

THE NECESSITY OF EGOVERNMENT

William Fenwick,[†] Esq., Erin John^{††} & Jason Stimac^{†††}

Abstract

This paper presents the positive and negative impact information technology (IT) has had on governance in the United

[†] William A. Fenwick is one of the founding partners of Fenwick & West LLP and is a member of the firm's Litigation and Intellectual Property Practice Groups. Mr. Fenwick received his B.S. in business management from Southern Illinois University where he graduated with honors and was elected to *Beta Gamma Sigma*. He received his J.D. from Vanderbilt Law School and was elected to the *Order of the Coif*. Mr. Fenwick first began litigating technology disputes in 1968. Since 1992 he has been involved in a number of Internet-related matters as well as online commerce and communications. Since the early 1970's, Mr. Fenwick has spoken and written extensively on privacy, on information handling and on the intersection of law and technology. He has served as Chairman, EFT Transfer Committee, American Federation of Information Processing Societies, Inc. and was one of the initial members of the Committee on Electronic Legal Research, New York Bar Association. Mr. Fenwick has served as Chairman, Committee on Law Relating to Computers, Section on Science & Technology. During his three years as Chairman of the Practicing Law Institute's program on Computer Litigation, he was the editor of three volumes of working papers on various subjects related to law and technology.

^{††} Erin E. John is a 2009 J.D. Candidate in her third year at Santa Clara University School of Law. Ms. John received her B.A. in English Literature from Willamette University. She currently serves as Lead Content Editor for Volume 25 of the Santa Clara Computer & High Technology Law Journal. She also works as a research assistant for former dean of the law school George Alexander investigating trends in the enforcement of laws regulating false and misleading advertising. Additionally, Ms. John is currently co-authoring a law review article with Adjunct Law Professor Robert Cullen on the need to teach leadership in law school curriculum.

^{†††} Jason A. Stimac is a 2009 J.D. Candidate in his third year at Santa Clara University School of Law. Mr. Stimac received his B.A. in Law and Society from the University of California, Santa Barbara.

The authors wish to pay special and heartfelt thanks to Daniel Guidotti, Lead Content Editor for Volume 25 of the Santa Clara Computer and High Technology Law Journal and Santa Clara University School of Law J.D. Candidate 2009, for his keen efforts and skillful editing, which greatly improved this article. Thanks to Kimberly I. Culp, an associate at Fenwick & West LLP and graduate of U.C. Hastings College of the Law, who contributed to the research for this article. Thanks also to Rachael Buchanan, Erica Smith, Linda Wuestehube, Daniel Bednarski, Meng Wu, and all of the Journal Associates who participated in the editorial process.

428 SANTA CLARA COMPUTER & HIGH TECH. L.J. [Vol. 25

States and argues that effective and efficient eGovernment is a necessity created by the increased and widespread use of IT in the private sector.

Part II of this paper discusses transaction costs, describes the functions of governance, and discusses other elements that are causing the government to lose ground. Part III proposes eGovernment as the solution to the problems created by the increased use of IT, provides a brief definition and background of eGovernment, and discusses why eGovernment is necessary to keep social transaction costs affordable while increasing the transparency and effectiveness of government's obligation to facilitate a civil society. Part IV covers some of the problems that eGovernment faces, such as privacy concerns and the distrust generated within the public by the government's failure to follow their own guidelines, and predicts the possible consequences of not having eGovernment.

For economic activity to be sustained over time, government, in one way or another, must provide the context that enables market transactions and precludes destructive abuses. The power of IT, rapid communication, and the conversion of wealth from ownership of physical property to intangible property means governance must adapt. The international race for growth and prosperity, through trillions of transactions, will be won by countries with governance best designed to enable those transactions by combining efficiency (minimized transaction costs) with trust (security of information).

INTRODUCTION

For more than 40 years, the proponents of computerization have promised significant benefits from the increased use of information technology (IT). Many could not contain their enthusiasm and faith in the idea that IT would enable improved speed, prospective recording and storage capacity, and the potential for nearly limitless decision making capabilities. The possibilities for convenience, enormous cost savings, and improved living standards, which would be a natural byproduct of IT use, also generated significant excitement. At the beginning of the movement toward computerization, knowledgeable participants assumed that IT's impact would reach the instrumentalities of society's governance and that government¹ would realize the same benefits as the private sector. Disappointingly, while the private sector has realized much of the promise and possibility of IT, the same cannot be said of state, local, and national governments.

This paper presents the positive and negative impact IT has had on governance in the United States and argues that effective and efficient eGovernment² is a necessity created by the increased and widespread use of IT in the private sector. Implementing eGovernment at the local, state, and federal levels is the only viable option if our society wishes to remain civil and prosperous. Without eGovernment, society risks the near certainty that the "transaction costs" of governance will rise to a level that precludes democratic governance. The number, speed, and complexity of economic and social transactions have, and will continue, to increase at a rate that outstrips the capacity of government to analyze and utilize the information necessary to maintain and facilitate a civil society.

Part II of this paper discusses Coase's Theorem of transaction costs, maps Dahlman's theory of social transaction costs to the tasks of government, describes the functions of governance and its attendant transaction costs, and discusses other elements that are causing the government to lose ground. Part III proposes eGovernment as the solution to the problems created by the increased use of IT, provides a brief definition and background of

1. Unless otherwise qualified, "government" as used in this paper is intended to mean the federal, state, and local legislative, executive, and the judicial processes, including administrative and other agencies created by those processes to facilitate the governing of a civil society.

2. As described more fully in the later sections of this article, the term "eGovernment" (electronic government) refers to the use by government agencies of information technologies that have the ability to transform relations with citizens, businesses, and other arms of government.

eGovernment, and discusses why eGovernment is necessary to keep social transaction costs affordable while increasing the transparency and effectiveness of government's obligation to facilitate a civil society. Part IV covers some of the hurdles that eGovernment faces, such as privacy concerns and the distrust generated within the public by the government's failure to follow their own guidelines, and predicts the possible consequences of not having eGovernment.

II. THE PROBLEM WITH TRANSACTION COSTS

A. What are "Transaction Costs"?

Ronald H. Coase, a world-renowned economist and professor emeritus at the University of Chicago Law School,³ is credited with the theory that now bears his namesake. Coase's model describes transaction costs (originally termed "market costs") as "the cost of carrying out a transaction by means of an exchange on the open market."⁴ In his seminal article, *The Problem of Social Costs*, Coase wrote:

In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on. These operations are often extremely costly, sufficiently costly at any rate to prevent many transactions that would be carried out in a world in which the pricing system worked without cost.⁵

A large subset of these transaction costs can be categorized as information gathering, analysis, and distribution costs. The greater the friction caused by these costs, the less likely transactions will occur because of the adverse impact such costs have on net income for all parties engaged in the transaction.⁶ When Coase developed his theory in the 1930s, it was unlikely that anyone had conceived of today's powerful computers that have made eCommerce possible.⁷

3. University of Chicago Law School, Ronald Coase, <http://www.law.uchicago.edu/faculty/coase/> (last visited Mar. 17, 2009).

4. R. H. COASE, *THE FIRM, THE MARKET, AND THE LAW* 6 (1988).

5. R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15 (1960).

6. *Id.* at 16-18.

7. The U.S. Department of Commerce states that "[E]-commerce is the *online* transaction of business, featuring linked computer systems of the vendor, host, and buyer. Electronic transactions involve the transfer of ownership or rights to use a good or service. . . ."

Nonetheless, the principal motivator for eCommerce is the reduction of transaction costs and the increased speed of transactions made possible through the digitization of information.⁸ Thus far, implementation of eCommerce bears out Coase's theory—the more people and entities that transact electronically, the less their individual transaction cost, and the faster and more frequently their transactions conclude.

Coase further explored the application of his theory to governance activities. He believed that his theory, or some variation of it, as applied to social transactions, would determine what social policies should be implemented and lead to a better balancing of societal interests and economic growth.⁹ Coase explained that:

[t]he government is, in a sense, a super-firm . . . since it is able to influence the use of factors of production by administrative decision. But the ordinary [private] firm is subject to checks in its operations because of the competition of other firms, which might administer the same activities at lower cost and also because there is always the alternative of market transactions as against [organization] within the firm if the administrative costs become too great. The government is able, if it wishes, to avoid the market altogether Just as the government can conscript or seize property, so it can decree that factors of production should only be used in such-and-such a way. . . . Furthermore, the government has at its disposal the police and the other law enforcement agencies to make sure that its regulations are carried out.

It is clear that the government has powers which might enable it to get some things done at a lower cost than could a private organization But the governmental administrative machine is not itself costless. It can, in fact, on occasion be extremely costly. Furthermore, there is no reason to suppose that the restrictive . . . regulations, made by a fallible administration subject to political pressures and operating without any competitive check, will necessarily always be those which increase the efficiency with which the economic system operates. Furthermore, such general

Common illustrations include Amazon.com, llbean.com, CompUSA.com, travelocity.com, and hotels.com." Export.gov, What is ecommerce?, <http://www.export.gov/sellingonline/whatisecommerce.asp> (last visited Mar. 17, 2009) (emphasis added).

8. See, e.g., AUSWEB E-Commerce, Benefits of eCommerce, <http://business-ecommerce.ausweb.com.au/web/eCommerce-News/Business/Benefits-of-eCommerce> (last visited Mar. 17, 2009). Following the logic to its inevitable conclusion, eCommerce will lead to more sales of relevant goods and services.

9. Coase, *supra* note 5, at 43.

regulations which must apply to a wide variety of cases will be enforced in some cases in which they are clearly inappropriate. From these considerations it follows that direct governmental regulation will not necessarily give better results than leaving the problem to be solved by the market or the firm. But equally there is no reason why, on occasion, such governmental administrative regulation should not lead to an improvement in economic efficiency.¹⁰

Thus, Coase believed that the circumstances of some transactions would make the government a more efficient participant than private firms affected by market forces alone. While there is no direct evidence that Coase analyzed the inverse impact that increases in productivity in the private sector would have on governance, the impact has proven enormous.

B. What Are Government Transaction Costs?

Governance becomes increasingly complex in a society with a substantial number of daily transactions. This occurs because the relationship between the number of transactions and the resulting burden on governance is not proportional. Each transaction imposes its own burden, which is amplified by many layers of government. A single transaction in the private sector can impact a variety of governmental entities at the federal, state, and local levels. Moreover, the faster the transactions become in the private sector, the less time the government has to act or react as necessary. This multiplying effect results in a greater number of government actions required over a shorter period of time. As the frequency and speed of transactions that occur in the United States on a daily basis increase rapidly and consistently, the burden on, and attendant need for, governance is dramatically affected. With each government action, there is a requisite transaction cost. Costs incurred by government as it performs these necessary duties consequently affect the private sector in the form of cost of compliance with governmental regulations and potentially even lost business opportunities if the regulations prove cost prohibitive. From an economic perspective, the more profitable transactions the private sector can complete in a stated period of time, the more productive the economy. From a governance perspective, the more productive private sector transactions become, the greater the cost to, and burden on, government.

