# Adoption of e-Government in Pakistan: Demand Perspective

Zulfiqar Haider<sup>1</sup>, Chen Shuwen<sup>2</sup>
Dalian University of Technology,
Faculty of Management and Economics,
No.2 Linggong Road, Ganjingzi District,
Dalian 116023, Liaoning, P.R. China.

Zareen Abbassi<sup>3</sup>
University of Sindh,
Department of Publics Administration
Jamshoro, Pakistan.

Abstract—The reason for this paper is to investigate the variables that empower citizen adoption of e-Government driven organizations in Pakistan, where these offices are at a simple Comprehension citizen's adoption of electronicgovernment is an essential topic, as the utilization of e-Government has turned into an integral part of administration. Achievement of such activities depends generally on the productive utilization of e-taxpaver supported organizations. Inclusive e-Government is the gateway to the efficiency promised by the Electronic Government. This study utilizes the Unified Theory of Acceptance and Use of Technology (UTAUT) model to inspect the powerful elements of the adoption and utilization of e-Government services in Pakistan from a national point of view. An online survey was led and a factual spellbinding examination was performed on the reactions got from 200 Pakistani nationals. The embraced model can be utilized as a rule for the execution of e-Government services in Pakistan. This study recommends that government ought to run broad publicizing battles to guarantee that individuals are mindful of the services and utilization them. This infers that government ought to place accentuation on expanding familiarity with the services, show the profits of citizens, and empowering confidence in the framework.

Keywords—E-government; adoption; demand perspective; Pakistan

#### I. INTRODUCTION

This The purpose of this paper is to study the adoption of e-Government in Pakistan through demand perspective. The strategy of e-Government is a fundamental in the modernization of the public sector, which not only allowing the demand of information but also optimize the processes commercially and facilitate communication between the different levels of government[30]. E-Government facilitates the development of public administration activities related to citizens and different companies [25]. E-Government has turned into a mainstream center of government efforts in numerous countries around the globe. It mirrors the expectation for open associations and governments to exploit the correspondences upgrades made conceivable by the ICT insurgency. E government is adopted with the reason for enhancing the services and delivery gave by the government to its citizens [15].

E-government services systems aim to give numerous benefits such as enhancing the processes and operations of government services and upgrading information offering between the government and open [5]. It likewise gives citizens the services in expert way, safely, securely, helpfully,

and with extensive time reserve funds. Nonetheless, the usage of e-Government services is not a basic on-line information procurement, it obliges a profound comprehension of citizens' needs and prerequisites and complete architecture to evade unexpected results [11].

E-government and Internet has rolled out a vital improvement in the entire Pakistani society structure, qualities, society furthermore, the methods for leading business by using the capability of ICT as an instrument in day by day work. In this paper, we distinguish the components that impact Pakistani citizens to acknowledge and utilization e government by applying a corrected UTAUT Model. UTAUT is an exactly accepted model consolidating eight noteworthy models of technology acceptance and their extensions [22]. The outcomes can be utilized by the chiefs and administration creators to progress e-taxpayer driven organizations, and their availability to citizens.

The structure of the paper is as per the following: at to start with, it offers a brief synopsis of past research, a depiction of e-Government in Pakistan, and a diagram of e-Government adoption in developing countries (i.e. South Asia). In the following area, the research methodology and systems are examined. After that, the attained to results are reported in the connection of the related research, alongside a legitimacy and unwavering quality talk [12]. At last, the paper is finished up by inspecting ramifications, constraints and recommendations for future research.

TABLE I. FBR- ONLINE TAX CASES

S/#	Туре	Total cases	Selected
1	Income Tax (Corporate)	25,046	1,876
2	Income Tax (Non-Corporate)	840,675	63,050
3	Sales Tax (Corporate)	11,757	1,410
4	Sales Tax (Non-Corporate)	92,455	11,095
5	FED Tax (Corporate)	402	45
6	FED Tax (Non-Corporate)	202	24

Random computer ballot was conducted in respect of six categories i.e. corporate cases of Income Tax, Sales Tax, FED and non-corporate cases of Income Tax, Sales Tax and FED.

The target audience of this paper will be composed citizens or government employees who are paying their taxes online and the issues they are facing in reference to UTAUT model.

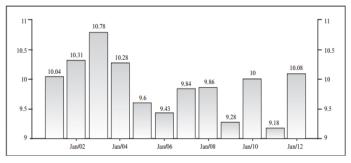


Fig. 1. Online Tax Payers (Obtained from FBR-Pakistan)

UTAUT is one of the most recent developments in the field of general technology acceptance models. This model is used to present a more finish photo of the acceptance process than any past individual models had possessed the capacity to do. Eight models beforehand utilized as a part of the IS writing were converged in an incorporated model, all of which had their starting points in brain research, social science and communications. These models are the TRA, TPB, TAM, TAM2, the Motivational Model of Computer Usage (MM) [12] [21].

The UTAUT holds that four key builds (execution anticipation, exertion hope, social impact, and encouraging conditions) are direct determinants or predictors of usage plan and conduct. Gender, age, experience, and willfulness of utilization are placed to intervene the effect of the four key builds on usage aim and conduct Government

The study of e-Government from the perspective of demand discusses the factors that determine their acceptance, considering those that play an important role in models consumer behavior online will also affect adoption. Most of the citizens in Pakistan are still unaware of online taxpaying system due to the barriers in implementation of e government. Despite this, must be aware of the existence of particularities associated with the incorporation of ICT in the public sector, among them, the complex structure of objectives and Administration performing multiple functions.

