having better controls, help and processes in place.

It is argued that such EU criteria are well-established in terms of individual service assessment, yet do not comprise a single case of integrated services being evaluated.

United Nations method

The UN Global e-Government Readiness Report (2004) provides an analytical report in which a comparative ranking of countries is presented. This examination is based on two main indicators: the extent of e-participation and the state of e-readiness.

e-Government development index (EGDI)

It is stated that to rate the performance of e-Government development, the UN department of economics and social affairs (UNDESA), through the public administration and development management division (DPADM), established a new index known as the e-Government Development Index (EGDI) which evaluates nation-wide web portals and how e-Government strategies and policies are addressed. In other words, the measurement grades the e-Government performance of interconnected states rather than being a complete assessment[328]. In addition, the e-Government readiness index is a compound index incorporating three components, namely, a telecommunication infrastructure index, an online services index and a human capital index.

[328] e-Government development index (EGDI) is available online at: https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index

The telecommunication infrastructure index is a compound average of five indexes connected to a state's infrastructure scope for providing e-Government services. Such indexes comprise PCs, people online, mobile phones, telephone lines and broadband. Moreover, it is predicated on information given by the International Telecommunication Union (ITU). It has to be said that each metric was approved and standardised through the Z-score procedure to obtain a Z-score for each marker. The arithmetic went as follows:

Telecommunication infrastructure composite value = Average (internet user Z-score + Telephone line Z-score + Mobile subscription Z-score + Wireless broadband subscription Z-score + fixed broadband Z-score)[329].

Further, the human capital index comprises two primary components: gross enrolment ratio and adult literacy. Knowing education is significant in terms of human capital, the 2014 survey presented two new metrics to the human capital index: expected schooling years and mean schooling years. It is argued that such additional indicators were validated and commissioned by DESA/DPADM, which arguably enhanced the use of HCI[330].

The arithmetic of four component metrics is used in a similar way when working out the telecommunication infrastructure index through the Z-score process:

Human capital composite value = 1/3 Adult literacy RZs + 2/9 (Gross enrolment RZs + Estimate years of schooling Zs + Mean of schooling Zs), where:

RZs = ration Z-score

Zs = Z-score[331].

Online service index

[329] Methodology for UN e-Government Index ranking. Available at: https://egovspace.co.in/methodology-for-un-e-government-index-ranking/

[330] United Nations e-Government Survey. 2016. e-Government in Support of Sustainable Development. Available at: https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2016-Survey/e-Government%20Survey%202016.pdf

[331] Methodology for UN e-Government Index ranking. Available at: https://egovspace.co.in/methodology-for-un-e-government-index-ranking/

The online service index gives a comparable scale of states predicated on how well they provide online public services to their residents utilising a five-stage framework. It is noted that such levels comprise, from lowest first: emerging, enhanced, interactive, transactional and connected components. Moreover, if a state moves upwards through different phases, it is rated higher. However, if states migrate vertically towards the phase of interconnected government, they progress through various minimums related to content delivery, infrastructure, data management, business remodeling and customer and security management.

What is more, the survey questionnaire is arranged in a certain way: themed question groups correlating to the four phases of e-Government development. It is believed that they have been structured to allow a qualitative evaluation within a thorough quantitative methodology. In addition, a binary response is expected for each question. More precisely, every positive response triggers a more specific question.

The UN has based the evaluation on surveys of the three indicators common to each UN country. They evaluate national development and give ideas of generic themes in terms of e-Government strategies and policies. In the following table, the indicator components are presented.

Table: 5-3: UN sub-index composites

Indicator	**Composites/Components**
Online service	- Whole of e-Government - Multichannel service delivery - Increasing usage - Bridging the digital divide - Open government
Telecommunication infrastructure	- Internet user - Telephone lines - Mobile subscription

Indicator	Composites/Components
	- Wireless broadband subscriptions - Fixed broadband
Human capacity	- Adult literacy rate - Gross enrolment ration - Expected years of schooling - Mean years of schooling
e-Government development	- Online service - Telecommunication infrastructure - Human capacity

Source: Author's own compilation based on aforementioned indicators

Nevertheless, the EGDI is a weighed-up average of a normalised score of the following metrics: TII, OSI and HCI[332]. However, the EGDI would predominantly rely on the component index with the highest levels of diffusion if the Z-score standardisation treatment is missed. Consequently, each metric was standardised through the Z-score procedure and the standardised Z-score calculation is as follows:

$$Xnew = \frac{x - \mu}{\sigma}$$

x – the raw score to be standardised,

μ – the mean of the population,

σ – the standard deviation of the population[333].

[332] United Nations e-Government Survey 2018: Gearing e-Government to Support Transformation towards Sustainable and Resilient Societies, 2018, p. 199

[333] Ibid., p. 199.

It is presented that the EGDI's average was formed mathematically thus:

$$EGDI = \frac{1}{3}(OSI_{normalized} + TII_{normalized} + HCI_{normalized})$$

It is argued that the EGDI is implemented as a standard to give a number rating for development in the area of e-Government among UN member states[334].

Furthermore, the UN e-Government development index is considered an authoritative approach in measuring the public sector's ability to deliver mobile and electronic services. It is one of the few measuring tools evolved over time by both public and private sector actors to fulfil the requirement of evaluating the progress of e-Government developments. Many such evaluations comprise an overview of online governmental services, along with data received from statistical bodies, indicators of administrative efficiency and information on e-Government policies. It is clear that the measurement approaches are different and complex at the same time but some similar features appear in all of them. Such attempts mirror a growing focus on the user side, national policy goals and impact measurements. Therefore, there is a certain need for international agreements on how to measure and evaluate e-Government performance on a global scale.

In 2006, an international group dedicated to e-Government markers embarked on initiating the Partnership on Measuring ICT for Development. The task force advises that a base set of indicators be taken by various states with the aim of identifying inconsistencies in methodology, monitoring and the reporting of e-Government developments. International benchmarking attempts are also supported. The following table presents a draft list of core indicators taken into account:

[334] Ibid.

Table 5-4: Task Group on e-Government of the Partnership on Measuring ICT for Development – draft list of core e-Government indicators

Capacity Indicators	
EG1	Percent of staff in government institutions with a computer, disaggregated by gender
EG2	Percent of staff in government institutions with internet access at the office, disaggregated by gender
EG3	Percent of government institutions with websites and/or databases
EG4	Percent of government institutions with corporate networks (LAN, intranet, extranet)
EG5	Percent of government institutions offering phone technology accessible platforms
EG6	Percent of ICT personnel in government institutions, disaggregated by gender
EG7	Number of institutions and hacking networks and websites of government institutions
EG8	Percent of spam messages per total email messages received
EG9	Percent of expenditure on ICT per total expenditure of government institutions
EG10	Percent of ICT budget spent on institutional capacity-building and human resource development
EG11	Percent of government institutions with access to the internet by type of access (narrowband, fixed broadband, mobile broadband)
Usage Indicators	
EG12	Percent of open source software vis-à-vis proprietary

EG13	Percent and type of applications used, e.g. word processing, accounting, data base, website
EG14	Percent of staff in government institutions who are trained in use of ICTs, disaggregated by gender
Transformation Indicators	
EG15	Percent of government institutions providing services online and type of services; e.g. retrieval and printing of online forms, use of interactive online forms, online bids, payment of bills, tax filing applications, company registration, car registration, voting, public grievance systems, online feedback
EG16	Percent of requests processed using ICTs vis-à-vis overall number of requests
EG17	Percent of requests processed online vis-à-vis overall number of requests processed using ICTs
EG18	Degree of satisfaction of e-Government service users, disaggregated by gender

Source: Partnership on Measuring ICT for Development, 2009.

Whatever measure is applied, there are considerable difficulties in observing e-Government progress. It is true that most of the figures are taken from markers related to the provision side and frequently by evaluating the government websites independently. Although there are some surveys exhibited that shed light on how people use such online platforms and highlight what they consider can push up public value, the whole picture in this respect is quite distorted or vague. There are other substantial aspects for experts specialising in evaluation to bear in mind regarding how to determine the reach of institutional agencies, look at outsourcing governmental services and finally understand the heterogeneity between central and local levels of government. Such difficulties in collecting internationally comparable figures are particularly hard to process due to the fact that those countries vary quite a lot in their economic and political systems. In other words, what is decentralised in one state might well be centralised elsewhere.

The pace of technological innovation is viewed as a challenge when it comes to creating frameworks which measure the impacts of e-Government and observe its efficiency. Information technology keeps evolving in such a way that global monthly user numbers will be approaching 2.77 by 2019[335]. It is apparent that governments across the globe are attempting to keep up with tech and may have to modify some of their services for emerging online providers like social media, for example. Ultimately, international standards should keep up too, in order to get a clearer idea of e-Government development.

All in all, the problem is to evaluate impact. Some existing research contains studies on citizens but predominantly it concentrates on the performance of government in developed states. However, little is said on how much e-Government impacts central government targets which is disappointing because e-Government is one of few means to enhancing relationships between public officials and citizenry.

5.6 ASSESSMENT OF E-PARTICIPATION AND ONLINE SERVICES

It is noted that the e-participation index of a country mirrors the e-participation algorithms which were set up by the public authorities in comparison to other states. It is known that the

[335] Please find more information about the number of social network users worldwide from 2010 to 2021 available at: https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/

aim of this assessment is not to authorise any specific practice alone but rather to provide a picture of how various states are utilising online instruments to stimulate interactions which benefit both sides. It is a qualitative measure predicated on the relevance and availability of services offered by governmental online platforms. It is noted that such comparative analyses are for explanatory reasons and must only provide signs of general behaviours in encouraging participation.

e-Participation tries to apprehend inter-state performance at one fixed point in time. The e-participation index is an appended index derived from the UN e-Government Survey. It expands the scope of the UN e-Government Survey by concentrating on how online services are used in order to promote information provisions (e-information sharing), interactions with all parties (e-consultation) and involvement in planning processes (e-decision-making).

Table: 5-5: e-Participation sub-index components

e-Participation Index		
E- information	**E-consultation**	**E-decision-making**
Enabling participation by providing citizens with public information and access to information without or upon demand.	Engaging citizens in contributions to and deliberation on public policies and services.	Empowering citizens through co-design of policy options and co-production of service components and delivery modalities.

Source: UNPAN Report, 2016

In the 2016 Survey report, e-participation questions were considered with great care and extended in order to mirror the current modalities and trends in how public authorities engage with citizenry on issues like decision-making, realisation and assessment. It has to be noted that the new set of questions was added to apply data sharing and publishing by public entities.

There are other updates included in the survey such as feedback from people relating to improvements of electronic public services, easy access to information on people's rights to access public information and instruments on public opinion concerning policies via social media channels, discussion forums and polls.

It is believed that the e-participation index gives a useful, analytical picture regarding the ranking and data of states for one specific year. However, it is important to emphasise that there is no e-participation ranking that has made a comparative analysis with previous editions of the survey which arguably could provide a solid illustration of development in this field.

What is more, there are many measurement approaches deployed with various central concepts that have a specific purpose, thus it is crucial to demonstrate the most commonly applied evaluation frameworks which are selected from the scholarly literature and framed in Table 5-6.

Table: 5-6: Measurement approaches

The name and source of model	The central conceptions	Approach
eGEP [336]	• Addresses quantitative along with qualitative methods • Derived from MAREVA • Multi-dimension evaluation of public value	• Applicable to benchmarking; • Central value drivers of democracy, effectiveness and efficiency
MAREVA [337]	• Predicated on expected ROI • Predicated on risk, asset to society and workers and	There are four success points, such as • risk adjustment, • strategic alignment,

[336] e-Government Economics Project (eGEP): Compendium to the Measurement Framework, 2006. Available online at: https://wibe.de/wp-content/uploads/Measurement_Framework_Compendium2006-abridged1.pdf
[337] MECHERI, F.: Mareva – Value Creation Analysis for Government Projects, 2007. Available online at: https://joinup.ec.europa.eu/collection/egovernment/document/mareva-value-creation-analysis-government-projects-mareva

The name and source of model	The central conceptions	Approach
	specific positives for clients	• examination of expected outcomes and • economic justification
WiBe (Economic Efficiency Assessment) [338]	• Predominantly utilises quantitative but in some cases has qualitative aspects • Computes NPV	• Computes cost and revenue through detailed templates • Computes investment, profitability, development and operating costs and benefits
Demand Value Assessment Methodology (DAM and VAM) [339]	Governance and social implications	• Project benefits and cost • Considers risks
Verdegem, P., Stragier, J. and Verleye, G., 2011 [340]	• Public value chain with input, output, impact and results • The relationship between such variables is impacted by contextual variables • Paradigm shift from efficiency to effectiveness	• Gives special measurement and assessment metrics, comprising contextual variables • Inputs are financial and non-financial cost producing output resulting in outcomes and influence

[338] WiBe Framework – Economic Efficiency Assessment. Please visit their website for more information at: http://wibe-tco.com/wibe-economic-efficiency-assessment/

[339] More details about Demand Value Assessment Methodology (DAM and VAM) can be found at: https://cio-wiki.org/wiki/Demand_and_Value_Assessment_Methodology_%28DAM_and_VAM%29

[340] VERDEGEM, P., STRAGIER, J. AND VERLEYE, G.: *Measuring for Knowledge: A Data-Driven Research Approach for e-Government*. -In. Proceedings of the European Conference on e-Government, ECEG ER, 2011.