10. *Id.* at 17-18.

To best understand the sources of government transaction costs, it is helpful to grasp the concept of social transaction costs as “search and information cost, bargaining and decision cost, policing and enforcement cost.”¹¹ It is also useful to understand that, while the United States Constitution provides the basic framework under which the government must operate to accomplish the nation’s goals and aspirations, the Framers chose not to be too specific or restrictive and did not dictate how those goals were to be accomplished. The Preamble states that its purpose is “to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity.”¹² The Constitution then specifies and empowers the instrumentalities intended to facilitate these functions and creates the legislative, executive, and judicial branches of the government with checks and balances on the powers of each of the branches.¹³ The Framers wisely avoided directing specific mechanisms to achieve these ends, instead allowing each iteration of government to determine the most efficient and effective way to: (1) *gather and analyze* information about citizens’ needs; (2) *formulate* policies to meet those needs; (3) *create* mechanisms to implement chosen policies; (4) *disseminate* information to the citizenry about chosen policies; and (5) *police* compliance and enforce chosen policies to ensure fulfillment of the goal underlying the policies.¹⁴ Laws and regulations are the principal tools the government uses to accomplish these goals, and lawyers, judges, accountants, and bureaucrats have traditionally constituted the driving force behind the implementation, dissemination, and enforcement of policies formulated by Congress.

Of Dahlman’s three categories of social transaction costs, information gathering and analysis generates the highest costs, and necessarily so. Analysis is the key to gaining consensus as to public needs and the subsequent formation of corresponding policies that

11. This was Dahlman’s formulation of Transaction costs, of which Coase expressly approved. COASE, *supra* note 4, at 6 (citing Carl J. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 148 (1979)).

12. U.S. CONST. pmbl.

13. U.S. CONST. art. I, § 1, art. II, § 1, art. III, § 1.

14. *See, e.g.*, OFFICE OF MGMT. & BUDGET, SECTION 213 OF THE E-GOVERNMENT ACT REPORT TO CONGRESS: ORGANIZATIONS COMPLEMENTING FEDERAL AGENCY INFORMATION DISSEMINATION PROGRAMS 1-2 (2005), *available at* http://www.whitehouse.gov/omb/inforeg/section_213_report_04-2005.pdf [*hereinafter* SECTION 213 Report].

facilitate desired activities and discourage undesired activities. Furthermore, information gathering and analysis drives bargaining and decisionmaking costs as well as the cost of policing and enforcement of chosen policies. Disseminating information about those policies and implementing the necessary oversight is essential to achieving compliance with and integration of those policies. Additionally, in the United States, information handling costs are also related to intermediaries between information sources, policy makers and the citizenry. Principal categories of intermediaries are information reporters,¹⁵ lawyers, lobbyists, and their various methods of communication.

But today, “[t]he government faces new and intense pressure to [electronically] collect and use personal data [more effectively]. Much of that pressure reflects the conviction that greater reliance on digital data will reduce costs and enhance convenience, speed, efficiency, and accountability.”¹⁶ The development and use of electronic information, the accessibility of the World Wide Web, and the parameters and volume of information needed by the government for efficient operation of its principal tasks have increased exponentially. Advances and application of IT in the private sector have propelled the number, speed, and complexity of transactions in our society to the point where the cost of governance tasks could exceed the fiscal resources that society is willing or able to expend.¹⁷ This warrants a brief overview of the increase in government’s transaction costs.

1. Gathering and Analyzing Information

From history’s first town hall meetings, elected government officials have struggled with gathering sufficient, accurate, and current information needed to identify services, formulate public policies, and update or abolish outdated policies. The Framers recognized this basic governmental need for information when they inserted a constitutional mandate that a periodic census be taken to gather statistical information about United States citizens.¹⁸ However, in order to operate the young democracy, more was actually required than mere census information.

15. Historically, this group consisted of television and newspaper reporters, but in the past 20 years or so, this segment has increasingly consisted of bloggers and other nontraditional internet sources.

16. Fred H. Cate, *Government Data Mining: The Need for a Legal Framework*, 43 HARV. C.R.-C.L. L. REV. 435, 436 (2008).

17. See discussion *infra* Part III.D.

18. U.S. CONST. art. I, § 2.

A lack of regular interaction or direct communication between citizens and high-level government officials made local representatives crucial to the democratic process. By enlisting local representatives to serve as liaisons between the people and government officials, the government sought to gather and analyze information needed to make decisions on behalf of a growing and changing population using the most accurate and current information possible. The expectation was that citizens would provide sufficient information about their community needs to their representatives, and the representatives would consider that information when developing public policy.

As the population continued to grow, and social and economic activities became more rapid and complex, representatives became less able to gather and analyze information about the public and its needs. Today, the acceleration of transactions resulting from the private sector's adoption and use of IT has far outstripped the ability of representatives to gather and analyze the information needed (in form, volume, and timeliness) to determine the nation's needs, to formulate and update the necessary public policies, and to enforce those policies in order to ensure a productive and civilized society.¹⁹ These days, most of the information necessary to permit effective and efficient formation of public policy is available in electronic form, and can potentially be gathered in a matter of hours, if not minutes.²⁰ However, collating, analyzing, and effectively utilizing that information in a timely and economically feasible fashion appears to be a serious weakness of government.

In the past 200 years, thousands of federal, state, and local administrative agencies were created to perform information-gathering and analytic functions.²¹ These administrative agencies gave

19. See generally Antonio Cordella, *Transaction costs and information systems: does IT add up?*, 21 J. INFO. TECH. 192-202 (2006), available at <http://personal.lse.ac.uk/CORDELLA/publications.html>.

20. Some outlets are run by the federal government: See, e.g., United States Department of the Treasury, www.ustreas.gov (last visited Mar. 18, 2009); United States Patent and Trademark Office Homepage, www.uspto.gov (last visited Mar. 18, 2009) (allowing anyone to search patent, trademark, and copyright databases and initiate applications for all three types of intellectual property); United States Department of the Treasury, www.ustreas.gov (last visited Mar. 4, 2009). On the other hand, some websites are run by private companies. See, e.g., Gov.com, Making Government User-friendly-Government Information, www.gov.com (last visited Mar. 18, 2009) (aggregating various government websites); The New York Times, www.nytimes.com (last visited Mar. 18, 2009) (a national newspaper that has successfully transitioned onto the internet). The preceding four examples constitute a small fraction of the wealth of information outlets available over the internet.

21. See History of Administrative Agency,

birth to legions of bureaucrats who were tasked with determining the information to be gathered, the mechanisms with which to employ the undertaking, and the methods to analyze the information being gathered and synthesize their findings for the policy makers. As the creation of administrative agencies became more common and equally as necessary, the result was a dramatic increase in the number of government officials.²² The costs these agencies have added to social transactions have reached alarming levels.²³

The burden that this creates for government is best illustrated by viewing the government as a nodal network. A network requires that there be at least two nodes, and the capacity of a network is increased geometrically through accumulation of additional nodes.²⁴ One way of measuring a network's capacity is to quantify the number of connections it enables. For example, in a network consisting of nodes A and B, each node can make one connection (A-B and B-A). If a third node is added (C), then there are six possible outcomes (A-B, A-C, B-A, B-C, C-A, and C-B). If a fourth node is added, there are twenty possible network connections, and so on. Hence, the complexity of a four node network is ten times that of a two node network, and approximately three times that of a three node network. While federal, state, and local government can be characterized as independent sources of government, in reality they are three interdependent sources of government.²⁵ Each level needs to communicate by interacting within its own level, and with others. When any one of these levels of government creates or delegates any of its functions to an agency, it results in the addition of another node and a geometric increase in the need to communicate and interact. Every agency created (or node added) consumes time and energy, thereby increasing the costs of making inter-governmental contacts.²⁶ Each newly added agency also slows the process and delays government reaction.

<http://law.jrank.org/pages/4066/Administrative-Agency.html> (last visited Feb. 22, 2009) (giving a history of the creation of some of the major federal agencies).

22. See Paul C. Light, *The True Size of Government*, GOVERNMENTEXECUTIVE.COM, Jan. 1, 1999, <http://www.govexec.com/features/0199/0199s1.htm> (discussing the fact that the size of U.S. federal government has increased from 1969 to 1999 despite claims to the contrary).

23. The substantial costs to small cap companies of complying with the Sarbanes-Oxley Act (discussed *infra*) provides a recent illustration of this point. See 15 U.S.C. § 7262 (2006), which establishes some of the more onerous requirements associated with Sarbanes-Oxley.

24. Scott Burris, Michael Kempa & Clifford Shearing, *Changes in Governance: A Cross-Disciplinary Review of Current Scholarship*, 41 AKRON L. REV. 1, 13 (2008).

25. *Id.* at 26.

26. See E-Government Act of 2002, Pub. L. No. 107-347, 116 Stat. 2899, 2900 (2002).

In light of the number of agencies created, it is easy to see how this piecemeal approach to IT has served to further burden governance. As the government began to turn more to electronic means for its information functions, it

developed [information systems] on an agency-by-agency, or program-by-program basis. Each agency built their own system for a specific agency or program purpose, not to be connected across the agency or government to other systems. This phenomena has become known as the silo or stovepipe approach because the business and systems is viewed up and down and not across.²⁷

Due to existing constitutional, statutory, and public policy-based privacy protections, as well as the public's fear of a "big brother"²⁸ government,²⁹ most agencies have only limited ability to transfer gathered information to other agencies who need (or believe they need) the same information. The results of such limitations are that: (1) the private sector must report redundant information to multiple agencies;³⁰ (2) there is an increase in the volume and nature of reported information;³¹ (3) regulations and restrictions are placed on the administrative agencies' use of gathered information;³² and (4) in many cases, agencies are pigeon-holed into using decrepit information handling tools.³³ However, the failure or inability of government agencies to possess and use appropriate IT does not

27. Mark LeVigne, *Electronic Government: A Vision of a Future That is Already Here*, 52 SYRACUSE L. REV. 1243, 1248 (2002).

28. GEORGE ORWELL, 1984 (Harcourt Brace Jovanovich 1977) (1949). In Orwell's 1984 novel, citizens are constantly reminded that "Big Brother is Watching You." The term "Big Brother" has come to symbolize an overreaching government that pries into its citizens' personal affairs.

29. *Know-alls*, ECONOMIST, Sept. 27, 2008, at 73, available at http://www.economist.com/world/international/displaystory.cfm?story_id=12295455.

30. *Hearing Before the Subcomm. on Tech., Info. Policy, Intergovernmental Relations, and the Census of the H. Comm. On Gov. Reform*, 108th Cong. (2003) (statement of Mark A. Forman, Assoc. Dir. for E-Gov't and Info. Tech., Office of Mgmt. and Budget), available at <http://georgewbush-whitehouse.archives.gov/omb/legislative/testimony/forman031303.html>.

31. Cate, *supra* note 16, at 439.

32. *Id.* at 464-65 (detailing restrictions placed by the Privacy Act of 1974, 5 U.S.C. § 552a (2006); discussed *infra*).