Although the public sector enjoyment authority to impose the use of e-Government, their acceptance voluntary lead to an optimized uses [14]. The most widely used model to explain the behavior of Internet consumer is the Technology Acceptance Model (TAM), is an adaptation of the Theory of Reasoned Action (TAR) cantered behavior using new technologies. The TAM replaces beliefs defined in the TAR 2 items denominated usefulness and perceived ease of use, low assuming that these are beliefs that influence the formation of attitudes and, consequently, in the intention and behavior an individual about the use of technology [11]. Meanwhile, the model Diffusion of Innovation (DOI) this is modeled as a process of information collection and reduction of uncertainty with the intention of assessing technology, identifying five elements that can influence it: relative advantage, complexity, compatibility, testability and ease of observation of their benefits [8].

The research question of this study is "What are the fundamental factors and demand perspective that affect the citizens and e-Government adoption in Pakistan?"

The research question can be formed in the accompanying way: RQ1. What is the current circumstance in Pakistan concerning the factors influencing e-taxpayer driven organizations selection and what are the ramifications of this to future organization? This research question was replied by tending to factors of the UTAUT model and directing a survey to portray the current circumstance in Pakistan. Will there be a statistically significant relationship between perceived trust in e-government and behavioral intention to use e-government services? What is the relationship between government policies, strategies and deployment of e-Government in Pakistan? To identify barriers in adoption of e-Government using UTAUT model?

#### A. Research Aim)

First, The aim of this research is to explore the demand-side barriers to e-market in Pakistan Demand Side perspective in public using UTAUT model and the paper presents an in-depth empirical case study of such barriers from a local authority perspective [12]. The aim of this paper is to study the factors that influence the Pakistani citizens for the e-market adoption.

#### B. Research Method

As already demonstrated, this research is a quantitative study, which develops the UTAUT model to examine the level of change of e-Government appropriation as a result of incorporating the trust build in the model. As it were, the study's center was to show whether trust could enhance the prescient estimation of the UTAUT model, while at the same time testing the unified model's limits, to disclose aim to adopt the e-Government administrations in Pakistan. The research used a correlation research outline with structural comparison displaying (SEM) to focus the degree of connections among the research variables. Also, numerous regression analyses were utilized to anticipate citizens' plan and utilization behavior.

## II. LITERATURE REVIEW

This study identifies the determinants of potential users' adoption of e-Government services in a creating nation utilizing a changed form of the UTAUT model. The findings revealed that performance expectancy, effort expectancy, peer influence and facilitating conditions were noteworthy in the adoption of e-government services in Pakistan. These findings are reliable to some degree with those reported in studies led in created countries i.e. [9], [10], [11], [22] and [17], in this way demonstrating that variables, which focus the adoption of e-Government services, identified in created countries could be appropriate in the setting of creating countries. Regardless of the way that the utilization of understudy subjects may have restricted the generalizability of the findings of this study, the research gives helpful experiences into the motivations basic the intentions to utilize e-Government services in creating countries. The likely adoption of e-Government services by understudy subjects is all around anticipated on the premise of the key variables performance expectancy, effort expectancy also, associate influence, and on the premise of facilitating conditions and the directing impacts of Internet experience and sort of scholarly course. Future research could, for instance, incorporate a more extensive scope of members and spread different variables, for example, society what's more, trust. The

use of ICT radically changes the way governments manage and execute their internal processes, and opens the possibility to improve and increase communication channels with citizens [17] [12]. In this paper a conceptualization of e-Government based on its essential features is an integration between its phases and dimensions is performed and considerations to be taken into account for their implementation taking into account the advantages and disadvantages are analyzed.

E-government is seen as "the realization of efficient and effective action by the recipients oriented government, with main emphasis on the citizen, and interaction with these" and its phases (presence, interaction, transaction processing are analyzed and citizen) participation and (external, promotion, internal and relational) dimensions and the interaction between them [13]. These phases and dimensions are not interdependent nor need to complete one to start another. Each has a different purpose and requires different requirements in terms of costs, needs knowledge and level of ICT use [8] [9]. Finally, an analysis of the advantages and disadvantages that must be taken into account to take advantage of early and minimize the latter, during the implementation process of e-Government. 2.1 UTAUT Model

The unified theory of acceptance and use of technology arises from the need to create a common theoretical reference to retake the constructs that other theories and models have proven that were useful in assessing acceptance of technology and realized an evolution in explaining the phenomenon.

The theory constructs studied and formulated a unified integrated them model. Of all the constructs identified four main factors: performance expectancy, effort expectancy, social influence and ease conditions, which are moderated by gender, age, experience and willingness to use; the latter refers to whether the use of technology is voluntary or imposed [41]:

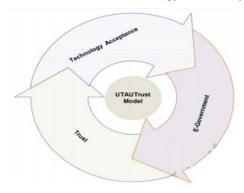


Fig. 2. UTAUT Model

## 1) Performance Expectation

The degree to which a person believes that using the system will help to make gains in performance. This factor is moderated by gender and age.

## 2) Expectation of effort

The degree of ease associated with the use of the system. This factor is moderated by gender, age and experience.

# 3) Social influence

The degree to which a person perceives that other important people believe he should use the system. This factor is

moderated by gender, age, experience & willingness to use [23].

## 4) Terms of ease

The degree to which a person perceives that the organizational structure and technical infrastructure can support the use of the system. This factor is moderated by age and experience.

The UTAUT model contains five direct determinants of behavioral intention and utilization conduct: (1) performance expectancy, which is "the degree to which an individual system will help him or her to accepts that utilizing the accomplish picks up in employment performance". (2) Effort expectancy, which is "the level of straightforwardness connected with the utilization of the system". (3) Social influence, which is "the degree to which an individual perceives that vital others accept he or she ought to utilize the new system". (4) Facilitating conditions, which is "the degree to which an individual accepts that a hierarchical and technical infrastructure exists to bolster the utilization of the system". And (5) behavioral intention, which is "the individual's subjective likelihood that he or she will perform the conduct question". In fact, the system of e-Government can successfully replace the need to visit government agencies and reduce the volume of paper records management [44].