The name and source of model	The central conceptions	Approach
Victor, B. et al., 2007 [341]	Employs KPIs and predicated on CMM and COBIT maturity models	• Allows feedback for future initiatives • Post-implementation audit on IS initiative • Does not provide for concrete indicators
Wand and Liao, 2008 [342]	• Assesses success of G2C Information Systems • Adopted from DeLone and McLean IS	Has six main dimensions, namely: • Quality • System quality • Service quality • Use • User satisfaction • Perceived net benefit Also, it utilises data collected from surveys
Liu, J. et al., 2008[343]	• KPAs and KPIs are used for different parties • Predicated on the model of public value • Measures returns from user's point of view	Predicated on three levels of examination: • Category • KPAs • KPIs The value categories comprise: • Financial

[341] VICTOR B, HEIDRICH, J., LINDVALL, M., MÜNCH, J., REGARDIE, M., ROMBACH, D., SEAMAN, C., TRENDOWICZ, A.: *GQM+ Strategies: A Comprehensive Methodology for Aligning Business Strategies with Software Measurement.* In Proceedings of the DASMA Software Metric Congress (MetriKon 2007).
[342] WANG, Y, and LIAO, Y.: *Assessing eGovernment Systems Success: A Validation of the DeLone and McLean Model of Information Systems Success*. -In. Government Information Quarterly, 25, no. 4, 2008, p. 717-733.
[343] LIU, J., LOVE, P., DAVIS, P., SMITH, J. AND REGAN, M.: *Conceptual Framework for the Performance Measurement of Public-Private Partnerships.* -In. Journal of Infrastructure Systems, 21, no.1, 2015, p. 1-15.

The name and source of model	The central conceptions	Approach
		• Social • Strategic • Operational
Bhatnagar and Singh, 2010 [344]	• Uses assisted service centres rather than self-use • Has both quantitative and qualitative indicators • Adopted for developing states • Concentrates on influence from customer and community perspectives • Based on eGEP, EAF, MAREVA and WiBe	Assesses influence on three central actors: • Government • Clients • People A well-defined methodology for the measuring of computerised and manual systems

Source: Author's own compilation

5.7 CITIZEN-CENTRIC METHODS TO MEASURE e-GOVERNMENT

It is known that a citizen-based approach has been studied in many different countries since such involvement is a significant measure in ensuring that services become citizen-centric. It is believed that a direct method towards the assessment of e-Government initiatives is a citizen-centric approach, such as the one developed by Brestchmeider et al. (2004). An evaluation theory of web applications is used and a test to review how well the approach works is established. It is stated that the approach contributes by embracing variables which impact processes and results of transactions[345].

[344] BHATNAGAR, S. AND SINGH, N.: *Assessing the Impact of E-government: A Study of Projects in India*. -In. Information Technologies and International Development, 6, no. 2, 2010.
[345] BRESTCHMEIDER, S., MARC-AURELE, F. and WU, J.: *Best Practices" Research: A Methodological Guide for the Perplexed*. -In. Journal of Public Administration Research and Theory, 2005. 15, no. 2, p. 307-323.

Furthermore, NET-EUCEN, an EU-funded thematic network on citizen-centric e-Government, has suggested a model that has a set of markers to evaluate how users interact with e-Government at all phases of its incarnations[346].

- **User involvement in the design stage**

Individuals partake in developing concepts and ideas, emphasising requirements and needs of the audience rather than technical limitations.

- **User involvement in the development and implementation stages**

The individuals are involved in primary implementations to make sure that all facets are evaluated properly. Mock-ups and test versions are employed to continuously check if the service meets an individual's requirements. The objective of individual participation is to enhance and refine developmental results.

- **User involvement in the deployment and running stages**

In this stage, the user approves the service by trying out interoperability and flexibility. It says that test outcomes are utilised to customise and improve services in accordance with changes in economic, social and political environments.

Moreover, other studies attempt to utilise experiences and lessons from evaluations of website performance in the area of e-commerce. It is proposed to use multidimensional web assessment strategies which comprise approaches like user feedback, usability testing, web and internet performance and usage data that are already widespread in the measuring of business web platforms. In addition, in some evaluation models, only basic observable attributes were analysed on websites in order to measure e-Government service delivery such as addresses, phone contact details, databases, publications, security policies, foreign language access, disability access, an index, email contact information, etc.

[346] More information about the NET-EUCEN project can be found at: https://www.in-jet.eu/portfolio-items/net-eucen/

Furthermore, when it comes to a government website, what a citizen seeks is connected to their interaction (an information user), tasks to be carried out (an information issue) and the state web platform (an information pool). Moreover, elements from such composites might impact information-seeking behaviour. Therefore, advanced measurement frameworks both analyse features more so than web portal models and consider governmental conditions. Given this advantage, such models inform well a public entity as to whether or not e-Government delivers as intended. In addition, it can also better illustrate institutional factors representing observed failures or successes of e-Government.

Table: 5-7: Various citizen-centric models derived from the literature review

Measurement method used by	**Description**
Wang, et al. (2005)	Measuring the performance of a web-enabled e-Government platform with a citizen-centric component[347]
Eschenfelder, K. and Miller, C. (2006)	A socio-technical instrument for measuring e-Government platforms that applies problems of openness and trust in e-Government systems[348]
Carter, L. and Belanger, F. (2005)	The outcomes are presented of their research on citizen adoption of e-Government projects predicated on the Technology Acceptance Model (TAM) theory[349]

[347] WANG, L., BRETSCHNEIDER, S. and GANT, J.: *Evaluating Web-based e-Government Services with a Citizen-Centric Approach*. -In. 38th Hawaii International Conference on System Sciences (HICSS-38), 2005.
[348] ESCHENFELDER, K. and MILLER, C.: *Examining the Role of Website Information in Facilitating Different Citizen-Government Relationships: A Case Study of State Chronic Wasting Disease Websites*. -In. *Government Information Quarterly*, 2007. 24, p. 64-88.
[349] CARTER, L. and BELANGER, F.: *The Utilisation of e-Government Services: Citizen Trust, Innovation and Acceptance Factors*. -In. Information Systems Journals, 2005.

Measurement method used by	Description
Reddick, C. (2011)	Examines the demand-side of e-Government that relates to aspects of citizen interaction with e-Government[350]
WAES Demchak et al. (2000)	The Website Attribute Evaluation System is established to measure the institutional openness of e -government web platforms solely from features of the website itself[351]

Source: Author's own compilation

Notwithstanding, most e-Government research has not taken into account levels of satisfaction. It is argued that among existing e-Government performance indicators, the least utilised is customer satisfaction. Yet, it is suggested that satisfaction is an extension of quality and performance measures. Although the quality measures are concerned mainly to the user-centric framework, real assessment requires the analysis of opinions relating to e-Government as a public service.

Furthermore, the online services index is one of three elements of the UN e-Government development index. It tries to evaluate effectiveness via one single internationally comparable element by employing a four-stage framework. Such structured attempts, predicated on comprehensive reflection and studies by different experts, provide that states normally start with an occurring online presence with standardised web platforms, develop to an improved state with the allocation of media content and interaction, then develop to a transactional level with a variety of services. A country may then ask for citizen contributions on issues of public policy. Also involved is an interconnected network of shared functions, data sharing and regular dialogue with people using social instruments.

[350] REDDICK, C.: *Citizen Interaction and e-Government: Evidence for the Managerial, Consultative, and Participatory Models*. -In. Transforming Government People Process and Policy, 2011. 5, no. 2, p. 167-184.
[351] DEMCHAK, C., FRIIS, C. and LA PORTE, T.M.: *Webbing Governance: National Differences in Constructing the Face of Public Organisations. Handbook of Public Information Systems*, David Garson, ed., New York: Marcel Dekker Publishers.

What is more, it is argued that e-participation is a field that demands special attention. Quality, use and the scope of online service delivery is well-established yet cannot be said to be less significant to the implementation of citizen-focused governance. It is argued that its relevance is of interest to local level institutions where people are more likely to get in touch with government officials. It is unclear to what extent local officials are able to provide supporting information or consult actively with residents and more importantly, involving them in decision-making by default. Therefore, such matters should be determined in measurable, specific ways and relevant data gathered to observe the connection between citizen empowerment and online services.

The e-Government development index is supplemented by an e-participation index. It is believed that e-governance is better organised and studied by the existence of this index through placing three elements relating to how citizens engage:

1. **Online consultation** – entails interaction among the public sector, businesses and individuals at the initiative of the public sector itself. In order for online consultations to work and individuals to have faith in the results, feedback from such individuals must be recognised by a suitable answer. For instance, public authorities might report on the result of a dialogue with an individual by providing a short summary of the stance of different stakeholders and informing them about the next step or way forward. In such a consultation, the instruments to be used to engaged with people are: social media, blogs, surveys, chat rooms or other interactive engagement tools. People are also able to initiate online consultations, as in the case of e-petitions.

2. **Online participation in decision-making** - involves interaction among the public sector and residents that results in direct resident input into agenda-setting. The public officials extract feedback from people or businesses on public sector proposals. However, people are able to initiate their own proposals for establishing and modifying agenda-setting or political programs or projects to be taken by public officials and political representatives.

3. **Online dissemination of information** – refers to interactions between the public sector, businesses and citizenry in such a way as to support policy-making procedures. It is true that for residents to become involved in decision-making, regulations and laws should be immediately accessible, policies and strategies presented clearly and

existing possibilities clearly depicted and made available. It is clear that this should be realised with respect for inclusion of all categories of community, including the countryside, isolated and rural regions. The relevant information may be spread through digital forms such as newsletters, text messaging, forums, community networks or other services.

5.8 E–OPENNESS

The main theme of e-governance is e-openness: It allows citizens to actively get involved in making decisions. It is believed that being able to access official information gives people the impetus to share suggestions and insights across online community networks on various matters that concern them most. If public online platforms are created with great care, such resources can empower individuals, giving them a chance to have a handle on service delivery, offering greater transparency of service work-flows and more intelligible norms for accountability[352,353]. Moreover, ethical awareness in the public sector can easily be stimulated by such high levels of transparency, guaranteeing accountability in matters of performance for all parties involved[354].

E-openness is about how easy it is to get a certain amount of public information online. Such online engagement ranges from public education about state institutions, its functions, parliament, online parliamentary sessions allowing for active involvement utilising discussion platforms, messaging politicians concerning major policy initiatives and communicating directly with citizens through emails, amongst other ways to improve accountability and establish greater trust across the board.

[352] GIANLUCA, M., GIUSEPPE, A. and GIANLUIGI, V.: *A Multi-Level Framework for ICT-Enabled Governance: Assessing the Non-Technical Dimensions of Government Openness*. -In. Electronic Journal of e-Government, 2011. 9, no. 2, p. 152-165.
[353] REDDICK, C.G.: *Citizen Interaction and e-Government: Evidence for the Managerial, Consultative, and Participatory*. -In. Transforming Government: People, Process and Policy, 2011. 5, no.2, p. 167-184.
[354] GIANLUCA, M., GIUSEPPE, A. and GIANLUIGI, V.: *A Multi-Level Framework for ICT-Enabled Governance: Assessing the Non-Technical Dimensions of Government Openness*. -In. Electronic Journal of e-Government, 2011. 9, no. 2, p. 152-165.

5.9 CAPACITY CONSTRAINTS

It is true that there are existing problems in the current approaches since no complete method for measuring e-Government initiatives exists. There is a tendency of such approaches to disregard intangible factors like political issues and institutional culture. The CBA (Cost Benefit Analysis) technique is a perfect example of such a statement[355]. It is believed that CBA is used to assess the total costs and outcomes of an initiative systematically. The model implies that public authority decisions on allocating resources must be exposed to tests which exist in the private sector. Moreover, other project options must arguably be chosen which will further maximise the value of the output from allocated resources. Also, CBA is being confronted due to the fact that it is more an anti-political approach that disregards any of the mobilisation factors (advocacy, bargaining and the exercise of power) of public initiatives[356].

It should also be highlighted that specific weight has been put on methodological advances, as established via 60 functional/technical and financial/economical content tenets[357]. Therefore, techniques like ROI and CBA have a feature to monopolise. It is said that the changing role of IT is meant to have such content tenets transformed significantly with a greater preponderance of intangible advantages and a growing unpredictability concerning their achievement. Conventional assessment techniques are unable to tackle such transformations. It is argued that intangible issues like stakeholder influence is the number one reason for failure when it comes to the institutionalisation of new IT progress assessments. Thus, new techniques are required in order to maintain a solid analysis of these issues, as well as their unpredictability and risk.

e-Government development, however, is frequently impeded due to the various limitations in government capacity. Such constraints frequently appear in the fragmented information structures that often accompany institutional difficulties and, to a lesser extent, insufficiencies in ICT skills. It is argued that such issues are the exceptional domain of developing states. This assumption comes from the fact that early adopters of information technology are often countries with expansive public administrations and programs who might be in a situation

[355] Guide to Cost-Benefit Analysis of Investment Projects. Economic Appraisal Tool for Cohesion Policy 2012-2020.
[356] Ibid.
[357] SERAFEIMIDIS, V. and SMITHSON, S.: *The Management of Change for Information Systems Evaluation Practice: Experience from a Case Study*. -In. International Journal of Information Management, 1996. 16, no.3, p. 205-217.

where they must harmonise back-office systems in order to enhance e-Government performance and this all in the face of institutional structures created specifically for opposing objectives precisely to decentralise and delegate power.

Moreover, it is arguably stated that another limitation in public entities the necessity of altering behaviour and mindset; a process possible through relevant skill acquisition and by establishing some kind of stimuli to counter risks linked to the realisation of individual e-Government initiatives. It is important to mention that by admitting the significance of a contributory administrative structure, the UN e-Government Survey incorporates a marker in its development index to account for a head information specialist who is responsible for co-ordinating national e-Government policy. This is the beginning of evaluation criterion. The future measurement of e-Government capacity within government usually extends beyond human resource problems and ICT infrastructure to address adherence to advised practices in the design of organisational regulations, laws, standards, machinery and policies.

