BARRIERS TO IMPLEMENT E-VOTING SYSTEM IN PAKISTAN

Muhammad Qasim Khan, Feroz Mehmood, Dawood Khan and Walayat Hussain

Faculty of Information and Communication Technology, Balochistan University of Information Technology, Engineering and Management Science, Quetta

Abstract

E-voting is flattering more stimulating chore over whole the world. It's essential for Pakistan to contrivance it because of the unlawful implication of some dynamic peoples in Pakistan. E-voting is key component of E-government which is the practice of technology to enhance their access to and provision of government services to value populaces, business partners and Hires of Nation-state. E-voting is emergent phase of E-government towards democracy. E-voting is direct/ connected voting mechanism. Requisite of e-voting system is where people can vote without any delinquent and consumption of time, forged, secure and no one can operate the result. Such surroundings can be shaped through some automatic process which can't be indignant. The study will provide an overview of E-Voting system, identifies its issues and limitations that why it's not implemented yet in Pakistan. At the end we have proposed some notions that how to make possible the implementation of e-voting in Pakistan. It is basically designed for G2C concept.

Keywords: *E-voting system in Pakistan, E-governance, transparency in voting system, G2C implementation*

Corresponding Author's email: qasim_wahi@yahoo.com

INTRODUCTION

As the word 'voting' is simply used for electing someone. Normal/Traditional voting systems were first started formally in the 8[th]century and many proposals for voting system have been made ever since. Election allows people to express their views, choice to elect their representatives. e-voting is established to accomplish necessities of election procedure in more secure, reliable and ease to access way (Juang and Ley, 1997). In (Ceshk and Abdl Qadir, 2007). researcher define e-voting as "E-voting is an election system that uses electronic ballots that would allow voters to transmit their voted ballot to election officials over the Internet and it means the casting of a secure and secret electronic ballot that is transmitted to election officials using the Internet". E-voting system assures following measures (CES, 2002 and Weinstein, 2000).

- Suitability and Authentication.
- Avoid duplicity.
- Precision.
- Integrity.
- Flexibility, reliability, secrecy.
- Transparency.
- Cost effectiveness.

The paper tries to identify different issues which hinder the implementation of e-voting system in Pakistan and proposed some idea for implementation of e-voting system based on literature review by addressing following research question:

What are the reasons which hinder to implement e-voting system in Pakistan?

The study is organized as; section 2 gives some background on e-voting and traditional voting system, main difference between them. Section 3 provides some insights on previous studies done on e-voting system. Section 4 discuss our approach and provide interpretations. Finally the study is concluded and leaves and opens issue.

Background

Electronic voting (also known as e-voting) is a term encompassing several different types of voting, embracing both electronic means of casting a vote and electronic means of

counting votes. E-voting is computer based system which has a display system as a ballot to record vote of several individuals or groups to cast their vote as a ballot box concept used in manual electing system. Different applications are installed to caste and count votes.

Paper based or normal voting system, also known as a "document ballot voting system", paper-based voting systems invented as a system where votes are cast and counted by hand, using paper ballots.

E-Voting and Normal/Paper Based voting Difference.

As discussed earlier that traditional voting started in 8th century. Normal voting system is used in most part of the world because this method is coming from older agers. People nominate their choice of people through paper folding. Stirring towards polling station and then filling your paper than moving towards ballot paper and cast your vote to ballot box. Polling agents are there to guide and instruct you. Queue of lines are too rusty and wastage of time for one turn. In most of cases political people can force the polling agents to change the results and put some fake votes to their ballot box. Finalizing result takes a lot of time to count the votes and fairly announce the results.

On the other hand E-voting system for electorates has been in use since 1960s. E-voting Electronic voting (also known as e-voting) is a term encircling several different types of voting, taking on both electronic way of casting a vote and electronic way of counting votes. Electronic voting technology can include punched cards, optical scan voting systems and specific voting kiosks (including self-contained direct record electronic voting system (DRE). It can also entail conduction of ballots and votes via telephones, private computer networks or the Internet. The difference can be shown in a table 1.