It is accounted for that tele density has encountered 6.7 percent development and portable supporter numbers have increment by 10 percent, twofold 2010 figures. Extra versatile infiltration rose to 65.4 percent from 60.4 percent, broadband client numbers had expanded by 66 percent toward the end of FY2011. Like other creating countries, Pakistan has difficulties, for example, poor IT foundation, low education rates, moderate e-government services improvement, and adoption. As indicated by Almakki (2009), Arab countries have difficulties, for example, the absence of IT base, and additionally social issues. The development of e-Government user-centered requires knowing both the expectations that this has regarding its use, as the elements that favor its adoption. Chan et al. (2010) have proposed the existence of diverse backgrounds of the components UTAUT model in a binding environment. This paper, through the development of a structural equation model using PLS analyzes the effect of such records in a volunteer environment [25] [39]. The results show outcome expectations and the expectations of effort significantly impact on the intention to use the platform of e-Government, and that this influence and facilitating conditions on the use of that platform.

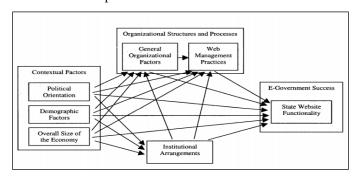


Fig. 3. e-Government adoption model

The levels of e-Government in the Pakistan presents a systematic collection of experiences in which information technologies are used in support of governmental activities that are currently running in the group of countries that have been included in the guide: Bolivia, Chile, Colombia, Ecuador, Peru and Venezuela, Honduras, Nicaragua, Panama, Mexico, Guatemala and Costa Rica [50]. These models of experiences can serve as a basis for developing solutions in other countries, taking into account the importance of the use of ICTs to increase efficiency and effectiveness of public functions, facilitate government-citizen relationship and strengthen national strategies towards promotion of transparency and integrity [14].

Use of Information Technology in Administrations was appreciated by a key element in its modernization, needed to reach the most competitive and dynamic knowledge in the world, capable of sustainable economic growth accompanied by an improvement quantitative and qualitative employment and greater social cohesion [32].

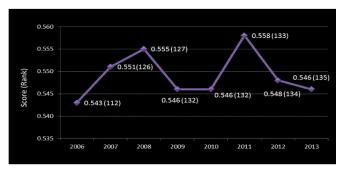


Fig. 4. Recent Changes in E-government

The government agency must provide outside information about itself and the processes that takes place. The level of transparency measures an agency effort to make information available through its website [25]. Transparency is not only reflected in the amount of information, but also in the quality thereof. The five categories are included in the term transparency are:

- 1) Property: the evidence that the government manages the site and its content.
- 2) Contacts / accessibility: how and whom to contact in relation to the activities carried out by the institution.
- 3) Information of the institution: its structure and activity area.
- 4) Information content: information policy based on the institution.

There is a vital need that electronic governments across the globe should allow anyone visiting the city website to communicate and interact with employees of the city via the Internet with graphical user interfaces, instant messaging and audio-visual presentations. The government should focus on:

- 1) The use of ICT, and particularly the Internet.
- 2) The use of ICT in all facets of the government organization.
- 3) Coordination structures directly by e-government projects and structures to support its action.

- 4) Monitoring the implementation of decisions and recommendations on the program of e-government.
- 5) Monitoring the implementation of e-government projects in view of data and reports prepared by public structures.
- 6) Liaison with the program coordinators of e-government in the various ministries and coordination with them on projects of e-government.
- 7) The development of the technical committee of the communicating administration proposals regarding the administrative, legal and technical issues rose through project monitoring e-government as well as the problems encountered [41].
- 8) Monitoring of projects of international cooperation within the framework of e-government (Welch et al, 2005, p.391).

#### A. E-Government in Pakistan

Traditional studies on e-government in the Pakistan focus on observing socioeconomic determinants of local e-Government from an entrepreneurial approach. The results of various researches show that in major municipalities worldwide, all political parties, regardless of their ideology and political stability of government, they focus on promoting the development of a participatory and dynamic e-government. The decline of public trust in government has inspired various proposals for government reform, or market-based approaches for entrepreneurs, in order to improve efficiency and effectiveness, as well as other proposals focused on increasing the participation of citizens in the political process[35][36]. In connection with these recent reforms, in the Pakistan people consider electronic government as a solution to increase in communication of citizens with Public Administration bodies.

TABLE II. PERCENTAGE CHANGE IN ADOPTION OF E-GOVERNMENT

e-Government in Pakistan				
Services	Response %	Response Count		
Elections & voting	91.70%	309		
Emergency services	85.50%	288		
Courts	84.00%	283		
Police services	81.30%	274		
Economic development	78.30%	264		
Road construction	76.30%	257		
Public health services	75.10%	253		
Corrections	73.90%	249		
Building permits	64.40%	217		
Parks and recreation	61.70%	208		
Children/family services	60.80%	205		
Code enforcement	59.90%	202		
Animal control	59.60%	201		
Street maintenance	56.70%	191		
Library	54.60%	184		
Welfare services	54.60%	184		

There are many frameworks that are being chalked out at the international as far as defining the way e-Government will work and the overall domain it has to follow. The main objective of the framework is to make sure that the efforts that is being put by the countries as far as the implementation of e-Government is concerned does not go wasted and there must be some utility and benefit to it [45] [41]. The approach that is

common in more or less all of these frameworks is that they must be feasible for developing countries and these e-Government services can be utilized in a better manner so make sure that the society and the economy benefits from it [15]. One of the main constituent of all the frameworks is the indicators that are being dished out at the international level (Schmutzer, 2000, pp. 379).

Among the specific online initiatives taken to improve the quality of services, include:

- 1) Development of thematic online portals or targeting specific groups, which gather information and transactions related to the subject or group.
- 2) Mechanisms to categories of users to target their requests (e.g. the ability to extract a specialized portal data on enterprises according to their size in order to help small businesses to find more information easily of interest or facilitate access to information by geographic area).
  - 3) Use of e-mail lists to communicate information.
- 4) Services that enable individuals to identify users to access information and services tailored to their needs. It may be, for example, access to targeted information or the opportunity to submit a tax return or other forms, or request assistance or submitting comments online.

