Concerns and Solutions on Electronic Voting Systems Adoption

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ABSTRACT

Electronic voting has become a viable form of e-government due to the rapid advances in technologies and communication networks. The United States and most European and Asian Countries, like Japan, have taken the first step towards electronic elections. The unique features of electronic voting systems bring advantages to the public as well as resulting in concerns about electronic voting system (EVS) implementation. In this chapter, we examine those advantages of EVS and the principal obstacles in its implementation: privacy, security and accessibility. By investigating the current technology and government efforts to overcome these problems, some recommendations are proposed to gain voters’ trust on EVS and further increase their participation by using EVS.
INTRODUCTION

Within a few short years, rapid advanced in technology developments, particularly the Internet, lead to profound implications for government operations and services. Electronic government (e-government), defined as the utilization of technologies to process governmental operations and to provide political services to the public (Watson and Mundy, 2000), became a popular term quickly. Gartner Group (2001) predicted, “By 2003, more than 60 percent of government agencies in developed countries will allow citizens to conduct some forms of electronic remote transaction” (p. 4). Taking advantage of superior technology, the U.S. has had an early start in this revolution. Nearly every state has set up an information portal and has partially instituted certain electronic services, such as posting of government policies, tax payments, and citizen polling.

As a central component to “digital democracy,” voting has attracted the attention of academics and practitioners around the globe. The voting controversy surrounding the Florida vote tabulation for the 2000 U.S. presidential election provides a rich stimulus for research into electronic voting. KPMG, the principal organizer for the United State’s first online Democratic presidential primary election at Arizona, is actively exploring the impact of online voting on society (Done 2002; Hiller and Bélanger, 2002). They argue that electronic voting systems (EVS) would make current voting procedures efficient and increase participation. A recent poll indicates that 32 percent of Americans expressed that, if given the option, they would vote online in governmental elections (Westen, 2000). However, some debates concern whether those changes with EVS can guarantee voters’ political rights, such as privacy, equality, and security. These issues are certainly to be taken seriously in order to provide a smooth transition to electronic voting.

The objective of this chapter is to investigate the advantages of electronic voting systems and the concerns of voters about their use of this technology. By identifying these concerns, we can help the voters to objectively examine the utility of this approach to voting. Only in this way, can EVS gain the critical mass necessary to make it a viable solution. Also, we offer practical recommendations to guide practitioners in replacing old voting machines with electronic voting systems and, in particular, remote voting devices. The major contribution of this chapter is the holistic examination of the advantages and concerns associated with EVS adoption in practical elections. This chapter has significant implications for both practitioners and researchers. Practitioners can gain from the discussions knowledge about voters’ concerns, as well as the recommendations for EVS implementation. For researchers, a recommendation is made to steer researchers into the critical areas.

This chapter is organized as follows. First, we will define EVS and discuss its advantages. Then, concerns regarding a transition to electronic voting systems, such
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