33. For a striking example, see S. SELECT COMM. ON INTELLIGENCE & H.R. PERMANENT SELECT COMM. ON INTELLIGENCE, JOINT INQUIRY INTO THE INTELLIGENCE COMMUNITY ACTIVITIES BEFORE AND AFTER THE TERRORIST ATTACKS OF SEPTEMBER 11, 2001, S. REP. NO. 107-351, H.R. REP. NO. 107-792, at 341 (2002), available at <http://www.gpoaccess.gov/serialset/creports/pdf/fullreport.pdf> ("[B]ecause the [FBI] lacks effective data mining capabilities and analytical tools, it has often been unable to retrieve key information and analyze it in a timely manner—and a lot probably has slipped through the cracks as a result.").

prevent various special interest groups from obtaining information from public and other databases and performing sophisticated Web 2.0-type analyses.

Through lobbying efforts, powerful interest groups are granted agency and congressional support for their programs and policy designs.³⁴ While proper lobbying has merit in that it can provide the much-needed and sufficiently detailed level of analytic expertise, the prohibitive costs of such practices have the effect of crowding out viewpoints and skewing or mischaracterizing the needs held by the citizens and entities who do not wield the same financial resources or enjoy comparable political clout.³⁵ By relying on lobbyists to perform such information gathering and analysis functions, the government allows the opportunity for corruption of government and the political process through the manipulation of information to suit individual needs.

Lobbyists, who gather and provide information to the government for various vested interests, are now major participants in the representative government of the United States.³⁶ Originally, lobbyists performed the necessary task of gathering and analyzing information that enlightened representative government and alleviated some of the government's information burdens.³⁷ Lobbyists, however, have become contaminated as sources of information because of the special interest groups that they represent.³⁸ Organizations are motivated more by greed than the desire to inform government officials in order to afford them every opportunity to design effective and efficient public policy.³⁹ In essence, lobbyists have become bagmen for special interest groups that attempt to purchase influence within legislatures and have ceased to be champions of public need.

The lobbying system has also enabled incumbent politicians to escape their obligation to meaningfully inform themselves and their constituents of the full extent of an issue and independently form the most appropriate policy. Incumbent representatives encourage lobbyists (either directly or indirectly) to solicit large campaign contributions from their principals in exchange for preferential

34. Elisabeth Bassett, *Reform Through Exposure*, 57 EMORY L.J. 1049, 1062-63 (2008).

35. *Id.* at 1063.

36. *See id.* at 1062-63.

37. Vincent R. Johnson, *Regulating Lobbyists: Law, Ethics, and Public Policy*, 16 CORNELL J.L. & PUB. POL'Y 1, 17 (2006).

38. *Id.* at 12.

39. Bassett, *supra* note 33, at 1061.

treatment of their interests over what they might otherwise deserve.⁴⁰ For example, politicians have institutionalized rules that permit earmarking of funds to finance projects that benefit their large campaign contributors.⁴¹ Earmarking,⁴² as it has been practiced in the last decade, has made it possible for incumbents to reward their contributors, without the benefit of public debate or discussion by the legislative bodies of a project's merit (such as the not-so-hypothetical bridge to nowhere).⁴³ Instead of enhancing a competitive market for ideas, lobbyists have corrupted it.

Lastly, "pay-to-play" has driven the costs of election campaigns so high that only the very wealthy candidates, or those with unmerited access, have a chance of unseating an incumbent.⁴⁴ Legislatures have nearly ceased being an assemblage for debating competitive ideas and have become an auction for corruption that simply exacerbates partisan politics. It is ironic to think that the lobbying system arose from the need for a process to timely gather and analyze information so that legislatures might have that information in order to resolve important legislative issues. Today, IT offers the possibility to more efficiently gather, analyze, and make transparent the very information that made lobbyists necessary in the first place.

The primary goal of eGovernment is "[t]he gradual transformation of government business . . . on many levels."⁴⁵ As a solution to these obstacles, "[o]ne of the visions of e-government is to break down these [independent] silos, integrating business processes, service programs, and streamlining information management[.]"⁴⁶ in a way that will allow the government to reduce redundancies caused by having multiple systems of information that cannot communicate or are prevented from communicating; significantly reduce costs of information collection, analysis and distribution; minimize the corrupting effects of lobbyists; and, make government actions transparent, thereby reducing public fear of "big brother."

40. *Id.* at 1062.

41. *Id.* at 1061.

42. ROBERT KEITH, CONG. RESEARCH SERV., FEDERAL BUDGET PROCESS REFORM IN THE 110TH CONGRESS: A BRIEF OVERVIEW 6 (2008), available at <http://wikileaks.org/leak/crs/RL33818.pdf> ("[A]n earmark generally is considered to be an allocation of resources to specifically-targeted beneficiaries, either through earmarks of discretionary or direct spending, limited tax benefits, or limited tariff benefits.")

43. *Id.* at 1061-62.

44. Philip Sherwell, *The \$2 Billion Election*, TELEGRAPH (London), Jan. 08, 2007, <http://www.telegraph.co.uk/news/worldnews/1538810/The-2-billion-election.html>.

45. LeVigne, *supra* note 24, at 1248.

46. *Id.*

2. Formulating Appropriate Public Policies and Creating Mechanisms to Implement Them

Diverse transaction costs are associated with the formulation of public policy and the methods used to ensure their effective integration into the daily workings of society. Representatives formulate appropriate public policies to meet the needs of the citizenry and embody those policies in laws that govern the social and economic intercourse between citizens and other entities (both private and public). Ideally this involves weighing the interests of all citizens and entities, an undertaking that requires considerable time and effort. Policy makers necessarily use the information that the government has gathered and analyzed for this purpose. Once the task of formulating appropriate public policies through the collection and analysis of massive amounts of data is completed, the issue of implementing such policies must be addressed.

In the United States, the implementation of public policy is a function of the executive branch.⁴⁷ The executive branch commonly creates administrative agencies that implement legislated public policies.⁴⁸ These agencies formulate regulations that embody specific explanations and examples of the legislature's intent and provide more guidance as to how to comply with new or modified laws.⁴⁹ Effective communication of the legislative intent and compliance guidelines requires skillful legal drafting.⁵⁰

After statutes and regulations are promulgated, disputes often arise as to their precise meaning and application. Dispute resolution regarding the meaning of statutes, rules, and regulations in this more complex society creates a huge burden on the judicial branch of government.⁵¹ A high percentage of the total cost of judicial dispute resolution is consumed by lawyers' fees for gathering, analyzing, and

47. U.S. CONST. art. II, § 2.

48. Edward L. Rubin, *Law and Legislation in the Administrative State*, 89 COLUM. L. REV. 369, 373 (1989).

49. *Id.* at 369.

50. For example, with more than 150 administrative agencies producing 8,000 new rules in any year, there are, at any given time, over 500 proposed regulations open for comment. Rob Thormeyer, *Information Overload a Potential Problem for FDMS*, GOV'T COMPUTER NEWS, Dec. 6, 2005, <http://gcn.com/articles/2005/12/06/information-overload-a-potential-problem-for-fdms.aspx>. E-government eases the public's ability to comment on these rules. However, for e-government to succeed, these same agencies must develop and implement technology that analyzes the comments.

51. See, e.g., NAT'L JUDICIAL COLL., JUDICIAL SURVEY: ELECTRONIC FILING IN U.S. STATE TRIAL COURTS 2 (2005), available at <http://www.lexisnexis.com/efiling/NJC-E-filing-Survey-060705.pdf>.

interpreting the information necessary to arrive at a just result.⁵² Indeed, as demonstrated by the results of a survey taken by a large corporate legal department, the volume and costs of electronic record discovery required by the judiciary is of great concern.⁵³

Distress caused by the volume of information that judicial bodies and litigants create and process has resulted in some change in rules governing electronic discovery.⁵⁴ Some courts, in an effort to comply with constitutionally required public access laws, are now providing on-line access to court records.⁵⁵ This has led to increased judicial staffing costs since warm bodies are needed to store and retrieve those public records. Furthermore, these developments have effectively turned courts into publishers, which is a significant addition to the courts' traditional function. This new function presents unique issues of its own, such as how easily accessible the information should be online. For instance, "[a]cross the nation, the debate about privacy and public documents is percolating at the local level as state governments consider reining in counties that are posting troves of documents on the Web."⁵⁶ Formulating and implementing public policy in a complex and expanding society under current conditions affects all branches and levels of government.

3. Disseminating Information about Public Policies

Until the creation of the World Wide Web, the most feasible way to disseminate laws and regulations was through bound volumes. These books were distributed to public and private libraries, where they were, in theory, available to the public. At best, public libraries are passive retailers of information and often create obstacles to public availability. One has to be a member of a library, travel to the

52. In the Judiciary, judges are facing an ever increasing deluge of cases and paperwork to review making it difficult for judges to keep up with the burden. *See id.*

53. FULLBRIGHT & JAWORSKI L.L.P., SECOND ANNUAL LITIGATION TRENDS SURVEY FINDINGS 7 (2005), available at <http://www.fulbright.com/mediaroom/files/FJ0536-US-V13.pdf>.

54. K&L Gates, Electronic Discovery Law, <http://www.ediscoverylaw.com/2008/10/articles/resources/updated-list-local-rules-forms-and-guidelines-of-united-states-district-courts-addressing-ediscovery-issues> (Oct. 24, 2008). In a recent litigation, author William Fenwick's firm Fenwick & West had over 30 terabytes (that is over 30 trillion bytes) of discovery data in over 106 million files. If one digitized all the volumes in the Library of Congress, the resulting database would be 10 terabytes.

55. *See, e.g.,* Jennifer Lee, *Dirty Laundry, Online for All to See*, N.Y. TIMES, Sept. 05, 2002, <http://query.nytimes.com/gst/fullpage.html?res=9A04E4D9173EF936A3575AC0A9649C8B63>.

56. *Id.*

library, locate where the volumes of information about laws and regulations are stored, and then “thumb” the indexes of volumes to find the relevant law among many millions of pages.⁵⁷ As described earlier, even if one finds the applicable statute or regulation, one still encounters the problem of determining its meaning, which may or may not be found in many more millions of pages of judicial and administrative decisions.⁵⁸

An alternative distribution method for disseminating legislatively approved public policies and deciphering their meanings was through the specialized analysis of lawyers. Lawyers took on the task of advising the citizens about the content and special meanings of the terms of art used in the laws and the regulations. Thus, the government became largely dependent on lawyers for meaningful dissemination of statutes, regulations, and information about their consequence and application. As a result, there has been a great demand for lawyer-intermediaries, which has been responsible in large part for the United States having the highest number of practicing lawyers per capita of any nation.⁵⁹ The proliferation of lawyers, in turn, greatly increased the social transaction costs for meaningful distribution of public policy.⁶⁰

4. Enforcement and Policing Compliance

The last of the social transaction costs identified by Coase and Dahlman are policing and enforcement costs. Policing compliance with laws and regulations has also fallen to administrative agencies,⁶¹

57. Public libraries are, however, becoming reliable vehicles for access to the Internet as 99% of the citizenry can access the internet at a public library. SECTION 213 Report, *supra* note 14, at 16.

