

## Chapter 86

# The Role of Information Security and Cryptography in Digital Democracy: (Human) Rights and Freedom

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### ABSTRACT

*The preponderant dilemma organisations confront currently is which way to homologate and superintend access for a broad mass of services and products and in parallel to preserve security and privacy. Information technology is rapidly changing, is inherently complex, and complexity kills security. There is an ongoing technical race to maintain security that does not take into account the human factors. The new technological infrastructure affects the degree of anonymity and confidentiality in mass-market computer-based systems and basically determines the evolution of democratic-political culture. Thus, in examining the issue of security, cryptography, privacy in the use of computers and Internet, forms the primary interest from the moral side of view, about what is the right and wrong thing to do, rather than in a legal frame, about what is legal and illegal. Security and privacy are not ethical or moral issues. They are fundamental human rights. In this societal change, the challenges of the information society are many but foremost is the protection of human rights. Addressing the critical question of how technological trends are both helping and hindering the advancement of human rights is essential in the specific digital environment. The democratic key concept is the efficient use of digital resources. We do not only need a culture of security (information), we further need to ensure the security of cultures, meaning that everyone should be able to freely exercise their constitutional rights. The role of this chapter is to bring to the surface the rights (human) implications of ICT and the information society. It enlightens the technical community, which designs, implements, and secures information and communication systems, with an understanding of human rights principles and foundational underpinnings. It highlights the role of government implications, identifies the role and relationship between the stakeholders, and indicates the balance between information security and freedom in order to understand that security, freedom, and rights (human), are not opposite concepts but coexist and progress in parallel.*

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## INTRODUCTION

The transformation of our society due to digital technology (spoken language was the first digital technology, written language the second and electromagnetic media the third) is stated ideally by (Holmes, 2004) “not only has the capture, storage, manipulation, transmission, and display of electromagnetic data gone far beyond that possible with the old kinds of written language that developed and developing societies use, it has also given the leaders of those societies much greater scope for controlling and exploiting the people under their leadership.” Is this simplicity of communication and transmission of information through Internet that allows time and resources to be focused on the creation of value through the collection, processing, management and distribution of that information (Hong-Sun, 2003). That same information technology is used by governments (democratic and/or authoritarian), industry (containing organised crime) and people (good and bad).

Access to Information and Communications Technology (ICT) and especially to Internet assists people to practice freedom of expression and so epitomize the democratic diathesis of people being informed and efficient to access to information. Human Rights, in this form of freedom of expression and the protection of personal data, should be the fundamental principle of any democratic society. (Howard, 2010) identifying the causal conditions of democratization from the view of technological theory of democracy, state that if information technologies are a sufficient cause of democratization, then the presence of information technologies implies the presence of democratization (though democratization does not imply the presence of information technologies). If information technologies are a necessary cause of democratization, then the presence of democratization implies the presence of information technologies (though information technologies do not imply that democratization will occur)."

Internet has revolutionized our way of thinking and living. The initial purpose of facilitating communication among its community members has evolved into a mechanism/medium for collaboration and interaction through information dissemination.

Information in electronic form and the means to transmit and process it are now indispensable to many areas. Information consist an economic resource that societies (individuals, businesses and governments) use to increase their efficiency and to satisfy the general demand for information products and services. PIN codes, identity or license numbers, credit card numbers, access codes, health, tax and insurance numbers and much more are all information that we use ICT mechanisms to manage them. Information has three characteristics (it has substance, it can be recorded and retrieved, it has value), exist in many forms (e.g. written, printed, spoken, electronically stored and transmitted) and it can be created, processed, used, stored, transmitted, corrupted, lost and destroyed (Gelbstein & Kamal, 2002). We consider that whatever is not public is private but today reality disproves us. Take a simply look of emails (not only Web), social networking sites (e.g. blogs, Facebook, Twitter) disseminating data without control and intercepting privacy (information).

Questions that emerge in relation to the role of ICT in the creation of democracy are the following six (Hague & Loader, 2005):

- To what extent might ICTs facilitate more accountable government?
- To what extent might ICTs be used to create a more informed citizenry?
- To what extent might ICTs facilitate citizen participation in decision making concerning affairs of state?
- To what extent might ICTs facilitate participation by citizens in 'debate and deliberation,' on a 'free and equal basis,' concerning affairs of state?

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