Limitation in government capacity expands to employment processes and requirements to assess the interconnectivity between state offices. It is clear that this is one way to judge a public sector's ability to react to the wishes of people for accessing electronic public services. Any new indicators would do well to measure the internal systems, procedures and institutional agreements needed to assist in effective e-Government operations and better public service delivery. It has to be said that capacity limitations exist in terms of demand for e-Government too. The issues of service delivery preferences, ICT development and human capital come into play here.

Generally speaking, a citizen's opportunity to access and benefit from online services is granted by telecommunication infrastructure indicators, in which internet use, number of fixed broadband subscribers, mobile phones, the diffusion of personal computers and main telephone lines are covered, along with education levels and literacy. It is noted that a few indicators are not present in the examination for the survey and its indexes. To begin with, breakdowns by population segment are not provided by the national capacity indicators. Thus, it is rather complicated to evaluate whether particular groups are at a certain disadvantage.

Moreover, telecommunication infrastructure data by gender is absent in almost all states, for instance and does not make up part of official figures gathered by the International Communication Union. The same also applies to various languages, income groups and ages.

Yet, some of these details may be collected from geo-data at sub-national levels. Also, there are no indicators reading levels of satisfaction with e-Government services. The users of such are not questioned whether delivered services are well-structured or easy for them to obtain. Such feedbacks derived from the demand-side and could arguably direct public officials towards service improvements. Furthermore, use of e-Government services by people is unavailable from most e-Government appraisal methods.

The significance of identifying demand is well-known by e-Government specialists, particularly when arguing about global and regional tallies. It is said that approaches to pin-point demand were proposed by the task force of the Partnership on Measuring ICT for Development. This might be done by evaluating how many requests are processed utilising ICT and the level of satisfaction of such users. It is argued that no such data would be easy to get without an agreed attempt on the side of public sector.

It is true that a global consensus on standard methodology for assessing e-Government development is urgently needed. It argues that such platforms are going to avoid inconsistent interpretations by central and local governments, provide for more efficient resolutions from around the globe and enhance the ability to compare e-Governments on an international scale in terms of development and usage. It must be said that different stakeholders, especially in the global arena, must continue maintaining e-Government capacity-building at the central and local level. Simultaneously, model surveys must be carried out because they provide a critical supply of international comparability data.

To conclude, data collection gives an overall picture of ICT in the public sector for easier comparisons. It is believed that ongoing collaborations in performance assessment may take many shapes and forms, from the adoption of open standards, the elaboration of factors and the articulation of e-Government tenets to multilateral technical assistance, information sharing and the development of interoperable systems.

CHAPTER SIX

RESEARCH DESIGN AND METHODOLOGY

6.1 Introduction and Overview

6.2 Theoretical Models Used in the Research

6.3 Comparison of the Theoretical Models

6.4 Study Variables

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CHAPTER SIX

RESEARCH DESIGN AND METHODOLOGY

6.1 INTRODUCTION AND OVERVIEW

In this chapter, the research design, study variables, sample size, data collection and data analysis procedure, limitations and implications are presented. It outlines the statistical approaches and procedures used in collecting data, examining the data and generating a discussion of such analysis. Implications are discussed as well. It concludes with a limitation part that the study faced. The study uses a quantitative survey research design. It is noted that such an approach works well because it helps to examine the intention to utilise the Client Gate portal in an effective way. The quantitative approach enabled the collection of quantitative data through the use of online-structured questionnaires distributed across social media, emails and other means and analysed employing an SPSS program.

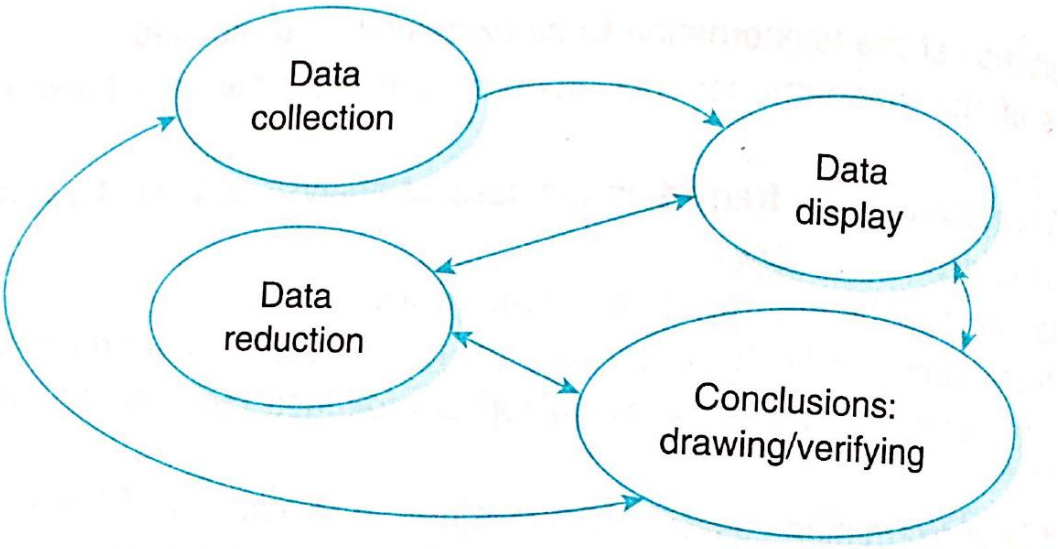
The quantitative methodology was chosen because it focuses on academic activity and is reliable when it comes to determining it more technically. This methodology also includes creativity employed in a systematic way to enhance knowledge formed by culture, human knowledge and society. In other words, it involves the examination of facts, the reconfirmation of outcomes from previous research, provides solutions for existing or new issues and supports propound theories. In addition, it involves knowledge building, continuing experiments to figure out the cause and effects of intention and to provide the basis for future research.

The research was based on the Miles and Huberman framework[358] because the research question was answered through the following components: data reduction, because it reduces the data without important loss of information and data display, because it helps to organise and summarise the data. It is noteworthy that it comprises iterative and repeated displays of data. The reason for approaching these steps was to assist in drawing conclusions (see also Figure 6-1). The analysis of the data begins with an open coding process because "the process

[358] MILES, M. and HUBERMAN, A.: *Qualitative Data Analysis. 2nd edn*. -Bp.:Thousand Oaks, CA: SAGE, 1994.

of labelling in open coding is guided by two main activities – making comparisons and asking questions" [359].

Figure 6-1: Components of data analysis: Interactive model.



Source: Miles and Huberman, 1994, p. 12.

6.2 THEORETICAL MODELS USED IN THE RESEARCH

e-Government services are delivered through information and communication technologies (ICTs), thus it is relevant to utilise information technology adoption theories to understand the adoption of e-Government itself. It is argued that such theories take one of three plausible methods: the adoption method, the diffusion method or the domestication method[360]. Adoption scholars normally explain and describe the acceptance decision of individuals using various social models of decision-making. In 1989, for instance, Fred Davis developed the Technology

[359] PUNCH, K.: *Introduction to Social Research. Quantitative and Qualitative Approaches*. -Bp.: London: SAGE, 2014, p.10.
[360] VIGAYAN, P., PERUMAL, V. and SHANMUGAM, B.: *Multimedia Bank and Technology Acceptance Theories.* -In. Journal of internet Banking and Commerce, 2005. 10. no.1.

Acceptance Model (TAM) that was predicated on the Theory of Reasoned Action (TRA)[361]. TAM aims to provide for how individuals approve of and employ a technology[362].

The key aspects of Davis' TAM approach are ***perceived usefulness (PU),*** the degree to which an individual believes that utilising a concrete system would improve job performance and ***perceived ease of use (PEOU),*** the degree to which an individual believes that utilising a concrete system would be effortless[363]. The constructs seen in Davis' study focus on employee approval of institutional programs but such constructs have been tried and confirmed with other individuals, those with or without experience, word processing, systems, email, voice mail and gender[364,365,366]. Such measures of TAM have been used in studies to assess user adoption of e-commerce, for instance[367,368].

TAM is predicated on purposeful behaviour, which provides that what one believes has an impact on intention, with intentions impacting action[369]. Further, user behaviour defines usage. It is known, however, that 'usage attitude' was eventually excluded from the model after being refined. In fact, Davis' (1989) model is one of the most widely utilised when it comes to the prediction of Information Technology Adoption. TAM is also employed in order to better comprehend user behaviour while utilising Information Systems. Notwithstanding this, domestication scholars analyse societal adoption, usage and technology domestication with particular interest in societal consequences[370]. It is believed that a lot of research has studied e-Government adoption that was predicated on these theories.

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[361] AJZEN, I and FISHBEIN, M.: *Understanding Attitudes and Predicting Social behaviour*. -Bp.: Prentice-Hall, Englewood Cliffs, 1980.
[362] DAVIS F.: *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*. -In. MIS Quarterly, 1989. 13, p. 318-341.
[363] KÖCK, J.: *The Technology Acceptance Model (TAM). An Overview*. Available online at: https://www.grin.com/document/378123.
[364] JACKSON, C., CHOW, S. and LEITCH, R.: *Toward an understanding of the behavioural Intention to Use an Information System*. -In. Decision Sciences, 1997. 28, p. 357–389.
[365] VENKATESH, V. and DAVIS, F.*: A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies*. -In. Management Science, 2000. 46, p. 186–204.
[366] VENKATESH, V. and MORRIS, M.: *Why don't men ever stop to ask for directions? Gender, Social Influence, and their Role in Technology Acceptance and Usage behaviour*. -In. MIS Quarterly, 2000. 24, p. 115–139.
[367] MOON, J. and KIM, Y.: *Extending the TAM for a Worldwide-web Context*. -In. Information and Management, 2001. 28, p. 217–230.
[368] PAVLOU, P.: *Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model*. -In. International Journal of Electronic Commerce, 2003. 7, p. 69–103.
[369] AJZEN, I. and FISHBEIN, M.: *Attitudes and Normative Beliefs as Factors Influencing Intentions*. -In. Journal of Personality and Social Psychology, 1972. 21, p. 1–9.
[370] TOWNSEND, A.M.: *Life in the Real – Mobile Telephones and Urban Metabolism.* -In. Journal of Urban Technology, 1972.7, no. 200, p. 85-104.

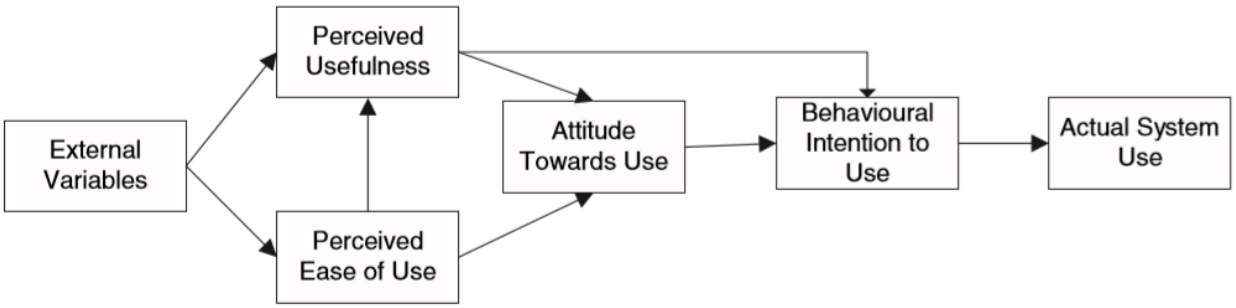
Generally speaking, TAM is a modified form of Theory of Reasoned Action (TRA) that integrates technology into the framework to describe 'use behaviour' towards technology. TRA explains that behavioural intention is the ultimate factor of a person's behaviour[371]. TAM recognises the causal linkages between perceptions towards technology and an individual's attitudes regarding its use. The theory accentuates that insights about 'how easy it is' and 'how useful is this for me to utilise' are elements which have a significant impact on whether the technology is adopted or not.

Perceived usefulness and perceived ease of use are therefore more likely to be helpful in exploring the measurement of the e-Government online platform in Hungary, 'Client Gate'. It has to be noted that the first construct – perceived usefulness - is "the degree to which a person believes that using a particular system would enhance his or her job performance"[372]. Further, the second – perceived ease of use – is described as the "degree to which a person believes that using a particular system would be free of effort"[373]. Therefore, it is arguably suggested that the use of Client Gate can be considered very similar to new technology adoption, thus it seems conceptually important to use the above constructs in evaluating online service quality.

Such online service quality markers as content, customisation, response and reliability have a critical impact on perceived usefulness and perceived ease of use, which then has an impact on usage attitudes[374].

[371] FISHBEIN, M., and AJZEN, I.: *Belief, Attitude, Intention & behaviour: An Introduction to Theory & Research.* -In. Addison-Wesley, Reading, MA, 1975.
[372] DAVIS, F.: *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*. -In. MIS Quarterly, 13, no. 3, 1989, p. 319-340, p. 320.
[373] Ibid., p. 320.
[374] LIN, C.S., and WU, S.: *Exploring the Impact of Online Service Quality on Portal Site Usage*. -In. Proceedings of the 35th Hawaii International Conference on System Science, 2002.

Figure 6-2: Technology Acceptance Model



Source: DAVIS F.: *Perceived Usefulness, Perceived Ease of Use and User Acceptance of Information Technology,* 1989.

It is stated, however, that to acquire a better idea of the acceptance process, the researchers created an integrated framework known as the Unified Theory of Acceptance and Use of Technology (UTAUT), which embraces eight models. UTAUT, in fact, is the theory that helps in assessing the probability of adoption for modern technologies and gives an understanding of the drivers of technology acceptance[375]. In the diffusion method model, the theory of Diffusion of Innovations (DOI) was developed by Everett Rogers[376].