Some observers believe that increased access to e-Government allow greater interest, knowledge and policy debate. The Internet allows groups and communities to deliberate in new ways, which can be more effective. Some observers have speculated that the team will direct democracy, the people vote on a wide range of topics. Currently, little evidence shows that this potential is realized. The tendency to simplify and distort information in public discourse is not appeased by changes in the media. Unequal access to the Internet and a wide range of electronic data and communication tools, more or less are divided between people who have studied and people without a strong correlation with income and political participation, creating a digital divide in e-Government despite progress in HCI. Illiteracy and lack of computer skills exacerbate the digital divide in access [27].

Electronic voting is still rare. It covers two types of devices is the electronic voting machines (similar to computers) based on the Internet and to vote by absentee ballot. Various studies reveal that in Europe only a few countries use more or less large scale electronic voting due to below reasons:

- 1) More or less of the electorate voting part using electronic devices in the Netherlands, Belgium and Germany.
- 2) Electronic voting is introduced very gradually in Switzerland since 2003.
- 3) Ireland has started to introduce electronic voting in 2002, but suspended its experience.
- 4) In England and Wales, electronic voting is experienced since 2000 during local elections in several communities, but its generalization is not considered.
- 5) In Spain, Italy and Portugal, electronic voting gives rise to the moment of tests without legal value.

The e-Government Survey 2012 finds that many countries are moving from a unilateral decentralized organizational

model to an integrated, unified, which aims to focus on a single portal services provided by the government to generate greater transparency. Another important point has to do with mobility. The massive development of e-Government initiatives has a multiplier effect in the field of Information Technology. The adoption of technology allows governments and it is public to improve the quality of services to government agencies. Consequently, e-Government portals could become a communication and consultation mechanism immediately, expeditious and low cost in accounting harmonization, thereby encouraging collaboration between states and municipalities to eliminate the drawbacks, shortcomings and to strengthen transparency (Hung et al, 2006, p.97).

One of the things that are very important to understand is that why there is a need for some sort of better convector and indicators that can gauge the efficiency and the overall competency of the e-Government indicators. There is a consensus that the international level that effective policies of the public sector are almost certain to need ICT to make sure that there is certain smoothness as far as operations is concerned (Welch et al, 2005, p.391). Through these indicators, it can be made sure that the overall quality of the service improves and individuals are in a better position to reap some of the benefits of the e-government.

These indicators might also help the government to make sure that all the relevant policies are chalked out in a better manner [36] [11].

Some of the standards are being developed by the international organizations as well as there is some role of academics universities and research institutes that might be aiding in this task (Carter & Bélanger, 2005, p.5). While some of the users of the e-Government advocate the usage of ICT, there are some other measurements services as well that are in place and they are offered through the official website of the government [9] [8].

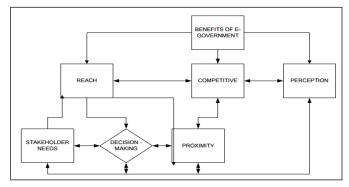


Fig. 5. Benefits of model

# III. METHODOLOGIES

As far as the methodologies for the data collection are concerned, some of the surveys that are carried out at the international level and some random web based surveys that are complex in there processing and nature are taken into the consideration. UTAUT proposes four constructs (performance expectancy, effort expectancy, social influence and conditions of the facilities) that influence the intended use and / or use of technology.

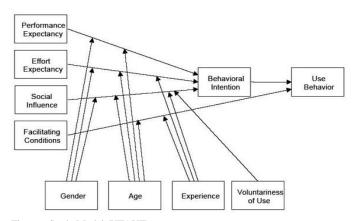


Fig. 6. Study Model (UTAUT)

## A. Data Analysis

The goal of the research exhibited in this paper was to study e-Government services in Pakistan from the citizen's perspective. The picked procedure was to utilize the fitting innovation adoption display as a premise for the planning the observational research. The observational information was gathered through an online survey. The largely research procedure is explained as the online survey was conducted for this purpose. The study started with a writing survey and examination. In this stage, pertinent writing on e-Government and related research was gathered and broke down. Alongside that, the different innovation acknowledgement hypotheses also, models were assessed. In this study, quantitative research routines that incorporate polls survey were utilized to direct an interpretive study. The survey was uploaded using internet and utilize. By analyzing, the data collected at different times and on similar issues, this research describes and explains the changes. Secondary data is also used for comparison purposes. Comparisons among the variables can increase the generalization, as well as create additional context. Secondary analysis is comparable with other surveys conducted at different times, creating a unique opportunity to make an empirical description of the long-term changes. The results enjoy more confidence, if repeated in several studies. Secondary data analysis had improved the quality of measurement by extending the scope of the independent variables included in the operationalization of concepts. Using secondary data increases the size of the sample, its representativeness and the number of observations leading to broader applications. Secondary data may be used in the method of triangulation, thereby increasing the accuracy of the results obtained from the analysis of primary data.

# B. Framework Creation

The final step of the research approach is to understand the results of research and contextualize them in a framework. The framework will provide considerations for managers seeking to address business challenges in developing countries. The framework will allow the readers to understand research findings, and allow future researcher to improve the framework. UTAUT model is used to understand the implementation of new technology (e-government) in Pakistan.

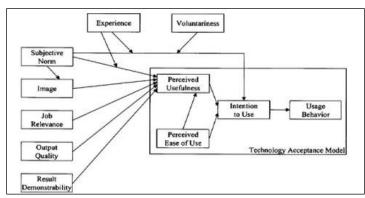


Fig. 7. TAM model (UTAUT Factor)

E-Government indicators are one of the more important policy tools that are in the hand of the Government, they reflect and talk about the overall status and the trends that are being observed as far as policy making is concerned. The collection of the data is one of the compound challenges that are being faced by the Government (Jaeger & Thompson, 2003, p.389).

