

## Chapter 4.2

# 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

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

	Information Provision	Interactive Transactions	E-Commerce Transactions
<b>G2C (Government to Citizen)</b>	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
<b>G2B (Government to Business)</b>	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
<b>B2G (Business to Government)</b>	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

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 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 e-commerce transaction. The Pew Internet and American

Life Project found that 16% of government Web site users used the Internet to file their taxes, 12% of government Web site users used these sites to register or renew their car registrations, 7% renewed a professional license, only 4% got a fishing, hunting, or other recreational license and even fewer—only 2%—used it to pay a fine (Pew Internet and American Life Project, 2002). These rates increase with experience with the Internet and with income levels (Pew Internet and American Life—Project, 2002). Far more citizens evidently trust and use government Web sites to get tourism and recreation information (77%) than to get information about the lottery (21 %).

## BASICS OF SUCCESSFUL E-COMMERCE APPLICATIONS

Several elements are necessary for successful e-commerce applications, including those utilized by government. The electronic storefront provides an interface seen by users while the "backend" is where applications like databases reside:

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