The aim of DOI is to examine the features of technology adopters. Such features comprise the complexity, relative advantage, visibility, image, results, compatibility and discretion of using innovations. Some major components of the innovation diffusion theory correspond to those found in TAM theory. In particular, relative advantage is analogous to perceived usefulness and complexity is cognate with perceived ease of use. It notes that diffusion is defined as "the process by which an innovation is communicated through certain channels over time among the members of a social system"[377]. The scholar determines an innovation as something perceived as new[378].

[375] VENKATESH, V., MORRIS M., DAVIS G. and DAVIS F.: *User Acceptance of Information Technology: Toward a Unified View*. – In. MIS Quarterly, 2003. 27, p. 425-479.
[376] ROGERS, E M.: *Diffusion of Innovations: 4th edition.* -Bp.: New York: Free Press, 1995.
[377] Ibid., p. 5.
[378] Ibid.

Rogers (1995) determines relative advantage as "the degree to which an innovation is perceived as better than the idea it supersedes"[379] Complexity is "the degree to which an innovation is perceived as difficult to understand and use. Some innovations are readily understood by most members of a social system; others are more complicated and will be adopted more slowly"[380]. Moreover, compatibility is referred to as "the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters"[381]. In addition, trialability is the "degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried on the instalment plan will generally be adopted more quickly than innovations that are not divisible"[382]. The last is observability, or the "degree to which the results of an innovation are visible to others" [383].

6.3 COMPARISON OF THE THEORETICAL MODELS

TAM, DOI/PCI and trust have been examined through employing various approaches and settings and have been justified as being significant to research in adoption. Incorporating these models in the study gives us a full understanding of individuals' desire to utilise e-Government services in Hungary, particularly the Client Gate portal.

Each framework can be compared by disciplinary background, focus and unit of analysis. Disciplinary background refers to the areas in which the model emerged or is often applied. Focus, however, determines the concepts of significance to the theory, namely, citizen trust in government or attitude towards technology. Unit of analysis refers to framework interest by an institution or individual. Some important similarities and differences between these three models are outlined in the following table.

[379] Ibid., p. 15.
[380] Ibid., p. 16.
[381] Ibid., p. 15.
[382] Ibid., p. 16.
[383] Ibid., p. 16.

Table 6-1: Comparison of theoretical models

	TAM	DOI/PCI	Trustworthiness
Focus	Perceptions and attitudes towards technology	Technology features, market (supply-demand) adopters' features	Users' perceptions of the trustworthiness of the public sector and technology
Central unit of examination	Users/non-users	Individuals. Institutions	Individuals
Background	Management information System	Communication, MIS, Policy, Sociology, Management information System	Political science, Public administration,

Source: Technology Acceptance Model; Diffusion of Innovation; Perceived Characteristics of Innovation.

Nevertheless, as we can see from the literature, the TAM and DOI/PCI models have relatively similar constructs. It is noted that the complexity construct from DOI is similar to the perceived ease of use (PEOU) construct from TAM. In this research, the well-tested PEOU construct is used in order to introduce and test such a concept. It is argued that several studies have stated that relative advantage and perceived usefulness are the same construct.

For instance, Carter and Belanger (2003), researched the impacts of relative advantage, ease of use, image and compatibility with respect to people's willingness to utilise e-Government services[384]. They employed the model of Diffusion of Innovations to analyse the most pertinent elements that influence an individual's likelihood to use e-Government services. They found out that perceived ease of use, trustworthiness and compatibility are critical in forecasting intention.

[384] CARTER, L. and BELANGER F.: *Diffusion of Innovation & Citizen Adoption of e-Government*. -In. The Fifth International Conference on Electronic Commerce (ICECR-5), Pittsburg, PA, 2003, p.57-63.

Moreover, Wangpipatwong, Chutimaskul and Papasratorn (2005) examined which factors might play a role in e-Government use in terms of system and information quality. Their findings revealed some interesting insights. It is noted that all investigated features of quality considerably impacted e-Government reception. Moreover, relevancy, completeness and accuracy were more important than precision and timeliness. Above all, efficiency was most determinative[385].

In the research of Choudrie and Dwivedi (2005), UK awareness and acceptance of e-Government were analysed. They discovered that people with broadband are more likely to interact with e-Government, as well as being more aware of new online initiatives provided by their institutions. It was also revealed that the demographic features of individuals, namely, gender, age, social class and education are very important in justifying adoption and awareness[386]. Another study by Dimitrova and Chen (2006) analysed the impacts of socio-psychological factors in the US by blending the Diffusion of Innovations model and the Technology Acceptance Model. The results unveiled that perceived uncertainty, perceived usefulness and existing curiosity in the public sector were deeply connected to e-Government adoption[387].

It is known that different scholars have studied several dimensions of e-service quality as well. The summary of such is provided in Table 6-2. Yet, it is noted that there is no consistency in the suggested dimensions. Researchers have proposed a variety of ways of measuring website quality[388] and some scholars are providing a generalised scale that is elaborated by being used in a diverse range of industries. Moreover, there is no research focusing on the measurement of e-service quality just yet but it is stated that only a predominance of perception predicated on measurement methods exists[389].

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[385] WANGPIPATWONG S., CHUTIMASKUL W. and PAPASRATORN B,: *A Pilot Study of Factors Affecting the Adoption of Thai eGovernment Websites*. -In. Proceedings of the International Workshop on Applied Information Technology, Bangkok, Thailand, 2005, p. 15-21.

[386] CHOUDRIE J. and DWIVEDI Y.K.: *A Survey of Citizens' Awareness and Adoption of E Government Initiatives, the 'Government Gateway': A United Kingdom Perspective*. -In. In the proceedings of the E-Gov. 2005 Workshop, Brunel University, London, UK, 2005.

[387] DIMITROVA, D.V. and CHEN Y.C.: *Profiling the Adopters of e-Government Information and Services: the Influence of Psychological Characteristics, Civic Mindedness, and Information Channels*. - In. Social Science Computer Review, 2006. 24, no. 2, p. 172-188.

[388] YOO, B. and NAVEEN, D.: *Developing a Scale to Measure the Perceived Quality of internet Shoing Sites* (SITEQUAL). -In. Quarterly Journal of Electronic Commerce, 2001. 2 , no.1, p. 31-47.

[389] AGRAWAL, A.: *Assessing Service Quality in e-Services: Building up on the Quality Instrumentation*. -In. PhD Dissertation, submitted to ICFAI University, 2007.

Table 6-2: Proposed Dimensions of e-Service Quality by Previous Studies

Kaynama and Black (2000) "E-QUAL"	**Zeithaml et al (2001)**	**Liljander et al (2001)**	**Loiacono et al. (2000) "WEBQUAL"**
1. Responsiveness 2. Content and Purpose 3. Accessibility 4. Navigation 5. Design and Presentation 6. Background 7. Personalisation and customisation	1. Reliability 2. Responsiveness 3. Access 4. Flexibility 5. Ease of navigation 6. Efficiency 7. Assurance/trust 8. Security/privacy 9. Price knowledge 10. Site aesthetics 11. Customisation /personalisation	1. User Interface 2. Responsiveness 3. Reliability 4. Customisation 5. Assurance	1. Information fit for task 2. Interaction 3. Trust 4. Response time 5. Design 6. Intuitiveness 7. Visual appeal 8. Innovativeness 9. Emotional appeal 10.Integrated communication 11.Business processes 12. Substitutability
Lin and Wu (2002)	**Zeithaml (2002)**	**van Riel et al (2004)**	**Yang, Jun and Peterson (2004)**
1. Information content 2. Customisation 3. Response rate	1. Core e-SQ 2. Efficiency 3. Reliability 4. Fulfilment 5. Privacy 6. Recovery S-Q 7. Responsiveness, 8. Compensation, 9. Contact	1. E-Scape Design 2. Custmisation 3. Assurance 4. Responsiveness.	1. Reliability 2. Responsiveness 3. Competence 4. Ease of Use 5. Product Portfolio 6. Security

Yoo and Donthu (2001) SITE-QUAL	Li, Tan and Xie (2002)	Zeithaml, Parasuraman and Malhotra (2005) "e-SQUAL"	Agrawal (2007)
1. Ease of Use 2. Processing Speed 3. Aesthetic Design 4. Interactive Responsiveness	1. Website Design 2. Customer Service 3. Reliability 4. Privacy	1. Tangibility 2. Reliability 3. Responsiveness 4. Integration of Communication 5. Assurance 6. Quality of Information 7. Empathy	1. Information 2. Interaction 3. Integration 4. Access 5. Corporate Image 6. Emotional engagement 7. Active Service Recovery 8. Assurance

Source: Agrawal, A., Shah, P., Wadhwa, V. 2007. "EGOSQ-Users' Assessment of e-Governance Online-Services: A Quality Measurement Instrumentation". American University in the Emirates (AUE), p. 234.

Based on this literature review, the study recommends the following research model and hypotheses. It posits that demographic variables, along with an individual's perception of technology, adoption features and trustworthiness all have a marked influence on e-Government adoption relating to the Client Gate platform in Hungary.

6.4 STUDY VARIABLES

DEMOGRAPHIC VARIABLES

Age

Some studies have used age as the sole variable for the adoption and utilisation of e-Government[390, 391, 392]. It is found that younger age groups use the internet more frequently in comparison to the elderly in South Korea, for instance[393]. However, in Western European countries, the elderly are far less likely to employ online services and the internet itself in comparison with the younger generation[394]. There are several researchers who have come to similar outcomes[395, 396]. Therefore, it is necessary to test the influence of age as the sole variable in identifying users of the Client Gate platform.

Education

It is suggested that those with a higher education are much more likely to adopt technological innovations[397]. Some research found a positive correlation between education level and technology adoption. Other studies looking at similar ideas have shown evidence that there is a clear connection between education and e-Government adoption[398, 399]. It argues that such

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[390] VENKATESH, V., MORRIS, M., DAVIS, G. and DAVIS, F.: *User Acceptance of Information Technology: Toward a Unified View*. – In. *MIS Quarterly*, 2003. 27, p. 425–478.
[391] CHOUDRIE J. and DWIVEDI Y.K.: *A Survey of Citizens' Awareness and Adoption of E Government Initiatives, the 'Government Gateway': A United Kingdom Perspective*. -In. In the proceedings of the E-Gov. 2005 Workshop, Brunel University, London, UK, 2005.
[392] COLESCA, S. and DOBRICA, L.: *e-Government Adoption in Romania*. – In. International Journal of Human and Social Science, 2009. 4, no.14, p. 1040-1044.
[393] CHOUDRIE, J. and LEE, H.: *Broadband Development in South Korea: Institutional and Cultural Factors*. - In. European Journal of Information Systems, 2004. 13, no.2, p. 103-114.
[394] CARVETH, R. and KRETCHMER, S.B.: *The Digital Divide in Western Europe: Problems and Prospects*. - In. Information Science, 2002, p. 239-249.
[395] MWANGAKALA, H.: *The Effect of Demographic Characteristics on Citizens' Usage of Government Websites*. -In. Social Science research Network, 2012.
[396] COLESCA, S. and DOBRICA, L.: *e-Government Adoption in Romania*. -In. International Journal of Human and Social Science, 2009. 4, no.14, p. 1040-1044.
[397] Burgess, R.: *Key Variables in Social Investigation*. – Bp.: Routledge, London, 1986.
[398] CHOUDRIE, J. and PAPAZAFEIROPOULOU,A.: *Lessons Learnt from the Broadband Diffusion in South Korea and the UK: Implications for Future Government Intervention in Technology Diffusion*. – In. Electronic Government an International Journal, 2006. 3, no.4, p. 373-385.
[399] CHOUDRIE J. and DWIVEDI Y.K.: *A Survey of Citizens' Awareness and Adoption of E Government Initiatives, the 'Government Gateway': A United Kingdom Perspective*. -In. In the proceedings of the E-Gov. 2005 Workshop, Brunel University, London, UK, 2005.

aspects as education can be considered an independent marker to define the variations among individuals using e-Government services. It is presumed that such variations in individual perceptions and attitudes towards the adoption of e-Government services may be assessed by looking at the different levels of education.

Gender

It is known that gender is viewed as an explanatory and descriptive variable[400]. It is argued that gender has a significant impact on e-Government use and adoption. It is believed that men employ computers more frequently than females. Furthermore, it is proposed that gender can be seen as a unique marker to justify certain variations on how technology and e-Government as a whole is being adopted.

Type of employment

It is noted that occupation plays a critical role in e-Government acceptance. Some argue that people who are involved in the public sector are inherently more satisfied with public services than those who are not. It is true that in almost all studies, the type of employment has not been examined as a sole marker that affects online service adoption.