#### IV. CHALLENGES

The majority of the developed countries have encountered profits from e-Government administrations; anyhow, there is still much opportunity to get better internationally. Like whatever other advancement, e-Government administrations make various challenges for citizens, and in addition for governments. These challenges incorporate absence of access to e-Government administrations, trust, security concerns, and the advanced separation. In the South Asian area, most gateways and government sites stayed lethargic in 2010 (UN, 2012). In 2010 and 2012, UN e-Government world surveys positioned Pakistan 146th and 156th, respectively. However, as a whole the South Asian locale relapsed in the 2012 survey and stays far beneath the world average [24].

E-Government indicators are classified into four main categories as far as their role and scopes are concerned. These four areas of discussion are:

Use of the ICT is being done by the employees that are working in government institutes. The overall feasibility of ICT as well as some of the government organizations likes the usage of internet. Use of ICT that is being carried out by some of the government organizations. The overall provision to citizens of some country by services by some of the citizens can be evaluated by it.

This has to be kept in mind though that the list is not comprehensive in its nature and it thus provides the starting point to be researched done on this domain [48].

As far as reporting at the international level is concerned, it has to be kept in mind that countries should always be willing to provide the statistical treatment that is enabling some of the government organization to make sure that the metadata is enough to take some necessary decisions about the performance of the e-Government sector (Jaeger & Thompson, 2003, p.389).

There is a statement that is needed to be issues and it takes into account the reference date that has been used as all along the data and use of the different terms that is in the place to make sure that all of them can be addressed.

This is the subset of the general government sector. The general government sector does not take into account some of the public corporations (Hung et al, 2006, p.97). There may be an instance when there will be a government units might be having an entity that is not incorporated as the government entity and still the central government is exercising its control over it, they will be taken as the part of the general government sector.

TABLE III. EXCEL (OUTPUT) SURVEY N = 200

Challenges involved in E-Government Adoption					
	Mean (Std. Dev.)				
Variable	High (n=213)	Low (n=1,600)			
e-Government score	10.30 (1.52)	4.40 (2.40)			
Population	20,088 (20,916)	18,194 (19,676)			
Dudget	4,426,264 (4.83	863,515			
Budget	e+07)	(3,601,404)			
IT full time	2.01 (1.69)	.87 (1.16)			
employees		.67 (1.10)			
Lack of knowledge	.09 (.29)	.16 (.36)			
Privacy issues	.31 (.46)	.27 (.46)			
Technology needs	.14 (.34)	.22 (.41)			
Security issues	.40 (.49)	.36 (.48)			

There is also a scope as far as the expansion of some of the other generally recognized levels of the overall government. The indicators that are brought into the consideration talk about making sure that some of the local and the government units are clearly defined.

This problem cannot be solved without the introduction to the work of public authority's effective modern management techniques that are appropriate to the complexity of the new conditions and requires the system of public administration of openness, of prompt and adequate in relation to the demands of the external environment.

Improving the efficiency of state and municipal government is the main aim of a modern Pakistan administrative reform [27]. Thus, according to the concept of New Public Management, which is the methodological basis of the administrative reform in modern countries, the essence of modern public administration reform is to move the client orientation of the executive authorities, which implies, in particular, the focus of their work to meet the demands of its customers - individuals and organizations [17].

E-Government readiness measures that ability and the willingness of the country and its adaptability to the notion and the implementation of the e-government. The index has been updated time and time again to make sure that it represents the true nature of the governments and also highlights the efforts they are being done by the government in the corresponding period. It has its initiation in 2003 and since then it has made an effort to make sure that it takes into consideration all the major countries that are the part of the agreement (Koh et al, 2008, p.546). The idea is to look at some of the important aspects of the e-government and it talks about and discusses

the quality of the online resources that are being employed by the government as well as the scope of some of the resources.

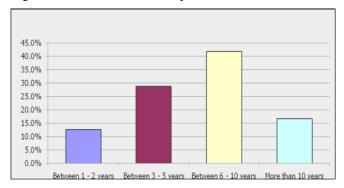


Fig. 8. Adoption of internet among citizens (Statistics Pakistan)

This figure describes about the connectivity that is being seen at the telecommunication level and the overall capability in different period and the quality of the human capital. The weight age that is being given to the efforts that are undertaken by the government but there are some other factors that are also brought into the consideration. The other factors that are being talked about are the level of infrastructure that the country has as well as and the penetration that has been made as far as the operations is concerned is also looked at. There is a close link to the survey and other initiative that is known as E-Participation index [12] [40].

It is clear that the promotion of access to information, the transparency, accountability and anti-corruption in government and public institutions by applying ICT opens opportunities to exercise political and civil rights. This reinforces the democracy and generates a distinct culture that confronts the secrecy, corruption and kidnapping of the public sphere by groups of power. Not only in the public (by increasing their capacity for participation and social control, monitoring or oversight) but also through political leaders and officials public (by increasing levels of awareness of the importance of acting and deciding in favor of social welfare).

In other words, theories relating to e-Government adoption appear to be undeveloped. This paper makes a theoretical contribution to the literature on e-market adoption in an egovernment context. It adds to the body of knowledge on institutional theory from the perspective of how organizations respond to external pressure to adopt new technology. In this particular study, local authorities responded to external pressures from central government to adopt e-Government initiatives to engage electronically with suppliers and consumers of services. What the case demonstrates is that the perception of risk, deficits in the knowledge of organizations, trust issues, organizational size, organizational readiness (cognitive and technical), environmental turbulence, competing priorities within organizations. Cultural attitudes within a given sector, lack of clear guidance or guidelines from the imposing institution, the perceived benefits (relative advantage) or consequences (relative disadvantage) of adopting the new technology and the perceived benefits of compliance. With the institutional mandate are all moderating variables (determinant factors) that influence or govern whether organizations within

a given sector adhere to and conform rationally to institutional pressure. Given that the majority of these factors varied between local authorities in the local government sector, dissimilar types of behavior were observed among, but also within, the local authorities.