Table 1: Difference between traditional and electronic voting system

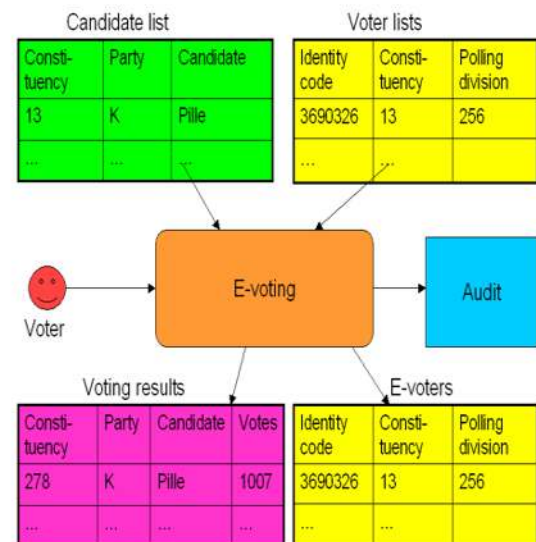| Traditional voting system	Electronic voting system
Paper Based	Electronic System
Number of Polling Agents required	Web Connectivity Needed and ICT infrastructure required.
Operating cost of papers and ballots, on each election.	First time operating cost of ICT infrastructure.
Lack of transparency	More transparent
Delay in output result	The output result is very quick
Lot of political influence	Lack of political influence
Requirement of human resource at the place of voting	Direct recording electronic (DRE) system
Physical presence of voter in polling station.	Usable voting system by mobile/handheld device

E-voting system can be diagrammatically shown as:

Figure 1: E-voting system

Need of E-Voting system in Pakistan
As the world watched the electronic drama unfold in Pakistan, people started wondering. As soon as computers went on e-move there was a need to figure out how to safeguard the Sensitive information of companies and Governments. Understanding the needs of time Governments also measured how to start and where to start.

Following issues were found in Pakistan which makes e-voting necessary to implement in Pakistan:

- Elections are rigged.
- There are many complaints from citizens and political parties about the election being unfair.
- Staff on polling booth influence voting result.
- Prolong delay to calculate voting result.
- Political parties influence voting result accounting there members as staff on the polling booth.
- Government can affect result of the voting by manipulating them.
- Votes are calculated by people, possible chances of cheating and miscounting.

Background

There are a number of factors causing hindrance in implementing e-voting system. In (Zafar and Pilkjaer, 2007) researchers tried to find current issues to implement e-voting system in Pakistan and measure how the government should take action to resolve the issues and how to convert paper based to e-voting system. He suggested an idea if we follow India e-voting system, we can easily make our e-voting system better because of culture, awareness, behavior, knowledge, interest are same. Rather than following British or Americans because they are more advance and fast compared to our technology. Researcher in (Ntoko, 2002) noticed that main issue in poor countries is that they can't afford the expanse of ICT infrastructure and lack of awareness is also an issue for those countries, absence of trust is there. He gives suggestion that how it's possible to implement this system on low cost and ease of access. He described that government company like ITU (International Telecommunication Union); TBD (Telecommunication Development Bureau) should fund mostly private sector companies through non-exclusive and neutral partnership agreements and alliances to implement their systems in each corner of world to have fair voting systems.

Researchers in (Shoaib and Hussain, 2010) identifies that major portion of the population in rural Pakistan have no access to basic ICT infrastructure, have no basic knowledge of IT, unaffordability of computer hardware or software. They propose VMLE framework in order to provide for providing guidance for planning and developing e-learning environment. One of the issues in e-voting is the understandability of the content of a webpage for non-native English speaking countries. In (Hussain and Shoaib, 2011) researcher proposed the idea of plain text for non-native English speaking countries like Pakistan. They proposed that if the content of the web page is in plain text then there is very high throughput and more people can interact with the page. Researchers in (Juang and Lei, 1997) discussed about approach and experiences on designing and requirements for e-voting system for fair elections. Issues are defined related to integrated laws, analyzing different mechanism of system and behavior of system.

RESULTS AND DISCUSSION

From a literature review we were able to identify some issues which hinder on implementing e-voting system in Pakistan which are:

- The system requires qualified people who have knowledge about the technology, which can train a people about a system.
- Numerous people have a lack of knowledge about ICT (information and communication technology).
- Poor IT infrastructure and unfair policies.
- There is no check and balance on the technology development and maintenance.
- Corruption in every field of life.
- Fear of successful implementation of e-voting system.
- Government doesn't know how to start and where to start.
- Implementation of effective e-voting requires huge amount of cost, resource and investment.
- Lack of satisfaction.
- E-voting system does not satisfy the need of the following group of user's voter, government and electoral candidates.
- Fear of reliability, security and objective.

- Lack of skilled people.
- Lack of financial resources.

In this study we try to propose some ideas for the implementation of e-voting system which are:

✓ Electronic machine being used in polling station, citizen cast their vote through specifically driven websites for the sake of election. That people who are living in abroad, can also participate in voting through government register websites.

✓ That system does not requires distributed polling stations because distributed polling stations require cost in billions. Government register websites for e-voting system have also less cost, because that people who have knowledge about ICT, can access this facility at home.

✓ Government should take step to introduce information technology concept at each level of people and should build IT institutes to train the people. Information technology education should be compulsory from beginning to master level education.

✓ Government should provide internet facility both in urban and rural areas as much as possible at low rate and should provide online consultant.

✓ Fashion awareness about ICT is necessary through consulting media like TV, mobile phone.