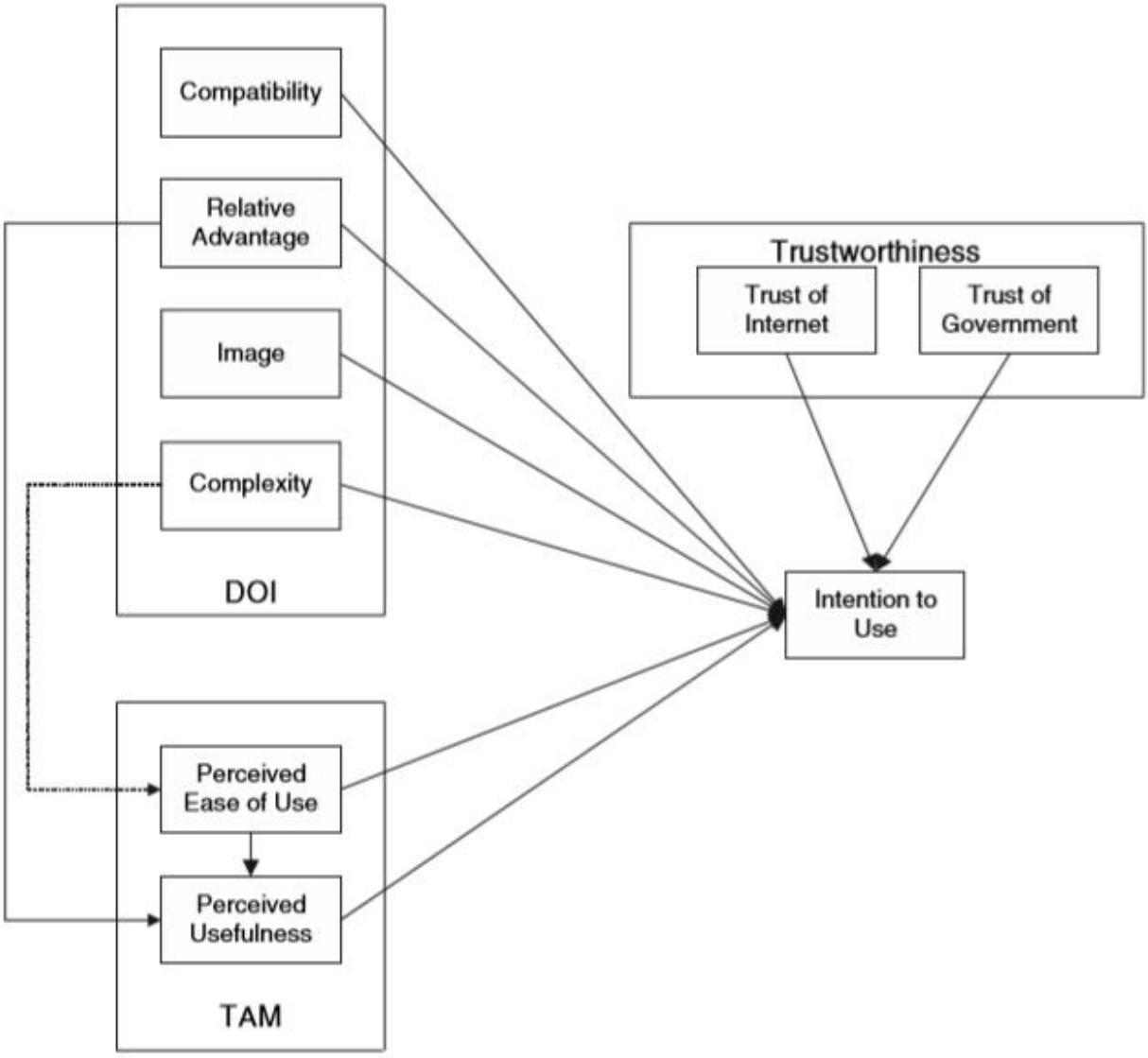
Yet, in the research of Dwivedi and Lal (2007), for instance, it is found that there are some differences among user perceptions towards the adoption of broadband attributed to the type of employment[401]. Based on the fact that little has been said about this factor, it is interesting to test employment type as a sole marker in this research towards adoption of e-Government services in Hungary. Nevertheless, in this study, both DOI/PCI and TAM constructs are included because DOI constructs compliment considerably the prediction of adoption intent. TAM, however, is nested theoretically in the DOI framework. 32.7% in adoption variance is explained by it, whereas the PCI framework gives 45%[402].

[400] MORRIS, M.G. and VENKATESH, V.: *Age Difference in Technology Adoption Decisions: Implications for a Changing work Force*. -In. Personnel Psychology, 2000. 53, no.2, p. 375-403.
[401] DWIVEDI, Y. and LAL, B. *Socio-economic Determinants of Broadband Adoption*. – In. Industrial Management and Data Systems, Emerald, 2007. 107, no.5, p. 654-671.
[402] PLOUFFE, C., HULLAND, J. and VANDENBOSCH, M.: *Research Report: Richness versus Parsimony in Modeling Technology Adoption Decisions – Understanding Merchant Adoption of a Smart Card-based Payment System*. Information Systems Research, 2001. 12, p. 208–222.

It is apparent that such figures are not observably different yet they cannot be compared directly. In previous research, it is estimated that a reduced PCI framework utilising two constructs: ease of use and relative advantage, are the same as the TAM constructs. It is known that such a reduced framework was explained by 36.2% of the variance in intentions, which is considerably lower than that by the full PCI frameworks with eight adoption constructs. It is stated that fuller innovation features add greatly to predicting adoption intent[403]. The figure below depicts the constructs and their overlap.

[403] Ibid.

Figure 6-3: The constructs of TAM, DOI/PCI, Trustworthiness and their overlap



Source: Adoption research

Furthermore, it is argued that for adoption research, the following constructs, namely, relative advantage and compatibility, are more relevant and need to be taken into account. It is stated that image, visibility, voluntariness and result demonstrability are presented as additional constructs impacting the use and acceptance of an innovation[404]. The extended model came to be called Perceived Characteristics of Innovation (PCI). It is suggested that image refers to a user's perceptions of an innovation as a status symbol[405].

[404] MOORE, G. and BENBASAT, I.: *Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation*. -In. Information Systems Research, 1991. 2, p. 173–191.
[405] Ibid.

It has to be said that image is also included in the theory of reasoned action[406], which is framed as a basis for TAM subjective norms, which means that users will more likely be involved in an activity if others approve. Therefore, it is interesting to analyse image in this study. However, trialability, as well as voluntariness, are excluded due to the fact that trialability is how much potential adopters feel that they can utilise the innovation before they adopt it. The construct of voluntariness is how much users feel that they have the choice to utilise an innovation or not.

The use of the Client Gate is an individual choice so not very likely to be demanded but dictated by public officials to use it. Therefore, these constructs unlikely show critical variability and so will not be employed for this research. Trustworthiness, however, may influence intention to use e-Government. It is stated that trustworthiness is "the perception of confidence in the electronic marketer's reliability and integrity"[407]. Individuals must trust both the public sector and the technology.

It is believed that e-Government improves the operation of the public sector in the certain way. However, there are some worries about personal data being shared over the internet because such details may be leaked or misused by a third party[408]. Privacy and security issues are recurring topics for everybody and are in fact being widely studied in the field of e-Government and e-commerce research[409]. Nevertheless, trust formation involves minimising the complexity in agenda-setting in uncertainty. It argues that trust is considered by e-business research as the determining attribute in an electronic customer's communication with an e-provider.

Although online public services have a clear benefit when it comes to comparison to commercial websites in terms of perceived trustworthiness of the public entity, e-Government online platforms are still required to meet the security as well as privacy concerns of people and establish constituents' confidence in the underlying technology utilised in e-Government

[406] AJZEN, I. and FISHBEIN, M.: *Attitudes and Normative Beliefs as Factors Influencing Intentions*. -In. Journal of Personality and Social Psychology, 1972. 21, p. 1–9.
[407] BÉLANGER, F., HILLER, J. and SMITH, W.: *Trustworthiness in Electronic Commerce: the Role of Privacy, Security, and Site Attributes*. -In. Journal of Strategic Information Systems, 2002. 11, p. 245–270, p.252.
[408] GAO (General Accounting Office), McCLURE, D.: Electronic Government: Challenges must be Addressed with Effective Leadership and Management, 2001. 11 July 2001. [online document]. Available online at: http://feapmo.gov/ links.asp
[409] CHADWICK, S.: *Communicating trust in e-Commerce Interactions*. -In. Management Communication Quarterly, 2001.14, p. 653–658.

services. It is known that there are four dimensions of trustworthiness in online interaction from a user's perspective: trust propensity, trust in specific sites, institutional trust and trusting intentions[410]. It notes that individual trust in the internet as a reliable and safe paradigm for continuing transactions will more likely correspond to the user's perceived usefulness or perceived value of sites of both the public and private sectors.

Generally speaking, the wide acceptance of any online paradigm demands trust in the digital infrastructure. IT interface, along with a channel of communication between an online agency and a user, work together in order to impact a consumer's trust and their intention to be involved in such an interaction. It can be said that this is positively being applied to e-Government just like it is to e-business.

What is more, in the work of McKnight et al. (2002), being an extension of previous studies, there are measures indicated for multidimensional models of e-commerce trust, predicating on an individual's initial trust. It is noted that initial trust refers to "trust in an unfamiliar trustee, a relationship in which the actors do not yet have credible, meaningful information about, or affective bonds with, each other"[411]. In addition, in such relationships, "people use whatever information they have, such as perceptions of a Web site, to make trust inferences[412].

Furthermore, institution-based trust, which is one of four main constructs of McKnight et al (2002), is viewed as a user's understanding of the environment, namely, the structures, legislation and regulations that make the online platform safe as well as trustworthy. Such constructs comprise two dimensions: situational normality and structural assurance[413]. It is known that situational normality means that it is expected that the platform looks recognisable and that it contains the following features: integrity, competence and benevolence. In addition, structural assurance implies that "one believes that structures like guarantees, regulations, promises, legal recourse or other procedures are in place to promote success"[414]. Ultimately, a decision to be involved in e-Government transactions demands citizen's trust in the public sector offering the online service. Trust in the technology used is also necessary[415].

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[410] McKNIGHT, H., CHOUDHURY, V. and KACMAR, C.: *Developing and Validating Trust Measures for e-Commerce: an Integrative Typology*. – In. Information Systems Research, 2002.13, p. 334–359.
[411] Ibid., p.335.
[412] Ibid., p. 336.
[413] Ibid.
[414] Ibid., p. 339.
[415] Lee, M. and Turban, E.: *A Trust Model for Internet Shopping*. -In. International Journal of Electronic Commerce, 6, 2001, p. 75–91.

6.5 HYPOTHESES OF THE STUDY AND RESEARCH MODEL

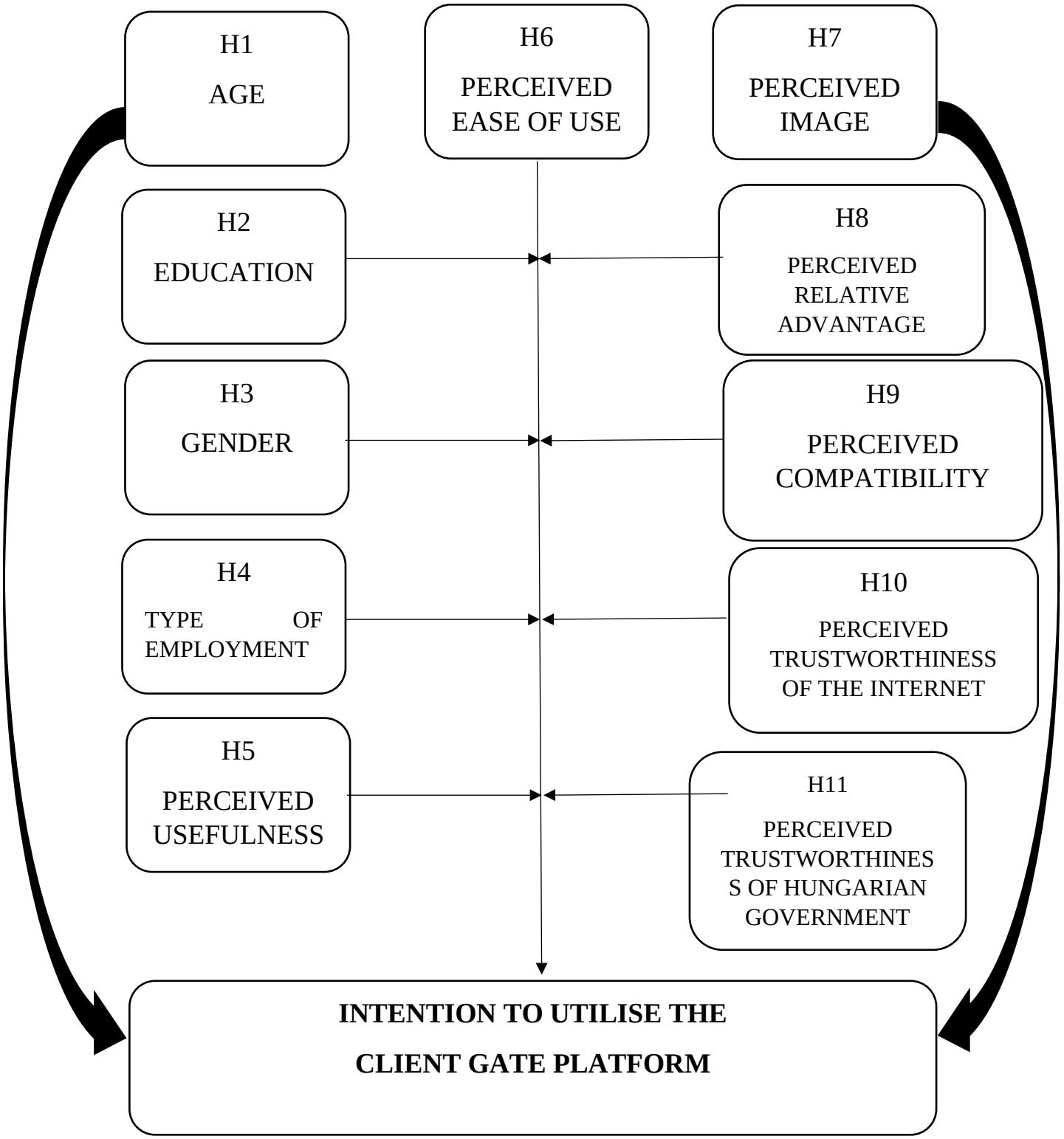
Based on the above theories and observations of relevant literature, there are eleven testable research hypotheses to assist in analysing data. The proposed research model considers overlaps previously outlined and incorporates constructs from different areas such as public administration, information systems and sociology. It is argued that such a model is comprehensive and tries to gauge the complex relations between public officials and citizenry while utilising the Client Gate platform.

