

Applications of E-Commerce in Government

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INTRODUCTION

Electronic commerce, or e-commerce, is simply business that is conducted over the Internet. Government e-commerce applications are those e-commerce applications utilized by some level of government, whether it is federal, state, or local. In this article, we will distinguish between interactive transactions and e-commerce transactions. Strictly speaking, e-commerce applications are only those in which a financial transaction of some sort takes place. Interactive transactions would involve interaction with a Web survey or some other application like filing an online form requesting services or submitting a complaint, but financial transactions are not included. Electronic commerce applications are an important segment of the growing e-government service delivery field. Government e-commerce applications may involve G2B (government-to-business), G2G (government-to-government), or G2C (government-to-consumer or, in this case, citizen) mechanisms.

Table 1 provides examples to illustrate the differences between e-government activities like information provision, non-e-commerce interactive transactions, and e-commerce transactions.

IMPORTANCE OF E-COMMERCE APPLICATIONS IN THE PUBLIC SECTOR

E-business and e-commerce has grown very rapidly throughout the U.S. and international economies, along with the Internet itself. In 2005, there were an estimated 604 million worldwide Internet users; 159 million were estimated to reside in the United States (U.S. Central Intelligence Agency, 2005). This increase and the rapid change and growth in technology led to a burgeoning of interactive service delivery and retailing over the World Wide Web, or e-commerce. The U.S. Census Bureau estimated e-commerce activity in the third quarter of 2005 at \$22.3 billion in adjusted dollars, an increase of 5.7 % from the estimates of the third quarter of 2004. In the third quarter of 2005, e-commerce sales had grown to 2.3 % of total retail sales and was still growing (U.S. Census Bureau, Economics and Statistics Administration, 2005).

In 2002, the U.S. Department of Commerce found that 30.9 % of all Internet users over the age of three had used the Internet to search for government services (U.S. Department of Commerce Economics and Statistics Administration, 2002). As more recent data from the Pew

Table 1. Examples of e-government information provision, interactive transactions, and e-commerce transactions

	Information Provision	Interactive Transactions	E-Commerce Transactions
G2C (Government to Citizen)	Provision of information and forms via .html pages, .pdf files or forms	Complaint forms to be completed by citizens	Online purchase of birth and death certificates, hunting or fishing licenses, or renewal of drivers licenses
G2B (Government to Business)	Provision of procurement RFPs and RFBs by business plus other information on how to do business with government	Service completion forms to be completed by businesses	Online purchase by businesses of government data such as census or GIS data, maps
B2G (Business to Government)	Business provides government online information on goods and services available to agencies through vendor/procurement sites aggregated together	Businesses register as vendors using interactive transactions	Business sells government goods online from vendor "mall" set up to capture economies of scale

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Table 2. Selected Internet activities from the Pew Internet and American Life Project Survey (Pew Internet and American Life Project, 2004)

Internet Activity	Percent of Those with Internet Access Who Do Each Activity	Month and Year of Survey
Research a product or service before buying it	78	February 2004
Look for information from a government Web site	66	August 2003
Buy a product	65	February 2004
Buy or make a reservation for travel	55	May-June 2004
Bank online	34	June 2004
Participate in an online auction	23	February 2004
Buy or sell stocks, bonds, or mutual funds	12	February 2004
Buy groceries online	12	March-May 2003
Make a donation to a charity online	7	December 2004
Play lottery or gamble online	4	March-May 2003

Table 3. Selected government e-commerce activities from the Pew Internet and American Life Project, "Rise of the E-Citizen" Pew Internet and American Life Project (2002)

Internet Activity	Percent of Those Who Use Government Web Sites Who Have Ever Done Each Activity
<i>Information</i>	
Get tourism and recreational information	77
Do research for work or school	70
Find out what services a government agency provides	63
Seek information about a public policy or issue of interest to you	62
Get advice or information about a health or safety issue	49
Get information about potential business opportunities relevant to you or your place of employment	34
Get information about elections such as where to vote	22
Get information that helped you decide how to vote in an election	21
Get information about a lottery	21
<i>Transactions</i>	
File your taxes	16
Renew a driver's license or auto registration	12
Renew a professional license	7
Get a fishing, hunting or other recreational license	4
Pay a fine	2

Internet and American Life Project have confirmed, many more users now use the Internet to look for information from a government Web site (66 %) and roughly the same number are now using the Web for e-commerce applications (see Table 2) (Pew Internet and American Life

Project, 2004). Table 2 illustrates how often those with access to the Internet engage in e-commerce or government-related activities. Table 3 illustrates the fact that most users still use the Internet to search for information from government agency Web sites rather than make an

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