

Integration and Information Sharing in E-Government

Asli Yagmur Akbulut

Grand Valley State University, USA

Jaideep Motwani

Grand Valley State University, USA

INTRODUCTION

Citizens around the globe are demanding better services and more responsiveness from their local, state, and national governments. Governments are responding to this challenge by implementing a vast range of information technologies (IT) that crosses departmental and organizational boundaries.

Integration and information sharing among government agencies have the potential to increase the productivity and performance of government operations, improve policy-making, and provide better services to citizens (Akbulut, 2003; Dawes, 1996; Landsbergen & Wolken, 2001). For example, September 11, 2001 terrorist-related events have shown the importance of integration and information sharing among federal, state, and local law enforcement agencies in order to protect the safety of citizens by combating crime and terrorism. As Whiting and Chabrow (2001) pointed out, "The intelligence gaps among law enforcement agencies became obvious in the aftermath of the terrorist attacks. Two of the suspected hijackers, for example, reportedly were on an INS watch list. But that information never found its way to the Federal Aviation Administration..." (p. 2). As the investigation into these attacks continues, the Federal Bureau of Investigation, Customs Service, the INS, the Central Intelligence Agency, the National Security Agency, as well as other law enforcement and intelligence agencies are trying to share information on an extraordinary scale.

Information sharing among government agencies of course expands beyond the criminal justice system and covers every domain of public life ranging from economic development to education, and municipal services to health care. In spite of the enormous amount of information collected by government agencies, bringing together an array of agencies engaged in diverse activities with differing and sometimes competing cultures is

not an easy job (Whiting & Chabrow, 2001). Although government administrators recognize the importance of integration and the significant benefits it can provide, government agencies face several technological, organizational, political, and economic barriers to electronic information sharing (Akbulut, 2003; Dawes, 1996; IACP, 2002; Landsbergen & Wolken, 2001).

In this study, we will briefly discuss the benefits of electronic government (e-government) integration and information sharing as well as the factors that inhibit the success of these initiatives.

E-GOVERNMENT INTEGRATION AND INFORMATION SHARING

Electronic government can be broadly defined as the government's use of IT to exchange information and services with citizens, employees, businesses, and other government agencies. Depending on the type of the participants in the relationship, e-government activities can be grouped into different categories such as government-to-citizen, government-to-employee, government-to-business, and government-to-government. Among these, the last category has been identified as the critical enabler of all the other remaining e-government activities (Sharifi & Zarei, 2004). As such, recently, integration and information sharing among government agencies have become important for decision makers, agency administrators, employees, and the citizens.

E-government integration and information sharing requires the ability to share critical information at key decision points across different government agencies. E-government integration and information sharing can take place among government agencies at the same level (i.e., horizontal integration), or may include agencies at different levels of government such as local, state,

and federal jurisdictions (i.e., vertical integration). E-government integration and information sharing can be accomplished through the use of a variety of IT solutions, including the use of Web portals, data warehouses, middleware applications, and the like. Some examples include linking individual client-based records between local and state health agencies, or consolidating criminal justice information from different agency legacy systems and computer platforms into an online data warehouse (Akbulut, 2003).

Typically, sophisticated technological arrangements are required for integrating systems across agencies (Klischewski & Scholl, 2006). However, e-government integration and information sharing do not depend only on the availability of state-of-the-art information systems. For these initiatives to be successful, significant changes in work processes and re-engineering of government activities might be necessary. As such, some of the most difficult challenges are not technological, but rather economic, political, legal, and social.

E-GOVERNMENT INTEGRATION AND INFORMATION SHARING CRITICAL ISSUES

Benefits

E-government integration and information sharing provide numerous short and long-term benefits to policy-makers, agencies, and to the public in general (Akbulut, 2003). Reduced costs and increased productivity due to streamlined data management, increased accuracy and timeliness of the information collected, centralized source and support for current information, more accurate, comprehensive data for problem solving, expanded professional networks, improved public image, and greater integration and coordination of government services are found to be among some of the benefits of interagency information sharing (Dawes, 1996; Landsbergen & Wolken, 2001; Roberts, 2004). Having access to timely and accurate information improves the decision-making capabilities of government agencies, which in turn results in increased effectiveness, efficiency, and responsiveness of government operations and improved services to citizens.

Barriers

In spite of the potential benefits, achieving integration and information sharing among government agencies is a very challenging activity. There are a number of barriers that inhibit the success of these initiatives. Implementing integration and information sharing projects even within a single agency can prove very difficult due to these barriers. Having multiple agencies at different levels of government with different needs, interests, as well as cultures add to the complexity of these initiatives.

Technological Barriers

Differences in technological capabilities of government agencies such as the availability of computer systems and skilled employees to operate these systems present an important challenge in integration and information sharing. Many small agencies do not have access to computers and maintain paper-based records, making information sharing difficult. Even in larger agencies, technology may be obsolete (MacLellan & Lee, 2002). In addition, existing information systems in agencies are generally incompatible, and agencies utilize different data structures (Dawes, Cresswell, & Cahan, 2004; Ferranti, 2006). Lack of standardized systems and uniform data structures limit the success of e-government integration and information sharing initiatives (Dawes, 1996; Landsbergen & Wolken, 2001).

Economic Barriers

Lack of resources represents another important barrier to e-government integration and information sharing (GAO, 2001). Government agencies typically have limited funds and may face serious budget constraints. While improved information sharing creates cost savings in the long-term, initial costs of procuring and implementing integrated information systems can be beyond agencies' financial means (Norris, 2003; Norris & Moon, 2005). Moreover, lack of resources can also negatively affect the recruitment and retaining of qualified employees that can successfully support information sharing systems and activities. Training of employees can also prove difficult due to the limited resources including money and time (Akbulut, 2003).

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