58. A simple example will illustrate the magnitude of this point. There have been roughly 1,500 volumes of the Federal Reporter published since 1924, and roughly 1,500 volumes of the Federal Supplement published since 1932. Each of these volumes averages roughly 1,200 pages (volume size generally increases over time). Multiply 3,000 by 1,200 and the result is 3.6 million pages of potential legal precedent. Add that to U.S. Supreme Court materials, the U.S. code, state law case reporters, state law codes, Congressional materials, and then add in the regulations promulgated by 150 or so U.S. administrative agencies. The amount of information involved is staggering, and most of it is not available to non-lawyers without additional effort beyond a regular trip to the public library.

59. See Marc Galanter, *News From Nowhere: The Debased Debate on Civil Justice*, 71 DENV. U. L. REV. 77, 79-80 (1993).

60. The practical result is that this limits legal access only to citizens who consult with (read: can afford) lawyers.

61. See, e.g., Dan Lips & Evan Feinberg, *The Administrative Burden of No Child Left Behind*, HERITAGE FOUND. (Mar. 23, 2007), <http://www.heritage.org/research/education/wm1406.cfm> (discussing how implementation of the No Child Left Behind Act has fallen to state and local agencies).

while enforcement has fallen to government bodies tasked with the enforcement of criminal laws and to lawyers who use the courts and other adjudicative bodies as final arbiters.⁶² It is fair to say that administrative agency bureaucrats and lawyers are taking less kindly to the increased availability of electronic information than are other citizens. They are reluctant to accept that they are as susceptible to disintermediation as are book stores, newspapers, reporters, and most other lines of business. With the power of new electronic information to increase the value of services comes a fear that since time is what is paid for, more efficient use of the tools will reduce the industry's revenue.

There is an argument to be made that costs generated by policy makers, information processors, and other intermediaries, in addition to costs generated by the performance of governmental services, have created "big government." Some believe the way to cut these costs is to starve the government by cutting off financial resources and terminating certain government provided services.⁶³ Another view holds that depriving the government of resources would diminish the attractiveness of democratic institutions generally and would also diminish the United States' ability to compete politically and economically in the global community.⁶⁴ Moreover, the size and complexity of life in the United States requires expansion of the government's ability to gather and analyze information. As discussed above, information handling generates significant transaction costs in preserving and maintaining societal structure. The government's functions are dependent on gathering and analyzing information, formulating public policy, preparing the laws and regulations embodying the public policy, and disseminating the laws and regulating to the public.

So what is the solution to such rising transaction costs?

62. One example of this is that the SEC has increased its IT budget 37% per year from 2002 to 2005 (from \$47m to \$113m) in an effort to better regulate securities markets. Alison Sahoo, *SEC Increases Use of Tech to Monitor Industry*, IGNITES, Nov. 3, 2005, http://ignites.com/articles/20051103/increases_tech_monitor_industry.

63. See, e.g., Marc Ransford, *Consolidating Local Government Agencies Could Save Hundreds of Millions of Dollars*, BALL STATE UNIV. NEWSCENTER, Jan. 26, 2009, <http://www.bsu.edu/news/article/0,1370,-60951,00.html>.

64. See, e.g., Evan Mills et al., *Cutting Government Programs to Save Energy Overlooks Benefits*, L.A. TIMES, Sep. 10, 1995, at D2, available at <http://eetd.lbl.gov/emills/PUBS/opedlatimes.html> (describing what could amount to billions in losses to poor taxpayers if the government cuts energy efficiency programs).

III. THE SOLUTION IS EGOVERNMENT

A. *What is eGovernment?*

A comprehensive description of eGovernment states that, “[e]-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government.”⁶⁵ It is important to note that, “[t]hese technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.”⁶⁶ Similar to the concept of eCommerce, which allows business entities to transact with each other and their customers more efficiently, eGovernment “aims to make the interaction between government and citizens . . . , government and business enterprises . . . , and inter-agency relationships . . . more friendly, convenient, transparent, and inexpensive.”⁶⁷ While many of the technologies and implementation issues involved are the same or similar to those in the private sector, others are specialized or unique to the demands of government.

B. *A Bit of eGovernment History*

Before the 1950s, paper was the primary medium for recording interactions between citizens and government entities. Because record keeping was manual and took more space, it operated as a disincentive to keeping excessive amounts of information. Over the last few decades, relatively few records have been created or stored in a paper medium in normal private sector business transactions.⁶⁸ ARMA International, a nonprofit information management authority, “estimates more than 90 percent of records created today are electronic—which includes formats from digital media, such as DVDs

65. World Bank, Definition of eGovernment,

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/EXTGOVERNMENT/0,,contentMDK:20507153~menuPK:702592~pagePK:148956~piPK:216618~theSitePK:702586,00.html> (last visited Mar. 20, 2009).

66. *Id.*

67. *Id.*

68. This shift is ubiquitous across the public and private sectors, so much so that the point requires no further elaboration.

and CDs, to scanned documents and e-mail correspondence—and emerging technologies continue to have an impact.”⁶⁹ In fact:

[a]ccording to an October 2000 UC Berkeley study, 95% of all information is digital in origin, but up to half of that is never printed out (a recent white paper by John Tredennick, CEO of CaseShare, suggests it is more like 70%), especially emails . . . , a unique means of communication where often the most candidly stated and important information can be found.⁷⁰

In the three decades preceding the 1990s, advocates of automated information handling in the private sector have touted productivity increases and cost savings that come from the application of computers.⁷¹ It was not until the 1990s that these promised benefits have begun to be realized in a meaningful way. For instance,

[e]lectronic records have assisted in the speed of communication . . . eliminating the need for slower moving faxes or postal services. Electronic records also provide cost and space savings as they can be stored by the thousands in the same space needed to store a handful of paper files.⁷²

In hindsight, however, during those critical years the government failed to adequately recognize or plan for the disruptive impact that the widespread adoption of IT in the private sector would have on its ability to gather and effectively process the increased volume of information. As members of the private sector understood:

[w]hile the benefits [of information technology] are significant, electronic media can change at an alarming rate resulting in incompatible software or obsolete hardware. If a storage system is outdated, electronic records can be compromised. Similarly, individuals unfamiliar with the software may have difficulty obtaining electronic records. Also, transferring to electronic formats can be costly requiring multiple file conversions, document scanning, electronic indexing, purchasing software and hardware,⁷³ overall storage system maintenance and additional staff training.

69. Systec, *The Ongoing Debate: Paper vs. Electronic Records*, http://systecgroup.com/document_management_basic_08.htm (last visited Mar. 20, 2009).

70. LARRY G. JOHNSON, *WHY ELECTRONIC DOCUMENTS TRUMP PAPER DOCUMENTS 2* (2003), available at <http://www.dojotechnology.com/pdf/WhyEdoxTrumpPaper.pdf>.

71. See, e.g., Watchit.com, *The Business Benefits of Information Management*, http://www.watchit.com/PGDSCR.cfm?c_acronym=DBS1 (last visited Mar. 20, 2009) (touting large improvements to be had from IBM's Information Management Strategy).

72. Systec, *supra* note 69.

73. *Id.*

These disruptive impacts began during the 1970s and, among other things, have resulted in: (1) great acceleration of social and economic transactions; (2) reallocation of capital and labor components; (3) increasing the speed and complexity of social and economic activity; (4) a rise in the required skills of the average person to maintain or improve their standard of living; (5) and an explosion in the amount of information and skill required of citizens to manage their everyday lives.⁷⁴

On one hand, the increase in efficiency of information-handling generated by the adoption of IT in the private sector has increased the burden placed on governance through the acceleration of social and economic transactions.⁷⁵ On the other hand, IT use in the private sector has created, and continues to sustain, many of the capabilities and other systems currently thought to be essential to the continued economic growth necessary to maintain satisfactory living standards and conditions in the United States.⁷⁶ There is persuasive evidence that, without the increased productivity brought about by IT, the standard of living in the United States would drop.⁷⁷ Regardless of the growth of government, the increasing deficiencies in government's information handling capabilities, and therefore government's ability to timely and effectively react to changing conditions, have become

74. David P. Fidler, Symposium Introduction, *The Internet and the Sovereign State: The Role and Impact of Cyberspace on National and Global Governance*, 5 IND. J. GLOBAL LEG. STUD. 415 (1998) (discussing different theories on the effect of the internet revolution).

75. 44 U.S.C. § 3501(1) (2005) (stating that one goal of the E-Government Act of 2002 is to "minimize the paperwork burden for individuals, small businesses, educational and nonprofit institutions, Federal contractors, State, local and tribal governments, and other persons resulting from the collection of information by or for the Federal Government"); See, e.g., NYSE, New York Stock Exchange, http://www.nyse.com/about/history/timeline_chronology_index.html (last visited Mar. 20, 2009) (giving numbers of shares traded daily on NYSE at various times: in 1953 total volume exceeded 900 thousand; in 1961 total volume exceeded 4 million; in 1982 total volume exceeded 100 million; in 1992 total volume doubled to 200 million; in 2001 total volume exceeded 2 billion); Insurance Information Institute, ATM, <http://www.iii.org/financial2/technology/atm/> (last visited Mar. 20, 2009) (stating that there were 406,000 ATMs in US as of 2008 since introduction in the mid 1970s).

76. Dale W. Jorgenson, *Information Technology and the U.S. Economy*, 91 AM. ECON. REV. 1, 1 (2001).

77. *Federal Reserve Board's Semiannual Monetary Policy Report to the Congress: Before the S. Comm. on Banking, Housing, and Urban Affairs*, 109th Cong. (2005) (testimony of Alan Greenspan, Fed. Reserve Chairman), available at <http://www.federalreserve.gov/boarddocs/hh/2005/february/testimony.htm>. See also Martin Hutchinson, *Worse than the Great Depression*, PRUDENTBEAR.COM, Dec. 8, 2008, http://www.prudentbear.com/index.php/commentary/bearsclair?art_id=10160.

blatantly clear by the inability of government to avoid economic and other crises.⁷⁸

C. What are the Objectives of eGovernment?

Stated generally, the objective of eGovernment is to modify government infrastructure to eliminate excessive costs⁷⁹ and glacial reaction times. Statements posted on federal, state, and local government web sites suggest that the number one objective of eGovernment is to increase direct contact between citizens and businesses on the one hand and government on the other.⁸⁰ Stated differently, the goal is to minimize or eliminate delays and intermediaries between citizens or businesses and the government that increase the costs and slow down the delivery of government services.⁸¹ The goal of eGovernment is to decrease the transaction costs of governing.