Understanding factors resulting in e-Government acceptance and adoption would be of significant value when designing and deploying e-Government, thus, the following hypotheses are taken into account in the study:

Age	H1: Has an impact on e-Government usage.
Education	H2: Plays a significant role in using e-Government services.
Gender	H3: Male users are more likely to utilise modern technology and e-Government services than female users.
Type of employment	H4: Users with different professional backgrounds have used e-Government services differently.
Perceived usefulness	H5: Higher degree of perceived usefulness will be positively connected to a higher degree of intention to utilise the Client Gate platform
Perceived ease of use	H6: Higher degree of perceived ease of use will be positively connected to a higher degree of intention to utilise the Client Gate platform
Perceived image	H7: Higher degree of perceived image will be positively connected to a higher degree of intention to utilise the Client Gate platform

Perceived relative advantage	H8: Higher degree of perceived relative advantage will be positively connected to a higher degree of intention to use the Client Gate platform
Perceived compatibility	H9: Higher degree of perceived compatibility will be positively connected to a higher degree of intention to utilise the Client Gate platform
Perceived trustworthiness of the internet	H10: Higher degree of trust in the internet will be positively connected to a higher degree of intention to utilise the Client Gate platform
Perceived trustworthiness of Hungarian government	H11: Higher degree of trust in the Hungarian government will be positively connected to a higher degree of intention to utilise the Client Gate platform

Figure 6-4: Research model of the study



Source: author's own compilation

6.6 SAMPLE SIZE

In order to validate the sample group of participants involved in the study, the chi-square fitness validation technique was used. The chi-square goodness-of-fit test is a single-sample non-parametric test, also known as the one-sample goodness-of-fit test or Pearson's chi-square goodness-of-fit test[416]. It is mainly employed to define if the distribution of cases (e.g., participants) in a single categorical variable adheres to hypothesised distribution.

The proportion of cases anticipated in each group can be equal or unequal. The result indicates that there is a null hypothesis, which means that there is no relationship between the two variables being studied (one variable does not affect the other) and is rejected. There are statistically significant differences in the sample group which gives us the insight that a population chosen for the study is well represented.

Test Statistics

	GENDER	AGE	EDUCATION	EMPLOYM
Chi-Square	.150[a]	113.491[b]	151.952[c]	68.778[d]
df	1	5	4	6
Asymp. Sig.	.699	.000	.000	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 83.5.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 27.8.

c. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.4.

d. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 23.9.

Source: Own calculation in SPSS

To verify as feasibly as possible, the research was administrated by polling a wide range of Hungarian nationals. The target group was determined as active internet users who have an experience in using the Client Gate platform. The questionnaires were distributed to 209 individuals but only 196 responses were received. It can be noted that after all incomplete responses were excluded, 167 usable responses were taken for further consideration as the

[416] Chi-Square Goodness-of-Fit Test in SPSS Statistics. Available online at: https://statistics.laerd.com/spss-tutorials/chi-square-goodness-of-fit-test-in-spss-statistics.php

sample. Therefore, the sample consisted of 167 respondents aged between 18 and 74 years old. There were 48.5% male and 51.5% female. The respondents were employed in different occupations: 15.6% in academia; 13.2% in the public sector; 16.2% were students and 33.5% from the private sector. Please see Table 6-3 for more details. For the questionnaire, the Google Forms program was utilised. In the questionnaire, 24 Likert-type scale questions, along with demographic questions, were included. Precisely, the questionnaire was put together having two parts. The first one contained questions related to the participant's age, gender, educational level, etc., while the second included the measurements of constructs of the Client Gate platform as relating to the individual.

Items were taken from the Technology Acceptance Model as structured by Davis (1989), the Diffusion of Innovation as designed by Rogers (2003), demographic characteristics and main features of trust, in which e-Government trust was modelled by Belanger and Carter (2008) in order to determine the main characteristics that impact the intention to utilise the Client Gate platform in Hungary. Subsequently, concrete criteria assessing each construct were developed through the:

1. Adaptation of some criteria used in related to this topic;
2. Examination of characteristics in similar e-fields like e-commerce in the EU;
3. Results of some empirical research focusing on trust and e-Government satisfaction.

Table 6-3: Concrete criteria assessing Client Gate adoption

Construct	Label	Criteria
Demographic factors		• Age • Gender • Education • Employment
Technology Acceptance Model (TAM)		
Perceived usefulness	**PU**	• I think the Client Gate platform would give a valuable service for me

Construct	Label	Criteria
		• The content of the Client Gate platform would be useless to me • The Client Gate platform would enhance my effectiveness in looking for and using public services online
Perceived ease of use	**PEOU**	• Learning to interact with the Client Gate platform would be easy for me • It would be easy for me to get experienced and confident at utilising the Client Gate platform • I would find the Client Gate platform difficult to use
Diffusion of Innovation (DOI)		
Perceived relative advantage	**RA**	• Using the Client Gate would improve my efficiency in communicating with the government • Using the Client Gate would not make it easier to obtain information from the government • Using the Client Gate would make it simplier to communicate with the government
Perceived image	**IMAGE**	• I believe that people who utilise the internet to get information from the Client Gate platform have a high profile

Construct	Label	Criteria
		• Individuals who use the internet to obtain information from the Client Gate platform have more prestige than those who do not • Individuals who use the Client Gate platform online have less prestige than those who do not
Perceived compatibility	**COMP**	• I think utilizing the Client Gate would positively fit with the way that I prefer to get information from the government • I think utilizing the Client Gate would positively fit with the way that I prefer to communicate with the government • I think utilizing the Client Gate to communicate with the government would positively fit into my lifestyle
Trustworthiness		
Perceived trustworthiness of the internet	**TRINT**	• I never give my bank account details while paying online • I am averse from providing personal information on the internet • The internet is now a robust and safe place in which to interact with the Client Gate platform
Trust of state government		

Construct	Label	Criteria
Perceived trustworthiness of the Hungarian government	**TRGOV**	• I would use the Client Gate platform for obtaining information • I prefer dealing with public administration online • I would not hesitate to provide personal information to the Client Gate platform
Intention		
Intention to utilise the Client Gate platform	**INTENT**	**Willingness to utilise:** I would rather use the Client Gate platform for obtaining information **Intent to utilise:** I prefer dealing with public administration online **Determination:** I would rather not hesitate to give personal details to the Client Gate portal

Source: Author's own compilation

6.7 DATA COLLECTION

The questionnaire was circulated by email, social networks and other means. The main aspect to be used in the description of the questionnaire was the experience in employing public services through the Client Gate platform. On this occasion only, the participants were only Hungarians; expats and foreigners were excluded from the target group. Further, collected responses were examined through the SPSS package.

Statistics

		AGE	GENDER	EDUCATION	EMPLOYM
N	Valid	167	167	167	167
	Missing	0	0	0	0
Minimum		1.00	1.00	1.00	1.00
Maximum		6.00	2.00	5.00	7.00

Source: Own calculation in SPSS

Table 6-4: Demographic pool of the participants

Demographic	Frequency	Valid percent	Cumulative percent
Gender			
Male	81	48.5	48.5
Female	86	51.5	100
Age			
18-24 years old	23	13.8	13.8
25-34 years old	66	39.5	53.3
35-44 years old	49	29.3	82.6
45-54 years old	22	13.2	95.8
55-64 years old	6	3.6	99.4
65-74 years old	1	0.6	100
75 years or older	0	0	
Education			
PhD degree	18	10.8	10.8
Master's degree	89	53.3	64.1
Bachelor's degree	48	28.7	92.8

Demographic	Frequency	Valid percent	Cumulative percent
High school diploma	10	6.0	98.8
Other	2	1.2	100
Type of employment			
University/College student	27	16.2	16.2
Academic personnel	26	15.6	31.7
Government employee	22	13.2	44.9
Private sector employee	56	33.5	78.4
Freelancer	14	8.4	86.8
Unemployed	20	12	98.8
Retired	2	1.2	100

Source: Author's own compilation based on the questionnaire

6.8 DATA ANALYSIS

It is said that whenever appropriate scales are used, there are two characteristics that must be taken into account: reliability and validity. These factors impact data quality. In order to assess the reliability of the questionnaire, internal consistency was assessed through Cronbach's Alpha.

Scale reliability specifies the amount of random errors. Two employed markers exist: internal consistency and test-retest reliability. The latter is referred to as "temporal stability"[417]. It is stated that scale test-retest reliability is evaluated by giving it to the same people at least twice and identifying any similarities between the sets of results. The type of construct the scale is monitoring is important and must be considered. For example, assessing current moods is unlikely to yield similar results over time. It is known that the test-retest reliability of a mood scale is therefore probably not going to be very high. Internal consistency, however, is to what extent similar scale attributes are evaluated. It can be assessed in many ways, but the most

[417] PALLANT, J.: *SPSS Survival Manual*. – Bp.: Open University Press, 2001.

commonly employed statistic is Cronbach's coefficient alpha because it offers an average correlation. Values range from 0 to 1, with higher values representing better reliability.

Above all, since different reliability levels are needed, as applicable to the purpose and nature of the scale, a minimum level of 0.7 is advised[418]. Moreover, Cronbach alpha values depend on the number of items in the scale. For instance, when the number of items is small, below ten, values can be smaller. In this case, it is stated that it is better to measure and report the mean inter-item correlation. There is a range from 0.2 to 0.4 for optimal mean inter-item correlation values[419].

Scale validity refers to what extent it assesses what it should be assessing. It is true that there is no definitive scale validity marker. Validation entails the collection of empirical evidence concerning its use. There are several ways to validate, such as criterion validity, content validity and construct validity. Criterion validity is about the relationship between some specified, assessable criterion and scale scores. Content validity refers to how specific that which is to be measured reflects the overall content of the target domain. Construct validity involves testing a scale not against one set of criteria but in terms of hypotheses obtained from various theories relating to the underlying variable. In addition, construct validity is examined by studying its association with other variables, both unrelated (discriminant validity) and related (convergent validity).

It is significant to find variables that are reliable with the aim of providing internal consistency. This implies to what extent the items making up the variable *hang together*. The most widely employed approach of measuring the same underlying constructs in the name of internal consistency is the Cronbach alpha coefficient. It is suggested that the Cronbach alpha coefficient should be above 0.7. However, it is stated that values of Cronbach alpha react depending on the number of items presented. For instance, with short scales of less than ten, it is possible to get low Cronbach values around 0.5. In such cases, it might be appropriate to implement the inter-item correlation. An optimum range of 0.2 to 0.4 is advised for such examples.

[418] Ibid.
[419] Ibid.

It is noted that the result of the reliability analysis in this study is .713. As the analysis shows, the alpha coefficient exceeds 0.7, which is regarded as an acceptable reliability coefficient. Therefore, the result depicts that the questionnaire is designed appropriately and is a reliable instrument in measuring the constructs.

Reliability Statistics

Cronbach's Alpha	No. of Items
.713	28

Source: Own calculation in SPSS

6.9 CORRELATION ANALYSIS

Furthermore, a correlation analysis was used to explain the direction and strength of the linear relationship between constructs. The bivariate Pearson Correlation produces a sample correlation coefficient – r- that assesses the direction and strength of linear relationships between pairs of continuous constructs. Moreover, the Pearson Correlation measures whether or not a statistical justification for a linear relationship among the same pairs of variables in the population, represented by the population correlation coefficient – p ("rho") exists. Further, the Pearson Correlation is a parametric evaluation[420].

[420] PALLANT, J.: SPSS Survival Manual. – Bp.: Open University Press, 2001, p. 110.

Table 6-5: Correlation of Constructs

Constructs	PU	PEOU	RA	COMP	IMAGE	TRINT	TRGOV	DF	INTENT
PU	1								
PEOU	.450	1							
RA	.316	.233	1						
COMP	.421	.299	.469	1					
IMAGE	.289	.143	.515	.402	1				
TRINT	.120	.186	.125	.179	.132	1			
TRGOV	.378	.119	.356	.544	.483	.168	1		
DF	.289	.129	.312	.443	.379	.376	.329	1	
INTENT	.482	.276	.344	.504	.394	.378	.554	.524	1

p<.001

Source: own calculation in SPSS

The relationship between an intention to utilise the Client Gate platform (INTENT) and the rest of the constructs were analysed using the Pearson product-moment correlation coefficient. Preliminary examination was carried out to guarantee that there were no violations of linearity, homoscedasticity and normality assumptions. There was in fact a strong correlation between them. In addition, their relationship varies in strength so it can be stated that correlations provided that measurements were reliable.

6.10 MULTIPLE REGRESSION ANALYSIS

Multiple regression is an extension of simple linear regression. It is known that multiple regression analysis is a method employed for the purpose of predicting unknown values of variables from the known value of two or more variables. Multiple regression is predicated on correlation, yet it provides a more advanced exploration of the connections between a set of constructs. This makes it perfect when wanting to investigate more complex research questions. In this study, however, the dependent variable is: The intention to utilise the Client Gate Platform. The variables that were used to predict the value of such a dependent variable are called the independent variables. In this case, they are as follows: Age, Gender, Employment, Education, Perceived usefulness, Perceived ease of use, Perceived relative advantage, Perceived image, Perceived compatibility, Perceived trustworthiness of the Hungarian government and finally, Perceived trustworthiness of the internet.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	EMPLOYM, GENDER, TRGOV, PEOU, AGE, TRINT, RA, EDUCATION, PU, IMAGE, COMP[b]	.	Enter

a. Dependent Variable: INTENT

b. All requested variables entered.

