

E-GOVERNMENT: AN ENGINE TO POWER E-COMMERCE DEVELOPMENT*

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Abstract:

E-government initiatives have made governments participants in e-commerce. Through e-government activities, governments function as consumers and suppliers of e-commerce services, thus transforming their role from one of pure policy or regulatory oversight to one of participation. In so doing, governments have the potential to make a positive contribution to e-commerce development. Governments that recognize this opportunity may gain a competitive advantage by using e-government operations to assist in driving e-commerce growth.

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1. Introduction and Summary

The potentially transformative effect of e-government upon governmental institutions and functioning has been widely recognized. It has been observed, for example, that e-government causes government service delivery to become more “customer-oriented,” thereby offering the potential to dramatically reconfigure and restructure separate government departments and agencies. (*Caldow 2001*). As the number of public sector online initiatives increases, another effect is becoming increasingly apparent: apart from its effect on government itself, e-government can be a major component of e-commerce.

Traditionally, governments have focused on encouraging e-commerce development through laws and regulations designed to support or regulate private online business initiatives. For example, in the United States, the federal government has acted to prohibit the imposition on e-commerce transactions of Internet-specific taxes. (*Internet Tax Freedom Act of 1998*.) Digital signature laws also have been adopted in the U.S. and elsewhere that confer upon electronic signatures the same binding effect as those on written documents. (*U.S. Electronic Signatures in Global and National Commerce Act; EU Directive on Electronic Signatures*). The potential liability of Internet Service Providers for copyright infringing content has been limited. (*Digital Millennium Copyright Act*). In response to consumer concerns about protection of individually identifiable information disclosed online, many jurisdictions also have adopted, or are considering adopting, laws protecting individual privacy (*U.S. Gramm-Leach-Bliley Act of 1999; U.S. Children Online Privacy Protection Act of 1998; European Community Directive on Data Protection*) These are but a few examples of ways in which governments have moved to support e-commerce development in very traditional ways – through the enactment of laws and regulations designed to regulate business and/or government behavior in relationship to online transactions.

E-government transforms this customary governmental role by making governments active participants in e-commerce. As e-government evolves from being simply an informational service to a more transactional environment, governments function as both consumers and suppliers of e-commerce and related services. In this way, the role of government is changed from one of pure oversight and regulation to a more participatory role in which government is not only an e-commerce regulator but an e-commerce “player” as well. Because, e-government and e-commerce are effectively two sides of the same coin, we believe that this new and evolving governmental role has significant implications for the future development of e-commerce.

Governments participate in e-commerce in a variety of ways. They both use and, in some instances, supply enhanced telecommunications services – which provide the necessary foundation for both e-government and e-commerce services. Through online transactions, they provide different types of services to their citizens and others, ranging from relatively simple informational transactions to issuing driver’s licenses, accepting payment of taxes and fines, to issuing permits and providing a means to register or form corporations and other business entities. Governments also sell and purchase goods and services online and, in so doing, have

the opportunity not only to set terms for government-related e-commerce transactions but also to influence more broadly the conduct of private e-commerce transactions. In their search for funding sources for e-government operations – or in response to funding pressures caused by private sector e-commerce activity -- governments sometimes undertake functions that are indistinguishable from those of for-profit e-commerce entities. In other cases, in order to reduce costs, governments take advantage of the capabilities provided by the Internet to outsource noncore functions to the private sector and, in this way, lend their economic support to private sector e-commerce providers.

Government's participation in e-commerce has the potential to create a number of beneficial effects. First, as both a consumer and supplier of e-commerce services, governments have the opportunity to learn firsthand about the economic and business realities of online transactions. Second, as e-commerce participants, governments have a strong self-interest in adopting rules and regulations that will facilitate their own online activities. If done in an evenhanded manner, these rules and regulations also will facilitate the growth of private e-commerce transactions. Third, government expenditures on e-government/e-commerce infrastructure and systems, and the outsourcing of noncore e-government functions, will help support the development of private e-commerce businesses.

Appreciation of this connection between e-government and e-commerce is essential in order to recognize the full value of e-government. Recognition of that relationship also will likely lead to more reasonable and balanced regulation of e-commerce activities, as governments begin to recognize that they too are e-commerce participants and that the rules they devise for that marketplace affect not only private companies and citizens but also governments themselves in their dual role of e-commerce providers and customers.

We believe that a competitive advantage can be gained by those jurisdictions that most effectively utilize e-government operations to assist in driving e-commerce growth. This is particularly true in those countries without a strong private economy where e-government initiatives may be, at least in the first instance, the most practical way of jump-starting private sector e-commerce activity.