The first Presidential administration that really “got IT” was the Clinton administration.⁸² At the end of that administration’s second term, the United States was the world leader⁸³ in progress towards eGovernment. Although subsequent administrations have adopted most of the same objectives regarding eGovernment, their words have been much louder than their actions.⁸⁴

78. David Brooks, *The Post-Lehman World*, N.Y. TIMES, Sept. 19, 2008, at A19.

79. Recently, the SEC announced its intention to update its Edgar System to reduce the cost and inefficiencies of its current system, which requires the manual input of information. Tom Lewsing, *New SEC Technology a Double Edged Sword*, IGNITES, Nov. 23 2005, available at http://www.ignites.com/articles/20051123/technology_double_edged_sword.

80. The government’s goals are centered on providing services and information directly to the citizenry. About E-GOV, <http://georgewbush-whitehouse.archives.gov/omb/egov/g-1-background.html> (last visited Mar. 20, 2009).

81. William A. Fenwick & Robert D. Brownstone, *Electronic Filing: What is it? What are its Implications?* 19 SANTA CLARA COMPUTER & HIGH TECH. L.J. 181, 212-14 (2002); E-GOV, *supra* note 80.

82. The White House, *The Clinton-Gore Administration: Leadership for the New Millennium—A Record of Digital Progress and Prosperity*, http://clinton5.nara.gov/library/hot_releases/January_16_2001_3.html (last visited Mar. 20, 2009); See Susan Page, *Fed-aid Going On-line?*, USA TODAY, Feb. 10, 1997, at 01A (noting the Clinton White House’s announcement to provide essential governmental services online by 2000); Peter Leyden, *Dawn of a Second Renaissance; Like the Printing Press, Digital Technologies Could Revolutionize Government, Education and Culture*, STAR TRIB. MINNEAPOLIS, June 15, 1995 (noting that that Clinton Administration placed over 100,000 government documents on the Internet).

83. ROBERT D. ATKINSON, UNSATISFACTORY PROGRESS: THE BUSH ADMINISTRATION’S PERFORMANCE ON E-GOVERNMENT INITIATIVES 1 (2004), available at http://www.ppionline.org/documents/EGovt_1014.pdf

84. *Id.* at 1-3.

Imagine the following scenario: what if the government's information needs were met by outsourcing the input of required information into the information sources? The information sources, via the Internet and various government websites, key the information into electronic form, which, in turn, automatically tag it using markup language that is communicated between computers, recognized and processed by all systems used at all levels of government (and myriad agencies that have been created by those levels of government). Imagine further that those government systems are programmed to: (1) analyze the information; (2) identify and communicate the implications of the information to policy makers and regulators; (3) communicate the policies determined to be appropriate to policy implementers; (4) advise and coordinate the implementation with all government agencies involved; (5) update all the government records that require updating; and (6) advise the public (and, in an aggregated form, all the policy making entities) of actions taken. Consider what this scenario could mean for the transaction costs of government.

D. Another Way: eGovernment

The issues described thus far are not new, and some have been recognized as real problems for decades. Private sector entities have experienced the same problems that government now faces. The difference is that the private sector, in order to increase efficiency and decrease the time and expense of such exchanges, has expended meaningful resources to make its exchange capabilities more efficient, while the government has shown no such motivation. The ability of private entities to create virtual relationships between themselves and their constituencies—be they sources, assemblers, distributors, retailers, employees, customers, or shareholders—has resulted from the harnessing of the Internet and markup languages,⁸⁵ such as XML⁸⁶ and its predecessors and derivatives, to create “web services.”⁸⁷

85. A markup language specifies how text gets processed, defined, and presented. The markup language specifies codes for layout and formatting, which are typically contained within a text file. HyperText Markup Language (HTML) is one common example. What is markup language?, http://www.webopedia.com/TERM/M/markup_language.html (last visited Mar. 27, 2009).

86. Norman Walsh, A Technical Introduction to XML, XML.COM, Oct. 3, 1998, <http://www.xml.com/pub/a/98/10/guide0.html?page=2> (“A markup language is a mechanism to identify structures in a document. The XML specification defines a standard way to add markup to documents.”).

87. Internet.com describes “web services” as:

Markup Language is crucial to eGovernment because part, but not all, of the information collected by each government agency is communicated to a number of other government and private entities. Moreover, the number of potential recipients increase with the creation of a new agency or results in additional tasks being delegated to existing agencies. If the reader is curious about how many such transfers occur in the federal government, a ball park figure can be estimated by reading the thousands of privacy notices published by federal agencies.⁸⁸ One can get a more limited sample of the information transferred to various state and local governments in those notices by reading the Code of Federal Regulations.⁸⁹

A simple private sector illustration of the use of markup language may help. When an individual buys a pair of shoes, information about the shoe purchase is generated when the sale is rung up at the retailer. Without being re-keyed or further manipulated, information needed for creating and transporting the replacement shoes can be routed to each entity involved. The transmission can activate order entries for raw material suppliers, manufacturers, warehouses, and transporters. When the information is sent, computers automatically route relevant information to the appropriate entity by selecting the tags identifying information needed by the separate entities and generating and routing the needed information to the various entities. Ringing up the transaction at the retailer's cash register also handles all of the record-keeping required for every entity involved (including reports to government agencies for tax and other purposes). The time it takes to transfer the information, activate the involved entities, and create the records is measured in units smaller than a millionth of a second.

Each administrative agency desires to control information tagging in order to maintain or increase leverage.⁹⁰ More recently,

a standardized way of integrating Web-based applications using the XML, SOAP, WSDL and UDDI open standards over an Internet protocol backbone. XML is used to tag the data, SOAP is used to transfer the data, WSDL is used for describing the services available and UDDI is used for listing what services are available.

What is Web services?, http://www.webopedia.com/TERM/W/Web_services.html (last visited Mar. 20, 2009).

88. These notices have been published online by the Government Printing Office since 1995. See Privacy Issuances: Main Page, <http://www.gpoaccess.gov/privacyact/index.html> (last visited Mar 20, 2009).

89. 5 C.F.R. pt. 1302 (2008).

90. Niva Elkin-Koren, *Cyber Law and Social Change: A Democratic Approach to Copyright Law in Cyberspace*, 14 CARDOZO ARTS & ENT. L.J. 215, 238-39 (1996).

various government entities have made efforts to agree on tags to be used for each information element within an agency.⁹¹ But only insignificant progress has been made toward inter-agency agreement, and even less between the multiple levels of government or between multiple agencies within the same level of government. It is no surprise that federal, state, and local governments lag further and further behind in the information tracking business.

When the United States government began using computers, each agency developed its own electronic form to be completed by a reporting entity.⁹² Since one could assume that many reporting entities may need to report to multiple agencies, those reporting entities would conceivably have to complete multiple forms to comply with the various agencies' reporting requirements. This could create enormous duplication in form preparation and filing. If processing by one agency generates reports to be used by other agencies, these reports would have to be printed out or sent as electronic documents. The most obvious method of transferring information from one entity's computer systems to another entity's computer systems requires that information be re-keyed.⁹³

Early efforts to directly transfer information from one computer to another using electronic data interchange (EDI)⁹⁴ met with limited success. These initial electronic transfers required rigid fixed formats by the sender and the receiver, and both parties had to strictly observe formatting requirements.⁹⁵ Electronic transfer of records required not only that the fields in the record be fixed in length, but that the sequence of the fields be fixed as well.⁹⁶ For instance, transferring a

91. The U.S. government has its own website listing the various agencies using XML, along with various guidelines for ensuring that each agency is using standard nomenclature. XML.gov, Registered Efforts, <http://xml.gov/efforts.asp> (last visited Mar. 7, 2009).

92. See, e.g., U.S. Department of Education, FAFSA—Free Application for Federal Student Aid, <http://www.fafsa.ed.gov> (last visited Mar. 27, 2009); U.S. Social Security Administration, Social Security Online—The Official Website of the U.S. Social Security Administration, <http://www.ssa.gov> (last visited Mar. 27, 2009); U.S. Department of Labor, Occupational Safety and Health Administration, <http://www.osha.gov> (last Mar. 27, 2009).

93. However, there are some efforts afoot through the Office of Management and Budget to correct this problem. See generally OFFICE OF MGMT. & BUDGET, EXPANDING E-GOVERNMENT: PARTNERING FOR A RESULTS ORIENTED GOVERNMENT (2004), available at http://www.whitehouse.gov/omb/budintegration/expanding_egov12-2004.pdf.

94. What Is EDI?, <http://www.webopedia.com/TERM/e/EDI.html> (last visited Mar. 20, 2009) (“[EDI is s]hort for *Electronic Data Interchange*, the transfer of data between different companies using networks, such as VANs or the Internet.”).

95. Alan Kotok, *EDI, Warts and All*, XML.COM, August 4, 1999, <http://www.xml.com/lpt/a/550>.

96. *Id.*

record about an entity or citizen using EDI meant there had to be agreement on the number of characters that could be used in the first name field, the number of characters in any middle name field, and the number of characters in the last name field. The sequence of those fields likewise had to be the same (for example, the last name must be placed in last of the three fields). There also had to be agreement about how some information was going to be represented—whether the birth date was to be alphanumeric or numeric only, and if numeric whether the month was to be two digits and placed in the first two characters of the field, and whether the year was to be stated in four digits or two. If codes were used, everyone had to agree and use the same codes. A single mistake in any field could convert information in the remaining fields to gibberish.⁹⁷

As stated in Part II, collection of information is one of many essential government tasks. Most individuals are called upon to provide information, and government entities exchange much of the information collected, including the results of information processing. Often, a significant portion of the information individuals are required to provide is redundant. Each time, the redundant information is keyed or otherwise entered into the collecting agency's recordkeeping system. The point is that government agencies collect voluminous information⁹⁸ which they proceed to exchange with other government agencies.

Private industry has applied the EDI protocols to automate transfers of standard forms like purchase orders, order acknowledgements, payments, etc.,⁹⁹ but government agencies have not fared as well. A significant limitation of EDI is that the information from all fields in a record must be extracted and a new record created before forwarding to a third computer system and identification of the data element is dependent on its location within a record.¹⁰⁰ Later efforts led to the innovation of markup language (discussed above) which permitted use of tags to identify the data

97. See generally NIST, FEDERAL INFORMATION PROCESSING STANDARDS PUBLICATION 161-2: ELECTRONIC DATA INTERCHANGE (1996), available at <http://www.itl.nist.gov/fipspubs/fip161-2.htm>.

98. See Jennifer E. McCarthy, Note, *Commerce Business Daily is Dead: Long Live FedBizOpps*, 31 PUB. CONT. L.J. 513, 515, 520, 532 (2002). A business owner quoted in McCarthy's article stated that "[t]here are far too many government . . . websites to keep up with and access daily." *Id.* at 527.

99. See Kotok, *supra* note 95.

100. *Id.*

elements.¹⁰¹ It requires that all the senders and receivers agree to a standard set of tag names (for example, “1st name” rather than “first name”); but markup language is a revolutionary innovation.