Source: Own calculation in SPSS

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.672[a]	.452	.412	.174

a. Predictors: (Constant), EMPLOYM, GENDER, TRGOV, PEOU, AGE, TRINT, RA, EDUCATION, PU, IMAGE, COMP

b. Dependent Variable: INTENT

Source: Own calculation in SPSS

The value of R Square is 0.672. In order to express the percentage, we multiply by 100 = **67.2%** of the variance in intention to utilise the Client Gate platform. Moreover, an Adjusted R Square value is quite often an over-zealous estimation of the true value of the population[421]. The role of the Adjusted R Square statistic is to correct this value in order to demonstrate a more accurate estimate of the actual population value. In order to measure any resulting statistical significance, it is necessary to examine ANOVA. The result below indicates the null

[421] TABACHNICK, B. and FIDELL, L.: *Using Multivariate Statistics (3rd edition)*. – Bp.: New York: HarperCollins, 1996.

hypothesis where multiple R in the population is equal to 0. It is seen here that our model reaches statistical significance: Sig= 0.000, which means p<0.0005.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.786	11	0.344	11.321	0.000[b]
	Residual	4.591	151	0.030		
	Total	8.377	162			

a. Dependent Variable: INTENT

b. Predictors: (Constant), EMPLOYM, GENDER, TRGOV, PEOU, AGE, TRINT, RA, EDUCATION, PU, IMAGE, COMP

Source: Own calculation in SPSS

In order to justify the hypotheses, it is important to look at each independent variable's contribution side by side; thus, the beta values of a multiple regression analysis were examined.

Sig value is also paramount because it gives an idea of which variable has a statistically significant contribution in the equation. It has to be noted that this is quite dependent on which variables are already present and how much overlap exists among independent variables[422]. It is said that if the Sig, value is less than 0.05 (0.01, 0.0001, etc), then the variable has a significant contribution in predicting a dependent variable[423]. Such analysis proved that 7 hypotheses are supported, whereas 4 are not. Please see Table 6-6 with its graphical depiction of the analysis results.

[422] PALLANT, J.: *SPSS Survival Manual*. – Bp.: Open University Press, 2001.
[423] Ibid.

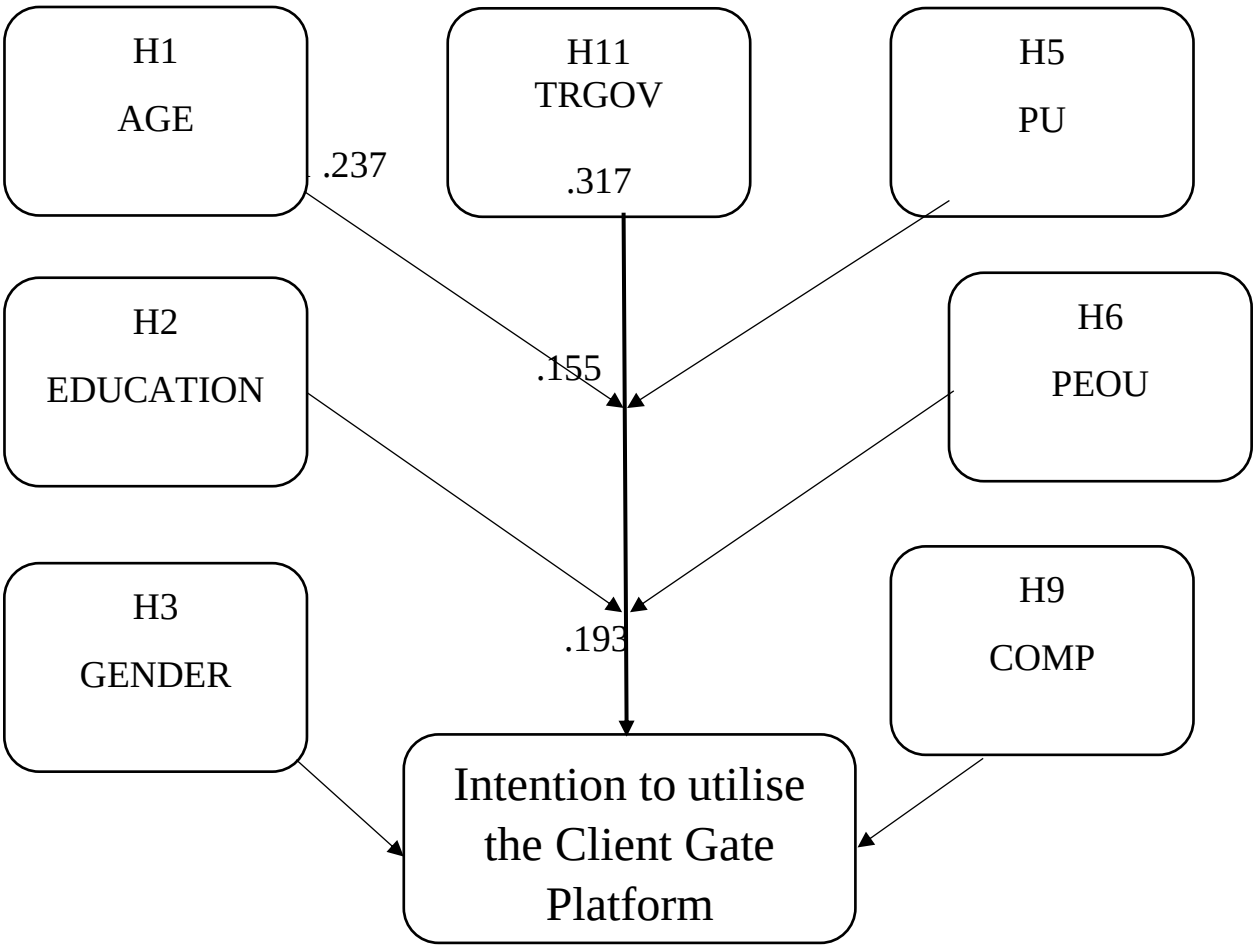
Table 6-6: Analysis of results

Hypotheses	Variable	Standardised Coefficients Beta	Significance	Supported
H1	AGE	.071	0.032	Yes
H2	EDUCATION	.103	0.047	Yes
H3	GENDER	.084	0.039	Yes
H4	EMPLOYM	-.062	0.160	No
H5	PU	.237	0.002	Yes
H6	PEOU	.155	0.040	Yes
H7	IMAGE	.078	0.315	No
H8	RA	.000	0.995	No
H9	COMP	.193	0.020	Yes
H10	TRINT	-.012	0.851	No
H11	TRGOV	.317	0.001	Yes

$p < .05$

Source: Author's own compilation

Figure 6-5: The Results.



Source: Author's own compilation

6.11 DISCUSSION

The aim of the study was to determine the intention of individuals to utilise online government services in Hungary; in particular, the Client Gate platform. It is clear that Hungarian citizens are predominantly open to such opportunities. Arguably, they think that e-Government, especially the Client Gate portal, might enhance the way the Hungarian government operates and most importantly, they can be empowered by actively using the platform in order to change agendas. Such perception is important in determining e-Government progress in Hungary. Moreover, the study conducted by the Institute of the Information Society (IIS) through interviewing 1,003 Hungarian individuals over the telephone, discovered that 66.5% of respondents think that a rapid development of digital services and online actions provides a possibility for both society and individuals[424]. As a result, the intention of Hungarian citizens to utilise the Client Gate platform has become a critical issue for the government.

Many of the proposed hypotheses have been confirmed in this study. The original TAM model put forward that the impact of ease of use and usefulness beliefs was influenced by attitudes towards employing the system. Hungarian citizens' intentions to utilise the Client Gate platform will grow if people see the platform as easy to employ. Generally speaking, this shows that it is incredibly important that online public services be intuitive. More precisely, the Client Gate portal should be easy to navigate. All the relevant information should be structured and displayed in such a way that it reflects people's needs, enabling them to effortlessly and quickly locate the service or information required. It is assumed that if an individual becomes disappointed to some extent due to the inability to smoothly find information and complete transactions, this may minimise their desire to adopt the e-Government services provided by the Client Gate portal.

The importance of Perceived ease of use is considerably significant when the sample for this study is taken into account. It has to be mentioned that participants' ages ranged from 18–74 years old. The outcomes of the pilot study, which was distributed to students of the National University of Public Service as well, who are more than familiar with computers, digital devices and the internet, stated that Perceived ease of use is less significant. Yet, it must be

[424] Institute of the Information Society.: Trust, Awareness and Alarm on the internet. National University of Public Service, 2019. Available at: https://iis.uni-nke.hu/hirek/2020/07/15/trust-awareness-and-alarm-on-the-internet

said that the sample comprised individuals with a different level of digital literacy and expertise so the findings will reflect such. This gives us an insight that the government here and elsewhere has to be cautious when it comes to 'digital division' in order to avert particular categories of society from taking advantage of such services.

It is argued that public officials should not only make the online services on the Client Gate portal easy to employ and intuitive but should also provide educational material to teach how to use them by, presumably, offering lessons or other tutorials to assist those who are unfamiliar with technology and the internet itself to be able to become proficient at using them in order to get access to the Client Gate platform or other online state services the Hungarian government provides. e-Government does not only apply to state employees but all categories of society[425].

Although hypothesis 10, "*Perceived trustworthiness of the internet*", was not supported, it is rather important to talk about it along with hypothesis 11, "*Perceived trustworthiness of the Hungarian government*", since it is believed that trust in the internet is viewed as an important marker of e-Government adoption based on previous work in this area. It is clear that with such notions in mind, Hungarian citizens who perceive a low level of security and reliability will be less likely to employ the portal. In the study for the Council for Excellence in Government, conducted by Hart-Teeter (2003), quite similar and significant results were found, in which people in the US believe that e-Government is beneficial yet still have doubts about giving their personal information to the government through the internet out of fear that such data may be leaked or misused and thus their privacy compromised[426]. Another study conducted by IIS indicates that 49% of respondents stated that the internet is beneficial since it provides the general public with the chance to share their views with other members of society, whilst 40% of interviewed people considered the internet a risk since it allows for the free dissemination of opinions that may jeopardise social coexistence[427].

It is apparent that such perceptions must change. To make it work, it is argued that public officials have to assure the Hungarian citizenry that online services and the internet itself are

[425] TÓZSA, I. and BUDAI, B.: *Electronic government of local administration in Hungary*. – In. Public Management Forum: A Quarterly Newsletter for Public Administration Practitioners in Central and Eastern Europe, 2002.
[426] HART–TEETER: *The New e-Government Equation: Ease, Engagement, Privacy and Protection*, 2003. Available at: http://www.excelgov.org
[427] Institute of the Information Society: Trust, Awareness and Alarm on the internet. National University of Public Service, 2019. Available at: https://iis.uni-nke.hu/hirek/2020/07/15/trust-awareness-and-alarm-on-the-internet

both beneficial and safe. Moreover, it is suggested that steps taken to guarantee security, not only on the Client Gate platform but elsewhere too, should be delivered in clear and plain language. It would be a good idea if such information were shown in all government-run premises or shared by post. Regarding perceptions of trustworthiness relating to governments, individuals who perceive them to be trustworthy are of course more likely to use the e-Government services available on the Client Gate portal.

Elements of trustworthiness have been found in previous research in the area of e-commerce, namely, integrity, competence and benevolence. It is true that public authorities may convey to people that public servants have both the ability (competence) and desire (benevolence) to deliver citizen-centred services and information provided on the portal to satisfy their needs. It can be done in various of ways, however the most effective is arguably through distributing information to people on the role of e-Government and the Client Gate itself, while including pictures of staff members who provide such services online to make it appear more human. For instance, the recruiting process of Budapesti Közlekedési Központ is done in such a way that job offer adverts describe the benefits of working for this company with employees displayed and are circulated all over public transport networks encouraging people to apply, giving them a clear message that "I am just like you and if I can do it, anyone else can too". This could change perception and stimulate trustworthiness and reliability of the Hungarian government, not to mention the portal as well.

Hypothesis 9 was supported. It is true that a higher degree of perceived compatibility is linked to increased intentions to adopt online state programs. It is found that people will be more keen to utilise the Client Gate portal if online services available on it are congruent with the way they like to communicate with others usually. For instance, individuals who often employ the internet professionally (procuring, transferring money), socially (chatting, emailing, sharing, tweeting) or economically (shopping) may be expected to adopt such innovations for government interaction too. It is argued that to increase people's intention to utilise the Client Gate portal, public officials must share information in such a way that is consistent with how people have also dealt with the government. For example, using online forms which resemble paper forms.

In addition, another aim of the study was to define how demographic factors can impact results, including Age, Gender, Education and Employment on whether or not to adopt e-Government services, particularly the Client Gate portal. Surprisingly, hypothesis 4, "*Users*

with different professional backgrounds have used e-Government services differently" was not supported. However, among the remaining variables, level of education is most significant (H2: 0.103).

It is suggested that highly educated people are more willing to utilise the portal to carry out necessary transactions. The result is quite straightforward: the more educated a person is in using the internet, the easier it is to become a confident, skilled user of any software application. Moreover, it is believed that educated people are aware of rapid developments in the area of information technology and thus can apply such knowledge to get their affairs completed online without a problem. It is universally accepted that the elderly are much less eager to get involved with e-Government initiatives than their younger counterparts. It is globally true that the younger generation is open to digital technology and tend only to use online methods for interacting with the government; Hungarian youths are no exception. Such a finding is in line with existing studies in which age effects e-Government service adoption. Therefore, H:1 "*Age has an impact on the usage of e-Government*" was supported.

Last but not least, hypothesis H:3, "*Male users are more likely to utilise the modern technology and e-Government services than female users*" was supported because of the fact that men seem to adopt technology faster. The number of participants among women is greater though: 51.5% of participants were women. Though women use the Client Gate portal at a lower rate than men, usage is clearly dependent on specific age and time. Moreover, if there are large number of services available, this does not encourage *per se* more active usage among females. Women arguably tend to use a limited number of services that are significant and convenient specifically to them. If this is the case, usage is entrenched and the rejection of technology is rare.