2. Government Participation in E-Commerce

There are a range of ways in which governments, through their e-government activities, become participants in e-commerce. We discuss here five governmental e-commerce activities that we regard as being among the most significant.

2.1 Telecommunications

Both e-government and e-commerce require reliable, robust, and secure telecommunications networks. In virtually all cases, governments act as consumers of telecommunications services as they seek to Web-enable governmental functions. This is true as governments seek to set up internal data links – to share databases, for example, or to permit the exchange of e-mail between government departments and agencies. It is even more true as governments seek to link to others outside the

government. When governments wish to provide their citizens – or others outside their national boundaries -- with ready access to information or wish to facilitate the conduct of online transactions with those governments, access by them (and by their citizens/customers) to fast, robust, and reliable telecommunications networks becomes critical.

Sometimes these services are provided by private companies – and are purchased by the government in the same way as any other large customer, or e-commerce company, would purchase high-volume communications services. In other instances, governments act as the owners and operators of computer and telecommunications networks that provide the infrastructure for e-government and for e-commerce as well. In Virginia, for example, the legislature set up the Virginia Information Providers Network, designed to facilitate the collection and distribution of data from Virginia state agencies to the citizens of Virginia. (www.vipnet.org/portal/aboutvipnet/aboutvipnet.htm). The Illinois Century Network (ICN) is another such endeavor. ICN is a telecommunications backbone providing high speed access to data, video, and audio communication in schools and libraries, at colleges and universities, to public libraries and museums, and for local government and state agencies in Illinois. (www.linc2icn.net/about/about.htm). In countries where the telecommunications provider is owned by the government, the national government is the provider of the telecommunications services required for e-government. In Lebanon, for example, telecommunications services are provided by the Ministry of Post & Telecommunications (www.mpt.gov.lb).

It is in the latter case, where the government serves as both the customer and the provider of telecommunications data services, that some of the most interesting dynamics occur. In instances where they are the telecom. provider, governments have an interest in maximizing the revenue received from telecommunications customers. On the other hand, as a customer itself, the government has an interest in obtaining telecommunications services at the lowest possible cost. Moreover, e-governments share with private e-commerce companies the goal of ubiquitous, affordable Internet access – a goal that plainly is not furthered by high rates for telecommunications services.

These tensions sometimes stymie e-government development and, by putting governments in the unaccustomed position of telecom. customer, force them to confront precisely the same roadblocks that are often faced by their private-sector, e-commerce counterparts. In Lebanon, for example, we were told that initial efforts to electronically link the various national government ministries were stalled for a time because the rates proposed by the MPT (one arm of the government) were not affordable by the ministry responsible for the e-government initiative! Although telecommunications reform in Lebanon continues to face many political and other obstacles, we believe that the insight provided by this experience has contributed to the momentum for change.

2.2 Online Transactions for Citizens and Businesses

Once e-government initiatives move beyond purely passive, informational Web sites, governments generally develop the capability to support a variety of

interactive, online transactions. These range from relatively simple interactions between citizens or businesses and governments to more complex transactions that typically involve payment of a fee to the governmental agency.

For example, one of the first capabilities offered on the e-government site of the Municipality of Muscat in the Sultanate of Oman was the ability to check on the status of paid and unpaid parking violations for a particular automobile by entering the registration number of the car.

(www.mctmnet.gov.om/PubServ/parking_main.html). The site does not now offer the capability to actually pay any outstanding fines. However, the site does serve its purpose – which was to simplify the previously complex process of determining (and demonstrating to the relevant government agencies) the status of any parking violations for a car.

At a more advanced level, the Virginia State Department of Motor Vehicles provides the capability to conduct a secure online transaction, using a credit card and a state-issued Personal Identification Number (PIN), to change a vehicle registration address, to renew or replace a driver's license, renew a vehicle registration, purchase a license plate, order a souvenir license plate and purchase an identification card.

(www.dmv.state.va.us).

Equally sophisticated is the Arkansas state web site on which it is possible to create a company online by preparing and filing the necessary form electronically and by paying via credit card the required filing and processing fees.

(www.sosweb.state.ar.us/ofc/index.htm). Once the online form has been completed and the credit card transaction validated, instantaneous confirmation can be obtained that the company has been formed and is a legally constituted entity; the entire transaction requires only a few minutes.

The U.S. Internal Revenue Service provides both informational and transactional services on its Web site (www.irs.gov). There, taxpayers filing simple returns may now file their federal tax returns online and make any required payment.

Each of these online activities, in its own way, raises issues of privacy and security. Those that provide for payment, such as the Virginia DMA, the Arkansas, and the IRS Web sites, all require that the security of the payment information be protected, just like any private e-commerce credit card transaction. In addition, because of the sensitivity of taxpayer information, the IRS must ensure the continued security and privacy of that information.