#### V. RESULTS

They thus provide that, for the static phase knowledge, the ability to use and perceived functional benefit affect the adoption, while uncertainty, security and the ability perceived use relate directly with confidence the e-Government. For phase interaction, variables that relate they vide intending to adopt e-Government are aware, confidence, ability to use quality information and perceived image. For this phase, perceived uncertainty, perceived safety and perceived ability to use are the variables that have a positive relationship with trust [22]. The UTAUT model raises the expectation of result, the expectative of effort and social influences affect the intended use, while the latter and facilitators conditions determined actual adoption of e-government in Pakistan [4].

TABLE IV. SPSS RESULT- CRONBACH ALPHA α

Constructs	No. of Items	Cronbach Alpha (α)
Performance Expectancy (PE)	5	0.83
Effort Expectancy (EE)	4	0.84
Social Influence (SI)	5	0.77
Facilitating Condition (FC)	3	0.83

The results show that UTAUT is a useful model to explain the intent of the teachers use the combined teaching methodology, showing a predictive power of the set of independent variables on the Behavioral Intention of 35% of the variance (R2 = .349, p <0.000). The data indicate that the expectation of results ( $\beta$  = .413, p <0.001), Facilitators conditions ( $\beta$  = .15, p <0.001) and Social Influence ( $\beta$  = .14, p <0.001) were determinants behavioral intention to use egovernment [21] [37]. The level of Significance is 0.05 ( $\alpha$  = 0.05). It has to be understood that some of the applications as far as the implementation of the technology is concerned and the thus it has to be kept in mind that the real benefit of the E-Government does not talk about the information and the level of technology but the way technology will be implemented at the organizational level [1] [45].

 $TABLE\ V. \qquad TEST\ OF\ SIGNIFICANCE\ (SPSS\ OUTPUT)$ 

Hypotheses/Path	Finding	Conclusion
Research Hypothesis	Beta=0.34	<u>Supported</u>
	Not Significate	e Not Supported
	Not Significate	e Not Supported

From the survey one thing that could have helped as far as the integration of the e-government into some of the government organizations is that of the strength that is needed to be displayed by the back hand office operations. So there was this need to make sure that back office was the part of the system in a strong manner. This fact was illustrated in the Readiness survey of 2008. Immediately after this report, lot of countries in Northern Europe made sure that they have bring some sort of stability and they have revamped their back office integration task more readily. This is one of the more prime example of how readiness can work wonders as far as the government initiatives are concerned.

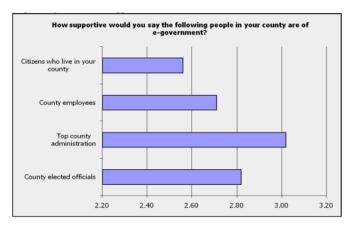


Fig. 9. Effectiveness of e-Government

## VI. CONCLUSION

This study applies in a matter of second's revised UTAUT model on client acceptance and utilization of e-taxpayer supported organizations in KSA. Taking into account the information gathered and the consequences of the examination, it can be presumed that Performance Anticipation, Effort Expectancy, and Facilitating Condition have positive impacts on client expectation to utilize e-taxpayer driven organizations.

Then again, in this study Social Influence was discovered to be inconsequential as far as predicting the behavioral expectation to utilize e-taxpayer supported organizations and its theory was not bolstered. In future work, we would include Trust and website Quality as autonomous variable into our examination model and consider the impacts of other crucial builds of the UTAUT model inside the setting of Pakistani environment. To be more precise and persuading, our work will proceed and new findings will be expected. It can be concluded that the most important goal of the e-government is to make sure that citizens can get the better portfolio of the services and their lives can get enhanced by the overall services that Government can provide to its citizens.

The idea is to make sure that all these services can be delivered to the customer without the citizen having lot of problem and trouble finding them. The transparency is an important aspect as far as operations are concerned as they allow Government to make sure that there is some sense of transparency in the Government operations. Some of the processes that are needed to be done and there are some important certificates can be accessed more readily if E-Government is implemented. E-Government thus can be made to use as a tool that can enhance the life of the citizens and thus achieve better governance. The use of information and technology in all the Government sectors thus will allow the government to see the success their strategies are bringing at the broad way level (Carter & Belanger, 2005, p.5).

In this study, UTAUT model was utilized, as it was recognized as a suitable model based on the writing on egovernment selection. By utilizing UTAUT, four builds (i.e. execution anticipation, exertion hope, social impact, and encouraging condition) were connected. The outcomes show that these builds have impact on clients' selection of e-

taxpayer driven organizations in Pakistan. The more clients see e-taxpayer supported organizations as being valuable and straightforward, the more they will mean to utilize such administrations. The outcomes demonstrate that nationals will be all the more ready to embrace.

In order to make sure it happens, there is some need for comparative measure that can improve the performance at the international standards. Government can move forwards in the development of the e-Government and keeping in mind the rising demands of the e-government in the public sector, these policy measures can help the government in a long way. It has to be kept in mind thought that the delivery of the services can be a bit slow at times and thus there are not many Governments that can take care of the necessary capital to take care of all these operational difficulties (Nour et al, 2008, p.461).

The e-Government Survey 2012 finds that many countries are moving from a unilateral decentralized organizational model to an integrated, unified, which aims to focus on a single portal services provided by the government to generate greater transparency. Another important point has to do with mobility.

Future studies are needed to corroborate the results on the properties of the UTAUT of this work and to resolve the limitations presented. One way would involve the review of possible errors in translation that might affect the understanding of some reagents, especially those on the subscales social influence, and facilitating conditions, which showed less internal consistency. Future studies could perform validity tests that allowed to expand and consolidate knowledge about the properties of the instrument in the Pakistani population.