Thus, it is believed that once a portal is used for the first time, women are more likely to keep on using it. Therefore, there is a need to explore the specific needs of women. Such targeting of needs calls for well-defined expectations and customised services. In the report prepared by the World Bank, it is stated that making only select state's core business services digital in itself is not enough to encourage the heterogeneous population to take up usage and bring larger benefits. Therefore, it is clear that a diverse service supply is critical for diffusion among a diverse population with a variety of service demands.

All in all, the study indicates empirical justification that perceived trust in the Hungarian government is a statistically significant factor (0.001) impacting citizens' intention to utilise the Client Gate portal. This is quite valuable since it may give beneficial strategic implications when it comes to drawing up e-Government initiatives in the years to come. The full potential of the Client Gate platform is not very likely to be implemented without substantial public acceptance and ultimately, involvement.

In order to use the portal, people should already be wanting and willing to interact with e-Government, which includes providing and obtaining information, as well as requesting e-Government services. It is true that without trust in e-Government services, procedures, processes and other governmental matters, a fully integrated service will remain challenging for the Hungarian government.

6.12 IMPLICATIONS FOR FUTURE RESEARCH

This study attempts to present an integrated model of e-Government adoption which incorporates scales from TAM, DOI and trustworthiness. This research adds to existing adoption studies by gathering and examining findings from a wide range of individuals who have had an experience with the Client Gate portal. The large ranges in age, education and professional background contribute significantly to the field. It is true that such a diverse sample gives an idea of the internet's role in government services in Hungary.

Although this research did not find employment, image, relative advantage and trustworthiness of the internet as significant predictors of intent to utilise the Client Gate portal, it is believed that future studies should examine the role of them in different contexts. Moreover, it would be very beneficial to investigate the concrete elements of trustworthiness in the framework of e-Government services. It is stated that such perceptions impact intent to utilise the portal and trust models suggest that a combination of faith in the service, the internet and the government impact overall perceptions of trustworthiness[428]. It is suggested that such elements must be analysed in combination as well as separately.

[428] LEE, M. and TURBAN, E.: *A Trust Model for internet Shopping*. – In. International Journal of Electronic Commerce, 2001. 6, p. 75–91.

6.13 IMPLICATIONS FOR PRACTITIONERS

It is known that perceived use, perceived ease of use, compatibility, trustworthiness of the Hungarian government, age, gender and education were all significant indicators of people's willingness to utilise the Client Gate portal. There are many ways that public officials can increase such intentions. One is by offering educational distance-learning lessons which provide clear illustrations and recommendations on how to use the portal.

Also, the search and help feature on the portal must be enhanced to enable users to effortlessly and quickly find information. It is also important to say that state officials responsible for running the portal should analyse and elicit user's feedback about the Client Gate platform. This could help them to redesign some features of the portal to present services and information in such a way that is easy to use. Trust might be the most complex yet crucial perception for the Hungarian government to have to manage in order to facilitate adoption of the portal. It is suggested that to increase such perceptions, the government could assure users that the portal is reliable by writing up visible privacy statements. It is noteworthy that all state services must be provided in a timely, accurate manner. There is no doubt that if a user has a positive experience with the Client Gate portal, they will be more likely to log on again.

Furthermore, such satisfied users can share their positive experiences with others, encouraging adoption. It is therefore important to constantly monitor the workability of the portal in order to minimise technical errors since a negative experience will possibly have an adverse effect. In such a way, discouragement of adoption would be expected.

6.14 LIMITATION OF THE STUDY

There is one limitation to this research: sample size was regrettably quite small at 167 people. However, having had the opportunity to gather information from native residents certainly went a long way in increasing generalisability. It is clear that future research should not only seek larger sample sizes but formulate the questions in the Hungarian language, as well as extending the geographical border to perform more complex model testing, especially including residents living in the countryside or even abroad.

CHAPTER SEVEN

CONCLUSION

Every day, e-Government becomes more critical due to the fact that almost all transactions with the Hungarian government tend to be online. Hence, there is a certain need of improving the quality of Client Gate and other e-Government initiatives in the country. The Client Gate portal will one day become more fashionable and should begin to have a more dominant place in people's minds, resulting in a higher intention of adoption, as well as views towards the government itself improving. It is true that the development of high-quality e-Government services and information is a significant issue applied through the development of a model for understanding people's expectations and willingness that triggers a foundation for the development of measurement approaches. It notes that identifying key factors that impact people's intention to utilise electronic services might offer greater insights into service delivery, modification of the platform's design, operations and e-Government policies.

The intention behind this study was to define the willingness of Hungarians to use online services in Hungary, particularly the Client Gate platform. The insightful model of e-Government adoption in the context of Hungary was developed based on the constructs from adoption research, such as TAM, DOI, demographic characteristics and trust. 196 respondents aged between 18 and 74 years old participated in the research and who were defined as active internet users having experience in using the Client Gate platform. However, only a total of 167 valid responses were collected to validate the model. Empirical results indicated significant connections between the constructs of the model. 7 hypotheses formulated between 11 constructs were supported. The findings revealed that perceived usefulness, perceived ease of use, compatibility, trustworthiness, along with demographic characteristics including age, gender and education are significant predictors of people's intention to utilise the Client Gate portal in Hungary.

Ease of use and usefulness can keep users satisfied and as a result, would keep their continuing positive intention and attitude towards utilising the Client Gate platform. Such willingness and confidence levels will increase if users find the platform easy to use and it remains intuitive.

In other words, the important data should be structured and displayed for the particular needs of the user, providing them with the possibility to get what they seek effortlessly and quickly.

What's more, if a user feels confused and disappointed with the interface and their inability to fulfil transactions with minimum effort and in good time, this might diminish user intention to continue adopting online services. Such a negative turn could negatively affect the development of e-Government services. The research found positive and significant relationships between the training support of ordinary people and citizen intention to use the Client Gate portal and other e-Government services. The study indicates that the educational component must be in place and practised countrywide. There are residents who are digitally illiterate and unaware of computers, digital devices and the internet itself. Digital divide is an issue in the modern world and should be taken into account seriously by the Hungarian government. This can be tackled by providing educational materials and tutorials explaining how online services run and how such online transactions can save not only time but offer flexibility in taking required actions at any time and, as a result, adding to the well-being and efficiency of the individual.

While the Hungarian government does provide a variety of electronic services to its citizens, understanding trust should be part of every e-Government's initiatives. To put this more precisely, it is important to value growth in people's trust because it is critical for widespread utilisation of all e-Government services. According to the findings, perceived trustworthiness of the internet was not supported, yet the government–citizen relationship seems strong. It is argued that citizen's trust in the Hungarian government is closely linked to user's trust in Client Gate and other official online services. In other words, a Client Gate service is basically a substitute for the government offering state services to citizens through conventional offline means. Thus, if the Hungarian government demonstrates profound care for the people and can accessibly provide its services, residents should trust the Client Gate portal and other online services more, including the internet itself.

However, Hungarian citizens perceiving security and reliability of the internet as low will logically be much less excited about using the portal. People might think that such state services are beneficial but divulging sensitive information with the Hungarian government is still deemed undesirable because of the fear that it will be leaked or misused. It is true that Hungarians should have confidence in both government and the internet. Thus, the government is expected to promote the idea that online services and the internet itself are both

beneficial and safe, as well as that the security of personal information is a top priority for the government. The delivery of security measures operated on the Client Gate platform should be presented in clear and plain language. Such information must be shown not only online but arguably in all government-run offices across the country.

Furthermore, a higher degree of perceived compatibility is closely related to an increase in intention to adopt online services. The research has concluded that people will be keener to use the Client Gate portal if online services available on it correspond with the way they like to communicate with others day to day. In order to augment citizen intention to use the Client Gate, the Hungarian government must provide public services in such a way that is in line with other methods used by people who have otherwise dealt with the government. For example, online forms resembling the paper versions.

Notwithstanding this, another aim of the research was to identify the impact of demographic characteristics, including Age, Gender, Education and Employment in relation to e-Government adoption. It seems that professional background is a less significant variable, whereas education is the most significant. This can be explained in such a way that more educated individuals are more likely to use and enjoy the services available on Client Gate since they are more proficient and familiar with the latest software applications, making them confident and skilled users. Also, such people are aware of the rapid developments in the IT sphere, thus can apply the knowledge necessary to complete their affairs online unaided and without problems.

The findings of this research are believed to be of practical importance to decision-makers in Hungary. The theoretical model deployed in this research can be used to measure the intention to utilise other e-Government platforms in Hungary and other countries. The findings can provide an insight for policy-makers with similar platforms by reviewing TAM-, DOI- and trust-based models. Future research is required to validate the model that was used in this research. In addition, this research highlights the significance of undertaking more studies with a broader diversity of citizens, including residents living in the countryside or even abroad. Such data is not able to capture the beliefs of those who are new to Client Gate, thus caution must be expressed when analysing the results of this research in later incarnations.

The results of this study, however, have been examined on the basis of the measurements determined on the Likert scale. Therefore, it is argued that such questions might not identify

the feelings of citizens, which probably could have been better explained by employing a qualitative metric; interviews, for instance. Hence, future studies may focus on expanding this research to a wider random sample of people to capture non-users and potential Client Gate users. Also, future studies could use qualitative methodologies with some experienced individuals and professionals to explore why the analysed constructs are crucial toward user's willingness to utilise the Client Gate platform in Hungary.

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SCIENTIFIC EXPERIENCE

Trainings

Year	Title	Venue
2017	Local Authorities, cities and global diplomacy	École nationale d'administration (ENA), Paris, France
2018	Media Literacy and Democracy: Baltic Perspective	Vidzeme University of Applied Sciences (Latvia), University of Minnesota Morris (USA)
2018	State & Governance in a Historical Comparative Context	National University of Public Service (Hungary), Ruhr-Universität Bochum (Germany)

Presentations/Conferences

Year	Title	Role	Venue
2017	Transylvanian International Conference in Public Administration	Attendee	Romania, Cluj-Napoca
2018	The Theory and Science of Public Administration	Presenter	Budapest, Hungary
2019	The Notion, Object and Components of Political Sciences	Presenter (Poster)	Budapest, Hungary
2019	Information Security Management	Presenter	Budapest, Hungary
2019	Cyber Defense in Public Administration	Presenter	Budapest, Hungary

Publications

Year	Name of Journal	Title of Publication
2017	Transylvanian International Conference in Public Administration - Cluj-Napoca, Romania	The Role of Knowledge Management in Public Sector: New Digital Perspectives
2018	The Future of Administrative Sciences - Budapest, Hungary	Centralization for Effectiveness - The Impact of Urgent Problems on Decision-Making
2019	Pro Publico Bono – magyar közigazgatás - Budapest, Hungary	Globalisation and Democracy: The Concept of Cosmopolitanism
2019	Univerzity Pavla Jozefa Šafárika v Košiciach – Bratislava, Slovakia	The Role of Private Sector in Outsourced Military and Prison Services: Experience of the UK and Germany
2020	Kosice Security Revue - Bratislava, Slovakia	Leadership Styles in Public and Private Organizations
2021	Pro Publico Bono – magyar közigazgatás - Budapest, Hungary	Political Communication and Influence through Twitter (Pending publication)

Languages

Language	Level of proficiency
Kazakh	Mother tongue
Russian	Advanced
English	Advanced

APPENDICES

Appendix 1. Participation Invitation Letter

Dear Invitee,

We are conducting research on the way how to measure citizens' intention to use e-services in Hungary. We would like to hear from you about your experience you have had interacting with government using their online platforms, particularly the Client Gate portal - Central electronic administration web portal.

The survey should only take 15 minutes, and your responses are completely anonymous. Your participation in this survey is completely voluntary and you may opt out of any question in the survey. All of your responses will be kept confidential. They will only be used for statistical purposes and will be reported only in aggregated form.

To participate, please click on the following link:
https://docs.google.com/forms/d/e/1FAIpQLSd8q37Cg-_DSwciP2sPV5XtaRtK-Fo74V71SYz7p_xEsHHRhg/viewform?usp=sf_link

If you have any questions about this survey, or difficulty in accessing the site or completing the survey, please send an email to ruslan_seitkazin@mail.ru.

Thank you in advance for providing this important feedback.

Appendix 2. Letter of Consent

You are invited to participate in a research study about citizens' intention to use e-services in Hungary. The researcher is inviting a variety of Hungarian citizens who have experience in interaction with online state platforms, particularly the Client Gate portal - Central electronic administration web portal. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to be part of it or not.

This study is being conducted by a researcher named Seitkazin Ruslan, who is a doctoral student at National University of Public Service, Budapest, Hungary.

Background Information:

The aim of the study is to determine the intention of Hungarians to utilize government online services, particularly the Client Gate platform.

Procedures:

If you agree to be in this study, you will be asked to:

• complete a brief demographic survey questions that will take approximately one minute to complete.

• complete Likert scale questions that will take approximately 10-15 minutes to complete.

Voluntary Nature of the Study and Privacy:

Your participation in this survey is completely voluntary. Everyone will respect your decision of whether or not to fill up the questionaries. Additionally, this study is completely anonymous, no one will know if you did nor did not participate. All of your responses will be kept confidential and will not be used outside of this research project. They will only be used for statistical purposes and will be reported only in aggregated form.

Payment:

This research is completely voluntary thus there will be no payment or reimbursement for your participation.

Contacts and Questions:

If you have questions now or at a later time, you may contact the researcher, Seitkazin Ruslan, via ruslan_seitkazin@mail.ru. You can ask any questions you have before you begin the survey.

Please print or save this consent form for your records.

Statement of Consent

I have read the above information. I feel I understand the study well enough to make a decision

about my involvement. By clicking the link below, I understand and agree to the terms described above. Please indicate your consent by clicking the link below.

Link to Survey: https://docs.google.com/forms/d/e/1FAIpQLSd8q37Cg-_DSwciP2sPV5XtaRtK-Fo74V71SYz7p_xEsHHRhg/viewform?usp=sf_link