Consider the efficiency benefits of such seamless communication within and between government bodies. Dating back to the 16th Century, most of the meaningful contacts within, and between, governments required a written document before actions were taken. Initially the writing was script, with a later transition to print. Both the written and printed information had to be delivered by hand or post and later by telegraph or cable. At some point, when volume demanded and technology permitted, the communication took the form of a report created on a word processor or computer. The report was printed out and delivered again by hand or post and, more recently electronically, but in many instances the recipient still printed the documents.¹⁰² With eGovernment, these arduous processes are no longer necessary because eGovernment can facilitate the reduction, if not elimination, of information collection redundancies caused by manual transmission of data.

IV. HURDLES TO EGOVERNMENT

A. *The Hurdles*

1. Transaction Costs and Privacy Concerns

eGovernment comes with its own transaction costs—both feared and realized, intentionally created and negligently incurred—in the form of privacy and security breaches.¹⁰³ Private sector use of IT to reduce certain transaction costs has been fraught with increases in other transaction costs, namely policing and enforcement costs due to consumer identity theft, corporate security breaches, and other

101. A tag at the beginning and end of a data element made element identification possible regardless of where it was located in a record. For instance, the first name of a person had a tag at the beginning and the end that identified the data element as the “first name” and it made no difference if it was located before or after the person’s last name. By inserting tags for each data element, various data elements in a record could be transferred to multiple computers sequentially or simultaneously and be entered directly with no re-keying or delay. Walsh, *supra* note 86.

102. See Steven Domanowski, Comment, *E-Sign: Paperless Transactions in the New Millennium*, 51 DEPAUL L. REV. 619, 620 (2001).

103. See, e.g., U. S. GOV’T ACCOUNTABILITY OFF., REPORT TO CONGRESSIONAL REQUESTERS: PERSONAL INFORMATION 5 (2007), available at <http://www.gao.gov/new.items/d07737.pdf>. The GAO report states that there were over 570 reported security breaches involving personal information from January, 2005 to December, 2006.

intentional and accidental violations of privacy. Much of eGovernment implementation is about gathering, cleaning, and sharing citizen data. Consequently, in this era of privacy mishaps and security breaches, implementing eGovernment will require not only more convincing protection for citizen data, but also a simultaneous relaxing of federal restrictions on the governmental use of such data.

The federal government attempted to address the privacy implications of federal government data banks and government technology in the Privacy Act of 1974 (Privacy Act), which applied principally to the federal government's handling of citizens' private information.¹⁰⁴ The federal government has since enacted a patchwork of additional privacy regulations of varying effect that apply to a range of acts and actors in the private sector.¹⁰⁵ All states have also enacted bills regulating the use of information about their citizens.¹⁰⁶ But the Privacy Act, still the principal law of the land protecting citizen data from federal government use and misuse, is both too protective of citizens to enable eGovernment and too lax to give businesses and citizens confidence that their data will be protected.

Congress passed the Privacy Act in response to concerns about how the creation and use of computerized databases might impact individuals' privacy rights.¹⁰⁷ The Privacy Act takes a combined procedural and substantive approach to tackle four basic policy objectives: (1) to restrict *disclosure* of personally identifiable records maintained by agencies; (2) to grant individuals increased rights of *access* to agency records containing their information; (3) to grant individuals the right to seek *amendment* of agency records containing

104. See The Privacy Act of 1974 § 3, 5 U.S.C. § 552a(e) (2006); See also ARTHUR A. BUSHKIN & SAMUEL I. SCHAEN, THE PRIVACY ACT OF 1974: A REFERENCE MANUAL FOR COMPLIANCE 1-4 (1976). State and local governments are generally not covered by the Privacy act. See e.g., Dittman v. California 191 F.3d 1020, 1026 (9th Cir. 1999) (stating that the Privacy Act "is specifically limited to agencies of the United States Government."); Daniel v. Safir, 175 F. Supp. 2d 474, 481 (E.D.N.Y. 2001) (dismissing plaintiff's Privacy Act claims against the FDNY). Private entities are also typically exempt. See, e.g., Sutton v. Providence St. Joseph Med. Ctr., 192 F.3d 826, 844 (9th Cir. 1999) (dismissing Privacy Act claims against a hospital).

105. See, e.g., Credit Reporting Act § 602, 15 U.S.C. § 1681 (2006); Gramm-Leach-Bliley Act § 501, 15 U.S.C. § 6801 (2006); Right to Financial Privacy Act § 1101, 12 U.S.C. § 3401 (2006); Family Educational Rights & Privacy Act of 1974 § 513, 20 U.S.C. § 1232g (2006); Computer Matching and Privacy Protection Act of 1988 § 2, 5 U.S.C. § 552a(p) (2006).

106. ROBERT ELLIS SMITH, COMPILATION OF STATE AND FEDERAL PRIVACY LAWS 2 (2002 ed.). The Electronic Privacy Information Center (EPIC) follows many of the state and federal issues and activities relating to electronic privacy and shares information on its web site. Electronic Privacy Information Center, <http://www.epic.org/> (last visited Mar. 21, 2009).

107. U.S. Dep't of Justice, Overview of the Privacy Act of 1974, 2004 edition, <http://www.usdoj.gov/oip/1974polobj.htm> (last visited Mar. 21, 2009).

their information upon a showing that the records are not accurate, relevant, timely, or complete; (4) and to establish a code of “*fair information practices*” that requires agencies to comply with statutory norms for collection, maintenance, and dissemination of records.¹⁰⁸ But any legislative regime implementing a thriving eGovernment must successfully encompass two attributes that are in tension with one another: it must give the government enough flexibility in its use and transfer of data to minimize transaction costs, and it must balance this against the need to protect data collected from individual citizens. The Privacy Act falls short of both marks in that it restricts the governmental use and aggregation of data (effectively prohibiting the most effective technique for minimizing transaction costs), yet its data-handling rules are too weak to protect, or to even give the appearance of protecting, citizen data.¹⁰⁹

2. Restrictions on Matching and Disclosure Preclude eGovernment’s Greatest Potential Gains

The potential decreased transaction costs and gains in efficiency from eGovernment will accrue from sharing information between agencies, and across purposes. In this endeavor, markup language is crucial to eGovernment. Without a standard markup language, one agency’s record of a person remains separate and unrelated to another agency’s record of the same person. This deficiency hinders cooperation among agencies and forces repeated data re-entry along with all of its accompanying errors and other problems. The same can be said for information within an agency that was collected at separate times, for separate purposes, and using separate software.

The first step toward efficiency in data-handling is to cleanse and merge existing data. An industry of consultants and tools has evolved to address this cross-sector need.¹¹⁰ This would require sharing, comparing, marking, and cleansing of individuals’ data across the hundreds of federal government databases containing information about individuals—a process that is exactly what the Privacy Act was designed to prevent. Under a strict interpretation of the Privacy Act, data cannot be shared between agencies. With twelve original

108. *Id.*

109. See Jonathan C. Bond, *Defining Disclosure in a Digital Age: Updating the Privacy Act for the Twenty-First Century*, 76 GEO. WASH. L. REV. 1232, 1236 (2008).

110. See, e.g., Jonathan Gennick, *XQuery Flowers*, ORACLE MAGAZINE, Sept.–Oct. 2005, available at <http://www.oracle.com/technology/oramag/oracle/05-sep/o55xquery.html> (last visited Mar. 21, 2009) (describing Oracle’s 10g Release 2 product for merging XML documents with relational databases).

exceptions, the Privacy Act is a blanket prohibition on disclosure of an individual's records.¹¹¹ Efficiency was not one of the original twelve exceptions.

The potential for efficiency gains was so appealing that in 1988 Congress passed the Computer Matching and Privacy Protection Act of 1988 (Matching Act), amending the Privacy Act¹¹² to permit certain types of "computer matching"¹¹³ under some very specific

111. The twelve exceptions include disclosures to:

- (1) to those officers and employees of the agency which maintains the record who have a need for the record in the performance of their duties;
- (2) required under section 552 of this title [5 USC § 552];
- (3) for a *routine use* as defined in subsection (a)(7) of this section and described under subsection (e)(4)(D) of this section;
- (4) to the Bureau of the Census for purposes of planning or carrying out a census or survey or related activity pursuant to the provisions of title 13;
- (5) to a recipient who has provided the agency with advance adequate written assurance that the record will be used solely as a statistical research or reporting record, and the record is to be transferred in a form that is not individually identifiable;
- (6) to the National Archives and Records Administration as a record which has sufficient historical or other value to warrant its continued preservation by the United States Government, or for evaluation by the Archivist of the United States or the designee of the Archivist to determine whether the record has such value;
- (7) to another agency or to an instrumentality of any governmental jurisdiction within or under the control of the United States for a civil or criminal law enforcement activity if the activity is authorized by law, and if the head of the agency or instrumentality has made a written request to the agency which maintains the record specifying the particular portion desired and the law enforcement activity for which the record is sought;
- (8) to a person pursuant to a showing of compelling circumstances affecting the health or safety of an individual if upon such disclosure notification is transmitted to the last known address of such individual;
- (9) to either House of Congress, or, to the extent of matter within its jurisdiction, any committee or subcommittee thereof, any joint committee of Congress or subcommittee of any such joint committee;
- (10) to the Comptroller General, or any of his authorized representatives, in the course of the performance of the duties of the Government Accountability Office;
- (11) pursuant to the order of a court of competent jurisdiction; or
- (12) to a consumer reporting agency in accordance with section 3711(e) of title 31.

Privacy Act of 1974, 5 U.S.C. § 552a(b) (2006) (emphasis added).

112. Computer Matching and Privacy Protection Act of 1988, 5 U.S.C. § 552a(p) (2006); *see also* Computer Matching and Privacy Protection Amendments of 1990, 5 U.S.C. § 552a (2006).

113. Computer matching is, at its most basic, comparison of personal data across several sources. In the case of federal agencies, this often involves one agency sharing data with another agency in an attempt to verify data from other federal agencies, or from claims submitted to federal programs by third parties. Daniel J. Steinbock, *Data Matching, Data Mining, and Due Process*, 40 GA. L. REV. 1, 10 (2005).

circumstances.¹¹⁴ Computer matching is basically the comparison of two computer databases to reduce transaction costs.¹¹⁵ Unfortunately, the only types of matching permitted under the Matching Act are those that meet all of the following criteria: (1) the subjects of the databases are applicants for, current beneficiaries of, or providers of services to a federal program; (2) the databases relate to a program offering cash or in-kind assistance to U.S. citizens or legally admitted aliens; or (3) the purpose of the match itself is to establish or verify eligibility for the program, or compliance with the program's requirements, or to recoup payments under the program.¹¹⁶

According to the Office of Management and Budget (OMB), which sets the guidelines under the computer matching portion of the Privacy Act:

if the Department of Education matched a student loan recipient data base with a Veterans Administration . . . educational benefit recipient data base for the purpose of ensuring that both agencies were maintaining the most current and accurate home address information, that would not be covered since the 'matching purpose' is not one of the three enumerated above. If, however, the purpose of the match were to identify recipients who were receiving benefits in excess of those to which they were entitled, the match would be covered.¹¹⁷

The first example in the preceding quotation is: (1) not covered under the computer matching portion of the Privacy Act; and (2) expressly forbidden under the remainder of the Act. Matching would be permitted in the second example, but only in compliance with pages of requirements involving matching agreements between the agencies, a "Data Integrity Board" at each agency consisting of senior officials to oversee the matching program, and annual reports to Congress and the OMB. Despite the limited coverage and mandated administration, one requirement of the Matching Act suggests that the legislature did understand that matching was about reducing transaction costs: the legislature required that no matching be approved without the involved agencies first conducting and presenting a cost-benefit analysis for approval by their Data Integrity Boards.¹¹⁸ While the

114. Computer Matching and Privacy Protection Act of 1988 § 2, 5 U.S.C. § 552a(p) (2006).

115. 5 U.S.C. § 552a(a)(8)(A)(i) (2006)

116. *Id.*

117. Privacy Act of 1974 & Computer Matching and Privacy Protection Act of 1988, 54 Fed. Reg. 25,818, 25,823 (Office of Mgmt. and Budget June 19, 1989) (final guidance).

