

# Trust in E-Government Services

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## INTRODUCTION

Based on the results of the information and communications technologies (ICTs), a new “digital” economy and society are arising. This new computer- and communication-networked environment needs new set of services and technologies besides new rules and values, which determine the behavior of its actors.

In the starting phase of information society the Internet, later on the Internet-based technologies (e.g., the Web) have changed the way business was done the world over, and is now changing the way government interacts with citizens and business sector. With the dramatic increase of the Internet as a business tool and the incredible growth of e-technologies have changed not only the economy but the society as well.

According to researchers, early e-government was a form of e-commerce as both used Internet-based technology for the benefit of the information society. Today, e-government can be defined as online government services, that is, any interaction one might have with any government body or agency, using the Internet or World Wide Web. As the mobility is an important characteristic of the information society, new e-government solutions apply wireless/mobile networks as well.

The insufficient security of many Internet services is an important limitation of using the Internet. Lack of trustworthy security services is a major obstacle to the use of information systems in private, in business as well as in public services. Trust is intimately linked to citizens’ rights, like security, identification, authentication, privacy, and confidentiality. Secure identification, authentication of the users and communication security are main problems in today’s networked systems. These demands for trust and security are valid in an increased extent in case of digital government applications.

## BACKGROUND

### Definitions and Types of E-Government

It is not easy to define e-government because of its multidimensional aspects. Many international organizations attempted to define it and there were many different

approaches. Part of them focused on the functions of e-government by underlying the governance aspects (functional definition), others referred e-government through its different processes (descriptive definition), a few propositions tried to capture its essence (conceptual definition), others presented e-government by reference to e-commerce (definition by reference) and still others combined all of those elements together (complex definition). The main concept behind those definitions, however, was that e-government was more about *government* than about *e*.

A complex definition is given by the World Bank as follows: “eGovernment 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 relationships with citizens, businesses and other arms of government. These 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” (World Bank, 2005).

Implementing e-government can be risky, expensive and difficult, it is not sufficient simply to add “ICT” to “government” to have “e-government.” Fundamental transformations and changes will affect all layers of e-government including, for example, the legal aspects that is a basic factor.

The basic types of connections in e-government are government-to-government (G2G), government-to-business (G2B), and government-to-citizens (G2C) solutions. There are different other classification of the connections among government and organizations or citizens, but this three category can be found in each approach.

The objectives of the three main e-government types are as follows:

- **G2G:** Government to government enable all levels of government to more easily work together to better serve the needs of citizens and businesses; federal government needs to streamline reporting requirements imposed on states and localities; changing the culture of the civil service from reactive to proactive; open and accountable government; cost-effective procurement.

- **G2B:** It is the concept that businesses and government agencies can use central Web sites to exchange information and do business with each other more efficiently than they usually can off the Web. For example, a Web site offering G2B services could provide businesses with a single place to locate applications and tax forms for one or more levels of government. G2B may also include e-procurement services, can support the idea of a virtual workplace.
- **G2C:** Government to citizen provides non-stop, online access to information and services to individuals; citizens should be able to find what they need quickly and easily, and access information in minutes or seconds, instead of days or hours (24-hour/7-day/52-week access); receiving services that are citizen, not agency focused; disintermediation of civil service staff—delivering services directly to citizens; building and enhancing trust.

With the expansion of opportunity to perform transactions online, citizens are eager to take care of a variety of tasks on the Internet, including interactions with different levels of government. National, regional, and local governments are beginning to respond. Across the globe, governments are the latest participants in the promise of the Internet, and the way in which governments interact with businesses and citizens is in early stages of transformation. The different types of e-government can be realized on different levels as international (European Union, United States—federal), national (central), regional, and local.

The benefits of e-government applications are:

- improving efficiency of administrative processes,
- increasing transparency,
- improving services,
- decreasing corruption,
- contributing to revenue growth, and/or cost reductions,
- helping achieve specific policy outcomes,
- contributing to economic policy objectives,
- major contributor to reforms, and
- helping trust building between governments and citizens.

### Definitions and Forms of Trust

Trust can be defined as a psychological condition comprising the trustor's intention to accept vulnerability based upon positive expectations of the trustee's intentions or behavior (Rousseau, Sitkin, Burt, & Camerer, 1998). Those positive expectations are based upon the trustor's cognitive and affective evaluations of the trustee and the system/world as well as of the disposition of the

trustor to trust. Trust is a psychological condition (interpreted in terms of expectation, attitude, willingness, perceived probability). Trust can cause or result from trusting behavior (e.g., cooperation, taking a risk) but is not behavior itself.

The structure of trust in digital communication according to Fukuyama claims: "Trust is the expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms, on the part of the members of that community" (1995, p. 45). In shifting to electronic environments, Fogg and Tseng (1999) focus on trust among individuals mediated by technology, writing that trust indicates a positive belief about the perceived reliability of, dependability of, and confidence in a person, object (such as computers, networks, and software), or process (such as credit card transactions and airline e-ticket reservations). There are numerous additional definitions of trust; all fields where trust is important have developed its own definition. In spite of this diversity there are components that are included into most definitions of trust (Harrison, McKnight, & Chervany, 1996):

- willingness to be vulnerable / to rely,
- confident, positive expectation / positive attitude towards others, and
- risk and interdependence as necessary conditions.

Trust has various forms as well, according to different authors (e.g., Luhman, 1979) trust has forms such as

- **Intrapersonal Trust:** Trust in one's own abilities; self-confidence, basic trust (in others);
- **Interpersonal Trust:** Expectation based on cognitive and affective evaluation of the partners; in primary relationships (e.g., family) and nonprimary relationships (e.g., business partners);
- **System Trust:** Trust in depersonalised systems/world that function independently (e.g., economic system, regulations, legal system, technology); requires voluntary abandonment of control and knowledge; and
- **Object Trust:** Trust in nonsocial objects; trust in its correct functioning (e.g., in an electronic device).

### Trust Building is More Than a Simple Approach

In building trust there are two approaches; information technology approach and human centered approach, based on culture and morality. Information technology approach means that security has to increase by different architectures, protocols, certifications, cryptography,

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