#### REFERENCES

- [1] Abdallah, S., & Fan, I. S. Framework for e-government assessment in developing countries: case study from Sudan. Electronic Government, an International Journal, (2012). 9(2), 158-177.
- [2] Abid, H., & Noreen, U. Ready to E-bank: An exploratory research on adoption of e-banking and e-readiness in customers among commercial banks in Pakistan. Spider, (2006). 31(2), 1-31.
- [3] Afsar, S., Mateen, A., & Korbatov, A. Towards the enhancement of electronic democracy: the adoption of reinventing government and electronic government at the municipal level. J. Agric. Soc. Sci, (2005). 1, 133-137.
- [4] Al-Omari, A., & Al-Omari, H. E-government readiness assessment model. Journal of Computer Science, (2006). `2(11), pp.841-845. Data taken from http://asu.edu.jo/Upload/FacultyPub/cddf5964-dd71-47ed-8935-53052a08c5e6.pdf
- [5] Andersen, T. B.E-Government as an anti-corruption strategy. Information Economics and Policy, (2009). 21(3), 201-210.
- [6] Arif, M., & Mahmood, K. The changing role of librarians in the digital world: Adoption of Web 2.0 technologies by Pakistani librarians. The Electronic Library, (2012). 30(4), 469-479.
- [7] Bannister, F. The curse of the benchmark: an assessment of the validity and value of e-government comparisons. International Review of Administrative Sciences, 73(2), pp.171-188. (2007). Data taken from http://ras.sagepub.com/content/73/2/171.short
- [8] Bertot, J. C., Jaeger, P. T., & Grimes, J. M. Using ICTs to create a culture of transparency E-government and social media as openness and anti-corruption tools for societies. Government information quarterly, (2010), 27(3), 264-271.
- [9] Blythe, S. E. Pakistan Goes Digital: The Electronic Transactions Ordinance as a Facilitator Growth for E-Commerce. J. Islamic St. Prac. Int'l L (2006)., 2, 5.

- [10] Caba Pérez, C., Pedro Rodríguez Bolívar, M., & López Hernández, A. M. .e-Government process and incentives for online public financial information. Online Information Review, (2008). 32(3), 379-400.
- [11] Carter, L., & Bélanger, F. The utilization of e government services: citizen trust, innovation and acceptance factors\*. Information Systems Journal, (2005)15(1), pp.5-25. Data taken from http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2575.2005.00183.x/full
- [12] Das, J., DiRienzo, C., & Burbridge, J. Global e-government and the role of trust: A cross country analysis. Applied Technology Integration in Governmental Organizations: New E-Government Research: New E-Government Research, (2010). 1.
- [13] [13] Davison, R. M., Wagner, C., & Ma, L. C. From government to e-government: a transition model. Information Technology & People, (2005). 18(3), 280-299.
- [14] Dwivedi, Y. K., & Williams, M. D. Demographic influence on UK citizens'e-government adoption. Electronic Government, an International Journal, (2008). 5(3), 261-274.
- [15] Dwivedi, Y. K., Khoumbati, K., Williams, M. D., & Lal, B.Factors affecting consumers' behavioural intention to adopt broadband in Pakistan. Transforming Government: People, Process and Policy, . (2007). 1(3), 285-297.
- [16] Dwivedi, Y. K., Williams, M. D., Rana, N. P., & Williams, J. Reflecting on e-government research: toward a taxonomy of theories and theoretical constructs. International Journal of Electronic Government Research, (2011). 7(4), 64-88.
- [17] Evans, D., & Yen, D. C. E-Government: Evolving relationship of citizens and government, domestic, and international development. Government information quarterly, (2006) 23(2), pp.207-235.
- [18] Grönlund, Å. Electronic government: design, applications and management. IGI Global, (2002) pp. 15-22
- [19] Gupta, B., Dasgupta, S., & Gupta, A. Adoption of ICT in a government organization in a developing country: An empirical study. The Journal of Strategic Information Systems, (2008). 17(2), 140-154.
- [20] Helbig, N. Understanding the complexity of electronic government: Implications from the digital divide literature. Government Information Quarterly, (2009) 26(1), pp. 89-97
- [21] Hung, S. Y., Chang, C. M., & Yu, T. J. Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system. Government Information Quarterly, (2006). 23(1), pp.97-122. Data taken from http://www.sciencedirect.com/science/article/pii/S0740624X05000948
- [22] Irani, Z., Weerakkody, V., Kamal, M., Mohammed Hindi, N., Osman, I. H., Latef Anouze, A., ... & Al-Ayoubi, B. (2012). An analysis of methodologies utilised in e-government research: A user satisfaction perspective. Journal of Enterprise Information Management, 25(3), 298-313.
- [23] Jaeger, P. T., & Thompson, K. M. E-government around the world: lessons, challenges, and future directions. Government Information Quarterly, (2003). 20(4), pp.389-394. Data taken from http://www.mty.itesm.mx/egap/centros/caep/imagenes/REDIP/2\_E\_gov ernment\_around\_the\_world.pdf
- [24] Kamal, M., Weerakkody, V., & Irani, Z. Analyzing the role of stakeholders in the adoption of technology integration solutions in UK local government: An exploratory study. Government Information Quarterly, (2011). 28(2), 200-210.
- [25] Koh, C. E., Prybutok, V. R., & Zhang, X. Measuring e-government readiness. Information & Management, (2008). 45(8), pp.540-546. Data taken from http://www.sciencedirect.com/science/article/pii/S0378720608001134
- [26] Koh, C. E., Prybutok, V. R., Ryan, S., & Ibragimova, B. The importance of strategic readiness in an emerging e-government environment. Business Process Management Journal, (2006). 12(1), pp.22-33. Data taken from http://www.emeraldinsight.com/journals.htm?articleid=1538014&show =abstract
- [27] Kojima, M., & Johnson, T. Potential for biofuels for transport in developing countries (2005).