Even the relatively simple functions provided by the Omani traffic site raise privacy concerns. That site allows an online user to obtain a listing of outstanding parking violations by putting in a license plate number; no PIN or other identifying information is required. The observation has been made by at least one Omani citizen that he is uncomfortable with the fact that his neighbors (and others who know his automobile license plate number) can obtain a list of his outstanding traffic violations simply by typing in his license number on the Web site.

2.3 Government Procurement

As with private sector companies that are using B2B e-commerce transactions to drive down their purchasing costs, one set of online activities that is potentially of the most benefit to governments themselves is the use of the Internet to obtain products and services needed by the government. Online purchasing offers governments the opportunity to consolidate product purchasing across government departments and agencies, thereby significantly reducing the transaction costs associated with individual agency purchasing decisions and, by allowing needed items to be purchased in significantly higher volumes, driving down purchase prices.

For example, the U.S. Government General Services Administration site, www.buyers.com, conducts “reverse auctions” for procurement purposes and also aggregates purchases from various federal government agencies in order to drive down the price per unit. The State of Washington Department of Information Services Electronic Mall (www.emall.dis.wa.gov) provides state and local government agencies in Washington State with a single online venue at which to acquire information technology products at as low a price as possible, through the combined purchasing power of these agencies.

In addition, governments can use the Internet to distribute information about their purchasing needs and, in that way, to enlarge the group of companies interested in selling those products to the government –the desired result, once again, being a reduction in purchasing costs. For that reason, the U.S. Government has designated www.fedbizoppps.gov as the single point of entry where vendors can access the information they need to bid on federal government contracts over \$25,000.

Through their online purchasing activities, governments help design and support the infrastructure for online procurement – both public and private. Private sector entities that provide goods and services through an online intermediary will tend to use those same types of systems in their own purchasing and sales activities to other private entities.

Because of the importance of government purchasing activities in virtually every country, government procurement functions provide the opportunity to influence private sector e-commerce transactions, even when those transactions (for whatever reason) are not regulated directly by the government.

An excellent example of this is provided by Section 508 of the U.S. Rehabilitation Act. That law requires, with certain limited exceptions, that U.S. federal government agencies purchase and use electronic and information technology that are accessible to and usable by physically disabled individuals. The new law applies to hardware and software, websites, phone systems, fax machines, copiers, and similar technology. Rules implementing Section 508 have been adopted by the U.S. Access Board and took effect on June 25 of this year. (www.access-board.gov/sec508/508standards.htm). Although this law applies only to federal government agencies, it is expected to have a broad influence on private sector Internet and e-commerce transactions, as companies find it easier and less expensive to apply these new requirements “across the board” rather than limit these changes to products they sell to the federal government.

2.4 “Private Sector” E-Commerce Activities by Governments

Largely because of concerns related to the funding of e-government operations, governments sometimes engage in e-commerce activities that appear to be virtually identical to those undertaken by private sector e-commerce entities.

For example, an increasing number of jurisdictions in the U.S. are considering selling Internet advertising space on their e-government Web sites as a way to help fund their e-government operations. The City of Honolulu, Hawaii is carrying advertisements for automobile dealerships and others on its Web site (www.co.honolulu.hi.us/menu/government). Fairfax County, Virginia recently announced that it was considering selling advertising space on its Web site. The County Government estimated that it could raise as much as \$1 million per year through such activities.

The U.S. Postal Service provides another example of a government agency undertaking a traditionally private sector e-commerce activity. Its customary revenue stream, the sale of postage, has been impaired by the growing use of e-mail. Although it can, and has, increased the postage rate for letters and other mail, it is seeking other sources of revenue.

In an attempt to help offset this loss in revenue, within the past year, the Postal Service has begun offering electronic bill paying services on its Internet site (www.usps.com). This directly competes with online services offered by private entities such as PayTrust.com or PayMyBills.com.

At one time, the U.S. Internal Revenue Service also was reported to be considering entering the tax preparation field. (Matthews, Nov. 13, 2000)

Government involvement in such “private sector” activity is not without controversy in the U.S. Private advertisements on e-government Web sites raise a number of policy and legal issues concerning the relationship between the particular government and the private sector advertiser, including potential First Amendment free speech issues. Moreover, the Postal Service’s bill paying service has been criticized by some as constituting an unjustified incursion into the commercial sector. (CCIA 2000), Nevertheless, both of these types of activities demonstrate the growing involvement by governments in e-commerce.