118. § 552a(o)-(u) (describing various functions of Data Integrity Boards).

Matching Act is a step in the right direction, like the Privacy Act, it falls short of its true potential.

3. Agency Noncompliance with Matching Program Causes Citizen Distrust

One hard-fought “routine use” exception to the provision prohibiting disclosure of data, including inter-agency sharing, has become a loophole for matching. This excerpt from a Computer Professionals for Social Responsibility speech from 1987 illustrates the problem:

Under the Matching Act, matching takes place under the “routine use” exception to the Privacy Act’s limitation on use of personal information. Agencies are required, before matching, to enter into written, inter-agency agreements specifying . . . a cost/benefit analysis of the match. The Matching Act creates an important procedural framework of notice to individuals . . .¹¹⁹

The “routine uses” exception permits sharing information for uses “compatible with the purpose for which it was collected.”¹²⁰ By 1988, this loophole had:

resulted in 110 separate computer matching programs in which data is ‘routinely’ passed between agencies, subverting the original intent of the law. The congressional intent of preventing a centralized depository of information had been subverted by the progress of technology in providing for a decentralized network of the same kind of information.¹²¹

Computer matching had quickly been categorized as a routine use, thus effectively circumventing the safeguards of the entire 1988 Computer Matching Amendment.¹²² Because the routine use exception has been commonly treated as the rule, research suggests a widespread misconception that the effect of the Matching Act was to institutionalize sharing of data among federal government agencies,¹²³

119. Inquiry on Privacy Issues Relating to Private Sector Use of Telecommunications-Related Personal Information, 59 Fed. Reg. 6842, 6847 (Dep’t of Commerce Feb. 11, 1994).

120. § 522a(a)(7).

121. *Computers, Privacy and Civil Liberties*, CSPR NEWSL. (Computer Prof’l for Soc. Responsibility), Winter 1988, available at <http://www.cpsr.org/prevsite/publications/newsletters/old/1980s/Winter1988.txt>.

122. *Id.*

123. Lillian R. BiVier, *Information About Individuals in the Hands of Government: Some Reflections on Mechanisms for Privacy Protection*, 4 WM & MARY BILL RTS. J. 455, 500 (1995) (“[F]ar from solving the question of how to control substantively the way government officials use personal information disclosed to them, the Computer Matching and Privacy Protection Act

generally permitting “[i]nformation collected for one purpose [to] be used for different purposes by a different federal agency.”¹²⁴ There is general confusion between the actual requirements of the matching provisions in the Act and the regular practice of defaulting to the “routine use” exception.

Furthermore, it was reported that by 1994, the General Accounting Office itself conceded widespread failure to follow the requirements of the Matching Act, stating that Data Integrity Boards had never denied a match, “even when [the cost-benefit] analyses were deficient or . . . clearly wrong.”¹²⁵ According to then Representative Gary Condit:

Most federal agencies have done a lousy job of complying with the Computer Matching Act. Agencies ignore the law or interpret it to suit their own bureaucratic convenience, without regard for the privacy interests that the law was designed to protect. As a result we don’t have any idea when computer matching is a cost-effective technique for preventing fraud, waste, and abuse. . . . A broader issue is whether agencies can be expected to police their own operations. . . . We may need a different approach to overseeing federal privacy-related activities.¹²⁶

Even where the Privacy Act is clearer and more difficult to circumvent than in its computer matching sections, it fails to give citizens comfort in this era of constant security breaches. Its terms require that federal agencies not only have “administrative, technical, and physical safeguards”¹²⁷ but also limit access to only those employees who need the information to perform their duties.¹²⁸

The Privacy Act’s shortcomings overwhelm its protections. For example, a damage award against the government requires a showing of “actual damages” by the person claiming injury.¹²⁹ Actual damages

seems merely to have changed only the nature of the procedural hoops through which bureaucrats must jump.”).

124. See Privacilla.org, *The Computer Matching and Privacy Protection Act*, <http://www.privacilla.org/government/cmppa.html> (last visited Mar. 21, 2009).

125. See U.S. GEN. ACCOUNTING OFFICE, *COMPUTER MATCHING: QUALITY OF DECISIONS AND SUPPORTING ANALYSIS LITTLE AFFECTED BY 1988 ACT 5 (1993)*, available at <http://archive.gao.gov/t2pbat4/150416.pdf>.

126. Graham Greenleaf, *Computer-Matching: Quality of Decisions and Supporting Analyses Little Affected by 1988 Act*, 1 *PRIVACY LAW & P. REP.* 14 (1994), available at <http://www.austlii.edu.au/au/journals/PLPR/1994/9.html> (quoting a Gary Condit press release on the 1993 GAO report).

127. 5 U.S.C. § 552a(e)(10) (2006).

128. § 552a(b)(1).

129. *Doe v. Chao*, 540 U.S. 614, 620 (2003).

do not include emotional distress suffered due to exposure or misuse of the the plaintiff's personal information.¹³⁰ Furthermore, the Privacy Act does not give citizens the opportunity to opt-in to certain uses of their information. It does not, in effect, limit the federal government's uses to those that citizens would reasonably expect under the circumstances. A citizenry wary from countless headlines about security breaches is not convinced that the Privacy Act's required safeguards will actually keep their information safe. The public has every right to be concerned.

B. Consequences of Not Having eGovernment

While the hurdles facing eGovernment are great, the consequences that would follow from failure to implement eGovernment are vastly more severe. Some of the consequences that flow from not having eGovernment include: (1) continued increase in the transaction cost of government services; (2) the inability of the government to react in a timely fashion in an increasingly swifter moving world; (3) the government's diminished capacity to provide basic public services to the population; (4) access to government only for the wealthy; and (5) the relative decline of the United States in the face of the globalization of political and economic activity.

Without significant improvements in information-handling, the current structure of government does not scale. A dramatic example is provided by the circumstances that gave rise to the Sarbanes-Oxley Act.¹³¹ Sarbanes-Oxley was intended to create some additional mechanisms to detect illegal actions and increase the credibility and responsibility of officers and directors of public corporations who

130. Doe v. Chao, 306 F.3d 170, 181 (4th Cir. 2002), *aff'd*, 540 U.S. 614 (2003).

131. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified as amended in various sections of 11, 15, 18, 28, and 29 U.S.C.); Alexei Barrionuevo, *Two Enron Chiefs Are Convicted In Fraud And Conspiracy Trial*, N.Y. TIMES, May 26, 2006, available at <http://www.nytimes.com/2006/05/26/business/businessspecial3/26enron.html> (last visited Mar. 22, 2009); Ken Belson, *Ex-Chief Of Worldcom Is Found Guilty In \$11 Billion Fraud*, N.Y. TIMES, Mar. 16, 2005, available at <http://www.nytimes.com/2005/03/16/business/16ebbers.html>; Richard A. Oppel, Jr., *Enron's Collapse: The Overview; Wide Effort Seen In Shredding Data on Enron's Audits*, N.Y. TIMES, Jan. 24, 2002, available at <http://query.nytimes.com/gst/fullpage.html?res=9D06E5D9163AF937A15752C0A9649C8B63>; Andrew Ross Sorkin & Alex Berenson, *Corporate Conduct: The Overview; Tyco Admits Using Accounting Tricks To Inflate Earnings*, N.Y. TIMES, Dec. 31, 2002, available at <http://query.nytimes.com/gst/fullpage.html?res=9c00e0d8153ff932a05751c1a9649c8b63>; Gregg Wirth, *NewsHour Extra: Corporate Scandals Lead To Changes In Financial Industries*, NEWSHOUR WITH JIM LEHRER, May 10, 2004, http://www.pbs.org/newshour/extra/features/jan-june04/corporate_5-10.html.

might be tempted to partake in, or refrain from preventing, those types of activities in the future.¹³² But one of Sarbanes-Oxley's initial impacts on the social transaction cost of government has been to drive the cost of access to public capital markets up to prohibitive levels. Small cap companies needing capital from the public markets have been hurt most by Sarbanes-Oxley.¹³³ Many agree that those small cap companies comprise one of the most important forces driving innovations in the U.S. economy.¹³⁴ However, prohibitive costs of compliance are forcing many small cap companies to go private.¹³⁵ Sarbanes-Oxley regulations are forcing entrepreneurs in innovative companies to develop less desirable exit strategies and delay delivery of the fruits of their innovation. It is also likely that the increased cost of capital will prevent many small cap companies from ever coming into existence.¹³⁶

Another inevitable consequence of failing to implement eGovernment will be the inability of the government to provide basic services. For instance, the United States is amidst a current crisis because it has failed to provide medical coverage to older and disabled citizens.¹³⁷ A further example is the inability of the

132. See Jonas V. Anderson, *Regulating Corporations The American Way: Why Exhaustive Rules and Just Deserts Are the Mainstay of U.S. Corporate Governance*, 57 DUKE L.J. 1081, 1082-83, 1091-92 (2008); Erin Massey Everitt, *Sarbanes-Oxley's Officer Certification Requirements—Has Increased Accountability Equaled Increased Liability?*, 6 DEPAUL BUS. & COM. L.J. 225, 230-32 (2008) (discussing the corporate officer certification provisions in sections 302 and 906 of Sarbanes-Oxley); John Paul Lucci, *Enron—The Bankruptcy Heard Around The World And The International Ricochet Of Sarbanes-Oxley*, 67 ALB. L. REV. 211, 215-17 (2003).

133. Philipp Harper, *Small Companies Paying Big for the Sins of Enron*, <http://www.microsoft.com/smallbusiness/resources/finance/legal-expenses/small-companies-paying-big-for-the-sins-of-enron.aspx> (last visited Mar. 22, 2009).

134. Press Release, S Comm. on Small Bus. & Entrepreneurship, Kerry, Snowe Honor Entrepreneurs During National Small Business Week (Apr. 26, 2007), available at <http://sbc.senate.gov/press/record.cfm?id=273188> (quoting Senator John Kerry: “[s]mall business owners are the driving force behind new innovations, technologies and ideas”).