- [28] Krishnan, S., & Teo, T. S. Moderating effects of governance on information infrastructure and e - government development. Journal of the American Society for Information Science and Technology, (2012). 63(10), 1929-1946.
- [29] Lean, O. K., Zailani, S., Ramayah, T., & Fernando, Y. Factors influencing intention to use e-government services among citizens in Malaysia. International Journal of Information Management, (2009). 29(6), 458-475.
- [30] Lenk, K. Electronic government: where are we heading?. In Electronic Government. Springer Berlin Heidelberg, (2002) pp. 1-9
- [31] [31] Mujahid, Y. H. (2002). Digital opportunity initiative for Pakistan. The Electronic Journal of Information Systems in Developing Countries.
- [32] Nour, M. A., AbdelRahman, A. A., & Fadlalla, A. A context-based integrative framework for e-government initiatives. Government Information Quarterly, (2008). 25(3), pp.448-461.
- [33] Nysveen, H., Pedersen, P. E., & Thorbjørnsen, H. Explaining intention to use mobile chat services: moderating effects of gender. Journal of consumer Marketing, (2005). 22(5), 247-256.
- [34] Ovais Ahmad, M., Markkula, J., & Oivo, M. Factors affecting e-government adoption in Pakistan: a citizen's perspective. Transforming Government: People, Process and Policy, (2013). 7(2), 225-239.
- [35] Paola Torres Maldonado, U., Feroz Khan, G., Moon, J., & Jeung Rho, J. E-learning motivation and educational portal acceptance in developing countries. Online Information Review, (2011). 35(1), 66-85.
- [36] Qaisar, N., & Khan, H. G. A. E-Government challenges in public sector: A case study of Pakistan. (2010).
- [37] Rana, N. P., Williams, M. D., Dwivedi, Y. K., & Williams, J. Theories and theoretical models for examining the adoption of e-government services. E-service Journal, (2012). 8(2), 26-56.
- [38] Rehman, M., & Esichaikul, V. Factors influencing the adoption of e-government in Pakistan. In E-Business and E-Government (ICEE), 2011 International Conference on (2011). (pp. 1-4). IEEE.
- [39] Rehman, M., Esichaikul, V., & Kamal, M. Factors influencing e-government adoption in Pakistan. Transforming Government: People, Process and Policy, (2012). 6(3), 258-282.
- [40] Sahu, G. P. (Ed.). E-Government Development and Diffusion: Inhibitors and Facilitators of Digital Democracy: Inhibitors and Facilitators of Digital Democracy. IGI Global. (2009).
- [41] Schmutzer, R. Organizational challenges to the development of electronic government. In Database and Expert Systems Applications, 2000. Proceedings. 11th International Workshop on. IEEE, (2000) pp. 379-383
- [42] Seyal, A. H., Noah Abd Rahman, M., & Awg Yussof Hj Awg Mohammad, H. A quantitative analysis of factors contributing electronic data interchange adoption among Bruneian SMEs: A pilot study. Business Process Management Journal, (2007). 13(5), 728-746.
- [43] Shafique, F., & Mahmood, K. Indicators of the emerging information society in Pakistan. Information Development, (2008). 24(1), 66-78.
- [44] Shareef, M. A., Kumar, U., Kumar, V., & Dwivedi, Y. K. Identifying critical factors for adoption of e-government. Electronic Government, an International Journal, (2009). 6(1), 70-96.

- [45] Shin, S. Implementing e-government in developing countries: its unique and common success factors. American Political Science Association. (2008).
- [46] Stoltzfus, K., May). Motivations for implementing e-government: an investigation of the global phenomenon. In Proceedings of the 2005 national conference on Digital government research (2005 (pp. 333-338). Digital Government Society of North America.
- [47] Torres, L., Pina, V., & Royo, S. E-government and the transformation of public administrations in EU countries: Beyond NPM or just a second wave of reforms?. Online Information Review, (2005), 29(5), 531-553.
- [48] Troshani, I., Jerram, C., & Rao Hill, S. Exploring the public sector adoption of HRIS. Industrial Management & Data Systems, (2011). 111(3), 470-488.
- [49] Von Haldenwang, C. Electronic government (e-government) and development. The European Journal of Development Research, (2004) 16(2), pp. 417-432
- [50] Wagner, C., Cheung, K., Lee, F., & Ip, R. Enhancing e-government in developing countries: managing knowledge through virtual communities. The Electronic Journal of Information Systems in Developing Countries, (2003). P.14.
- [51] Welch, E. W., Hinnant, C. C., & Moon, M. J. Linking citizen satisfaction with e-government and trust in government. Journal of Public Administration Research and Theory, (2005). 15(3), pp.371-391. Data taken from http://jpart.oxfordjournals.org/content/15/3/371.short
- [52] Wescott, C. G. E Government in the Asia pacific region. Asian Journal of Political Science, (2001). 9(2), 1-24.
- [53] Zinner Henriksen, H., & Viborg Andersen, K. Electronic records management systems implementation in the Pakistani local government. Records Management Journal, 18(1), 40-52.S. Chen, B. Mulgrew, and P. M. Grant, "A clustering technique for digital communications channel equalization using radial basis function networks," IEEE Trans. on Neural Networks, (2008). vol. 4, pp. 570-578, July 1993.

#### AUTHOR PROFILE



Zulfiqar Haider (Syed Zaidi) is working as an Assistant Professor in the Department of Public Administration, University of Sindh, Jamshoro, Pakistan. He is currently pursuing the Ph.D. degree at Dalian University of Technology, Dalian, China.



Prof. Chen Shuwen is working as a Dean & research supervisory duties at the School of public administration, Dalian University of Technology, Dalian, China.



Prof. Dr. Zareen Abbassi is working as a Professor in the Department of Public Administration, University of Sindh, Jamshoro, Pakistan.