2.5 Outsourcing of Noncore Governmental Functions

An additional way in which government is involved in and supports the development of e-commerce is through the outsourcing to private sector entities of activities that previously had been performed by the government but which are now considered to be nonessential or “noncore.” The instantaneous communication provided by the Internet makes it possible for such outsourcing to take place in a

completely seamless fashion, with the government experiencing cost reductions as a result of the increase in efficiency provided by the private sector company.

An excellent example of such outsourcing is provided by the Government of Fairfax County, Virginia. It is now possible to pay one's local taxes online at the Fairfax County Web site. But when an individual "clicks" on the link to pay taxes, the user is taken automatically to a secure site operated by a private company, Official Payments Corp. (<https://payments.officialpayments.com/>). Payment is made to that company which, deducts a processing fee, and remits the balance to Fairfax County.

Additional examples of such outsourcing include outsourcing to private entities the maintenance of government Web sites such as is now taking place in the UK (www.open.gov.uk/services/faq.htm) and the operation of online e-government procurement sites (Sarkar, Nov. 6, 2000),

3. Benefits of Government Participation in E-Commerce

The above examples demonstrate that governments, through their e-government activities, increasingly are involved in e-commerce. We believe that such involvement has several benefits.

3.1 Education

Perhaps the most important benefit of such activities is that they serve to educate governments about the economic and business realities of online transactions and about the interdependence of online private and public sector activity. As set forth in this paper, governments engage in e-commerce functions as a virtually inevitable result of their e-government activity. Thus, e-government without e-commerce is a *nonsequitur*; the former requires the latter in order to achieve its full potential.

As governments enter the e-government/e-commerce arena, they adopt a more "customer oriented" business-like approach and, in some instances, engage in e-commerce business themselves. This change of perspective encourages a dialogue between government and private business entities that will enhance the cooperative growth and development of both e-government and e-commerce.

The education of government, and the establishment of this government-business dialogue, is particularly important in countries without a strong private sector – or in countries where significant elements of the e-commerce infrastructure are state controlled. In such cases, where the concerns of the private sector often are overlooked or dismissed, e-government initiatives may result in governments becoming more receptive to the concerns and needs of private sector businesses.

3.2 Informed Regulation

The close relationship between e-government and e-commerce leads to a similarly supportive regulatory infrastructure. For example, among other things, they

both require a legal recognition of the validity of online transactions and electronic signatures as well as appropriate safeguards against the unauthorized use or disclosure of confidential or private information.

We believe that the educational function served by governmental e-commerce activities will result in a more informed and finely tuned legal and regulatory structure that will be responsive to these needs. Not only will governments better appreciate the difficulties faced by private businesses but they will have a self-interest in adopting rules and regulations that will facilitate their own online transactions and operations and which will encourage a cooperative e-government/e-commerce relationship.

3.3 Support for Private Sector E-Commerce Development

E-government initiatives help create a market for corresponding private sector involvement. As governments seek to Web-enable their activities, they create a demand for telecommunications networks and equipment, secure servers and other physical infrastructure. They also create a demand for other types of supportive services – such as companies that process online credit card transactions, companies that design and maintain Web sites, companies that design various types of software, and companies to which they can outsource “noncore” governmental functions. As noted above, they also will require an appropriate legal and regulatory structure (e.g., e-signature laws) that will enable desired e-government transactions to occur.

In countries that already have an established e-commerce sector, such activities may simply expand the number of such private companies, or increase the profitability of those that already exist. In countries that lack such an industry segment, an e-government initiative will likely result in the initiation of private sector e-commerce activities.

4. CONCLUSION

This paper has described e-government/e-commerce relationships in the United States and elsewhere. We believe that these relationships reflect a natural synergy between e-government and e-commerce and that the interrelationship of the two is virtually inevitable. Moreover, we believe that this relationship is beneficial both to governments and their e-government initiatives and to e-commerce

We believe that governments should acknowledge that relationship and act purposefully to utilize it to drive e-commerce development. Said in another way, governments should make a substantial, early, and continuing investment in e-government not just for the usual reasons of increased government efficiency and decreased costs, facilitation of e-democracy, etc., but because e-government development will result in economic growth via e-commerce. We believe that recognition of this multiplier effect between e-government and e-commerce can have profound implications for governmental decision-making in any country or jurisdiction. However, we think that it is particularly important in countries that lack

a well-developed private sector or which, for other reasons, are lagging in e-commerce development.

In such areas, we believe that governments should not focus initially on regulation or facilitation of e-commerce, *per se*. Instead, governments should approach the matter from an e-government perspective – putting in place the physical and regulatory infrastructure that is necessary to support e-government functions, because these actions inevitably will encourage and promote e-commerce as well. In this way, by acting on something directly within their control (i.e., e-government), we believe that governments in underdeveloped areas will more effectively promote e-commerce development and, with it, technological and economic growth in both the public and private sectors.

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