135. Megan Penick, *Will Sarbanes-Oxley Force Small Companies to Privatize?*, SARBANES-OXLEY COMPLIANCE J. (2005), http://www.s-ox.com/dsp_getFeaturesDetails.cfm?CID=906.

136. It is fair to ask how many of those public small cap companies would have been future IBMs, Microsofts, and Googles but-for the increased transaction costs created by Sarbanes-Oxley?

137. A recent Gallup poll taken in November of 2008 show that 73% of Americans believe that the U.S. healthcare system is in a “crisis” or is experiencing “major problems.” Only a quarter of the respondents to the survey agreed that the U.S. healthcare system has “minor problems.” 54% of respondents felt that it was the government’s job to do something about the healthcare problem. Gallup, *Healthcare System*, available at <http://www.gallup.com/poll/4708/Healthcare-System.aspx> (last visited Mar. 22, 2009).

government to repair aging, badly worn, and deteriorating highways, bridges, streets, public transportation systems, court houses and other public buildings, levees and other flood control facilities, etc.¹³⁸. The deteriorating infrastructure contributes to increasing the damage caused by natural disasters,¹³⁹ and increasing costs and decreasing effectiveness of national security.¹⁴⁰ Increased transaction speeds and a growing population,¹⁴¹ among other factors, are the most likely culprits in the troubling public service cost spirals.

Furthermore, ample evidence exists that access to government is increasingly limited to the wealthy. As alluded to earlier, it is cost prohibitive for a citizen to have his or her interests represented in the legislative and administrative dialogues leading to public policy formulation. Only the wealthy, with access to expensive lobbyists,¹⁴² have a chance at having their interests heard by many legislative and administrative agencies. Estimates say that meaningful access to the courts is not available for over 85% of the disputes between persons and entities because of the expense of litigation.¹⁴³ Many of the benefits provided and paid for by federal, state, and local

138. Brookings, *America's Infrastructure: Ramping Up or Crashing Down*, KIPLINGER BUS. RES. CTR., Jan. 2008, http://www.kiplinger.com/businessresource/summary/archive/2008/infrastructure_crisis_brookings.html.

139. See, e.g., Robert Bea, *3 Ways to Re-Engineer the Gulf and Stop Katrina 2.0: Expert Op-Ed*, POPULAR MECHS., Aug. 28, 2007, available at <http://www.popularmechanics.com/science/earth/4221039.html?series=18>. There is little doubt that the devastating impact of Katrina was caused in no small part by the delay and unavailability of funds for reinforcing and rebuilding the levees that were supposed to protect New Orleans.

140. Jena Baker McNeill, *Building Infrastructure Resiliency: Private Sector Investment in Homeland Security*, HERITAGE FOUND., Sept. 23, 2008, <http://www.heritage.org/research/homelandDefense/bg2184.cfm> (“[A] terrorist attack on our nation’s weak infrastructure could be a crippling blow to millions of Americans.”).

141. Helen F. Ladd, *Population Growth, Density and the Costs of Providing Public Services*, 29 URBAN STUD. 273, 273 (1992).

142. According to a January 6, 2006 report on the PBS show *News Hour* with Jim Lehrer, the reported expenditure on lobbyists at the federal level increased from approximately \$1.6 billion in 1998 to over \$3 billion in 2004 (an increase of almost 200%). Those figures are likely understated because, as of that broadcast, 49 of the top 50 lobbying firms had not filed disclosure documents. Margaret Warner, *The Washington Lobbying World*, NEWS HOUR WITH JIM LEHRER (PBS television broadcast Jan. 6, 2006), available at http://www.pbs.org/newshour/bb/congress/jan-june06/lobbying_1-6.html.

143. Ted Gest, *Doing Good Is Doing Well*, U.S. NEWS & WORLD REP., Mar. 22, 1993, at 60, 61, available at http://www.usnews.com/usnews/edu/articles/930322/archive_014861_2.htm (estimating that 80% of indigent persons’ legal needs remain unmet).

governments are not accessible to a large percentage of their constituencies.¹⁴⁴

More than ever before, globalization affects the daily life of American citizens. Economic and political activities in Europe, Asia, and the Middle East often immediately impact the American economy.¹⁴⁵ Concerns about outsourcing of jobs and the transition from an industrial economy to an information economy are creating displacement of workers and anxiety in many middle and lower income homes.¹⁴⁶ Efficient functioning of government entities is one of the keys to this inevitable transition. Analysis of incredible amounts of timely, complex information about people's conduct and economic activities in the United States and elsewhere is essential and is made more efficient through eGovernment. Only by those means can the government determine what regulatory and other actions should be encouraged or required to maintain or increase the competitive advantage of people and entities in the United States. If the collection, distribution, and analysis tasks discussed above continue to raise the transaction cost of government, the United States risks being dominated by other countries in the global economy.

CONCLUSION

In the last five decades there has been a momentous conversion of wealth from tangible physical property into intangible property. The nature of this new kind of wealth is such that it can be transacted over (and used) at drastically greater speeds and lower costs than tangible physical property. The international race for wealth, over trillions of transactions, will be won by countries with governance best designed to enable those transactions by combining efficiency (minimized transaction costs) with trust (security of information).

Tools for producing tangible and intangible property have migrated from a combination of raw materials that were tangible and thus had to be manufactured, transported, staged, and assembled. In the past, production employed mostly human hands and mechanical tools rather than intangible electrons, programmed by human minds using computers. Before the migration, productivity and wealth of

144. See generally ROBERT J. GREY, JR., U.S. DEPT. OF STATE, ACCESS TO THE COURTS: EQUAL JUSTICE FOR ALL (2004). Depending on the nature of these benefits, one wonders whether the lack of access drives the per capita cost of the benefits up or down.

145. See Alan K. Henrikson, *Henry Kissinger, Geopolitics, and Globalization*, 27 FLETCHER F. OF WORLD AFF. 95, 118 (2003).

146. See Mark B. Baker, "The Technology Dog Ate My Job": *The Dog-Eat-Dog World of Offshore Labor Outsourcing*, 16 FLA. J. INT'L L. 807, 808 (2004).

individuals and countries were measured by the value of physical property. Now, much of the wealth and productivity of individuals and developed nations is measured by the value of their intangible property.¹⁴⁷

Manufacturing the components or extracting raw materials for tangible property required that tools, people, and capital be brought together at one place—a process that consumed considerable of human energy. Now, virtual entities providing all the needed skills, tools, and capital can be created in a matter of hours or days. How individuals and countries transported the things necessary for production of tangible property changed radically in the migration. Transporting intangible property costs nearly nothing, is instantaneous, and consumes very little energy and infrastructure.

It took hundreds, if not thousands, of years for civil societies to develop methods to protect and secure ownership rights and commerce in tangible property. Protection of intangible property seriously changes the requirements for security, protection, and commerce. Detection of theft or unauthorized use of tangible property was relatively easy because only one person could possess or use tangible property at any given time. Furthermore, possession was an important determinate of ownership and could be traced. In contrast, intangible property is often quite easy to replicate and, once replicated, the rightful owner cannot rely on its absence to indicate the property has been taken. Securing the meaningful aspects of ownership by possession does not work either, because of the speed with which intangible property can be replicated and distributed.

Remember Coase's description of processes that enable transactions:

In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on.¹⁴⁸

147. See, e.g., Michael W. Smith, *Bringing Developing Countries' Intellectual Property Laws to TRIPs Standards: Hurdles and Pitfalls Facing Vietnam's Efforts to Normalize an Intellectual Property Regime*, 31 CASE W. RES. J. INT'L L. 211, 211-12 (1999) (using the concept of intangible property as a society's measurement of wealth to provide the foundation for a discussion about international intellectual property laws).

148. Coase, *supra* note 5, at 15.

Recall too Dahlman's succinct summary defining transaction costs as "search and information costs, bargaining and decision cost, policing and enforcement cost."¹⁴⁹ Above all else, IT impacts the speed and cost of market transactions.

For economic activity to be sustained over time, government, in one way or another, must provide the context that enables market transactions and precludes destructive abuses. The power of IT, rapid communication, and the conversion of wealth from ownership of physical property to intangible property means governance must be different. Probably the current biggest threat to governance is the change in the speed of market transactions over the last fifty years.¹⁵⁰ Fifty years ago, legal and illegal transactions involving tangible property were slowed, and sometimes made impossible, by the time, effort, and costs necessary to consummate them. In the late 1960s and early 1970s, a record trading day on the NYSE was defined as 31 million shares.¹⁵¹ By comparison, the average trading volume in January 2009 was 5,370 million shares per day, or 173 times greater than a record day in the early 1970s.¹⁵² The protections provided by the constraint of time are seriously reduced, if not eliminated, when the property is intangible and instantaneous electronic communication is substituted for physical transportation.¹⁵³ Government must employ the same IT tools as the private sector if it is going to secure the

149. Carl J. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 148 (1979).

150. See, e.g., Raymond Shi Ray Ku, *The Creative Deconstruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 263-64 (2002) (discussing the problems created in copyright law when transaction speeds are high and distribution costs are minimal).

151. NYSEData.com, Daily Reported Share Volume: Average, High and Low Days, http://www.nyxdata.com/nysedata/asp/factbook/viewer_edition.asp?mode=table&key=64&category=4 (last visited Mar. 22, 2009).

152. Press Release, NYSE Euronext, NYSE Euronext Announces Trading Volumes for January 2009 (Feb. 9, 2009), available at <http://www.nyse.com/press/1234139684465.html>. A record trading day is now 7,340 million shares, reached on Oct. 10, 2008. NYSEData.com, NYSE Group Volume Records, http://www.nyxdata.com/nysedata/asp/factbook/viewer_edition.asp?mode=table&key=3007&category=3 (last visited Mar. 22, 2009).

153. This point is understood by considering the increasing need for patent protection of inventions over time. For example, in 1968 the U.S. Patent and Trademark office received 98,737 patent applications; in 2007, 484,955 applications. In 1968 there were 62,713 patent grants; in 2004, 182,901 grants. U.S. Patent and Trademark Office, U.S. Patent Statistics Summary Table, Calendar Years 1963 to 2007, http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm (last visited Mar. 22, 2009). In 1968 there was a backlog of 189,909 applications; in 2004, 750,000 applications. ANU K. MITTAL & LINDA D. KOONTZ, U. S. GOV'T ACCOUNTABILITY OFFICE, IMPROVEMENTS NEEDED TO BETTER MANAGE PATENT OFFICE AUTOMATION AND ADDRESS WORKFORCE CHALLENGES 1 (2005), available at <http://www.gao.gov/new.items/d051008t.pdf>.

2009]

THE NECESSITY OF EGOVERNMENT

465

unalienable rights of life, liberty, and pursuit of happiness in the information age.

The success or failure of eGovernment could mean the success or failure of governance. Hence, new and bold steps are needed to overhaul government methods, including more accurate characterization of information and the protection of privacy. Government must cut away self-imposed limits that hinder efficiency and must simultaneously pass, and enforce, clear and convincing laws that will better protect citizens.