✓ Government should design such type of system, whose price is affordable and should not be much sensitive for the budget.

✓ Indian e-voting system is more suitable for Pakistan because India shares history of thousands of years with Pakistan, people of both countries have the same background and environment on the basis of social aspect, cultural aspect, political aspect, literacy aspect, economical aspect and technological aspect.

The approach

The purpose of this study is to describe main issues that have impact on implementing e-voting system in Pakistan and also focus on the solution to implement successful e-voting system in Pakistan. In order to understand the need of E-voting and to compare between traditional voting and e-voting system, we have surveyed and made a questionnaire having 20 questions. We have considered 50 people for the survey, 25 female and 25 male, all users belong from Pakistan. The results and breakup of questionnaire is as mentioned in below tables.

Table 1: Gender and Age groups

	Under18	18-25	26-35	36-60	Over60	Total User
Male	01	10	08	05	01	25
Female	03	05	12	4	01	25
Total	04	15	20	09	02	
					Total	50

Table 2: Gender participants from different region

Region	Male	Female
Quetta	10	9
Lahore	2	4
Chaman	3	2
Nawabshah	4	5
Karachi	6	5
Total	25	25

Table 3: Comparative study of different age group on different parameters

Age Group		Under 18 M	Under 18 F	18-25 M	18-25 F	26-35 M	26-35 F	36-60 M	36-60 F	Above 60 M	Above 60 F	Total
Expertise in Computer	Novice	0	1	1	1	2	4	1	1	1	1	13
	Average	1	2	5	2	2	3	1	1	0	0	17
	Good	0	0	2	1	1	3	2	1	0	0	10
	Expert	0	0	2	1	3	2	1	1	0	0	10
Education Level	Primary	1	2	0	0	0	0	0	0	0	0	03
	College	0	0	2	1	0	0	0	0	0	0	03
	University	0	0	7	4	4	4	1	1	0	0	21
	Others	0	1	1	0	4	8	4	3	1	1	23
Usage of Govt. Service	Yes	0	1	6	3	6	7	4	2	0	0	29
	No	1	2	4	2	2	5	1	2	1	1	21
Existing voting system democratically	Yes	0	1	8	4	6	9	3	3	1	1	36
	No	1	2	2	1	2	3	2	1	0	0	14
Preference of Voting Method	Paper base	0	0	2	1	3	3	2	1	1	1	14
	Electronically	1	2	8	4	5	9	3	3	0	0	35
	Other way	0	1	0	0	0	0	0	0	0	0	01
Language of E-voting	English	0	0	1	0	2	3	0	0	0	0	06
	Urdu/National	0	1	3	1	2	2	3	1	1	1	15

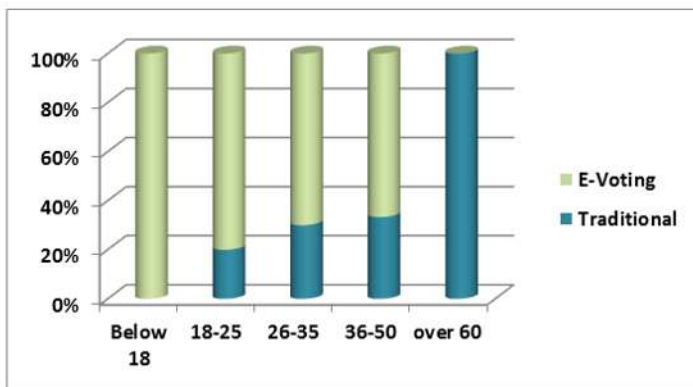The preference of voting method is shown in the figure 2.

Figure 2: E-voting vs traditional voting for different age group

From the above figure we noticed that the ratio for traditional voting is very much high for old age people. One of the reason that they are reluctant to adopt new system or they are novice in operating computer systems. While in wrest of cases the proportion for adopting E-voting system is much higher.

CONCLUSION AND FUTURE WORK

Implementing a sound and secure e-voting system is not as straight forward as simply employing a counting software, accuracy, privacy, receipt-freeness, eligibility, prevention of double voting, fairness, robustness and verifiability are security requirements that an e-voting system must address. This paper identifies the barriers to implement e-voting in Pakistan from literature review. Many countries which hastily tried to implement large scale e-voting without sufficient testing and public debates witnessed effective resistance by various quarters. Many developing countries like Pakistan have need to implement e voting respectively conclusion have to be drawn in order to introduce e voting correctly and effectively. In Pakistan consider, the introduction of e voting legal, technological and political challenges still have to be solved and overcome and this step once achieved subsequently explained to the interested public. Meaningful advances on the way to e voting can be achieved beside trans broker exchange of views and experiences only by closer cooperation of and mutual understanding between first of legal and technological experts then by lawmakers and experts and finally by politicians, experts and public. In future we will further explore the security, reliability measures of e-voting system for developing countries.

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