Chapter XII

Biometrical Identification as a Challenge for Legislation:
The Finnish Case

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ABSTRACT

Accurate identification of individuals is a cornerstone of any modern society. Without identification, we cannot recognize the parties of different transactions and bind individuals to their rights and liabilities. Without identification, the transactions, rights, and liabilities become useless, and society can no longer work. Biometrical identification offers a technologically effective solution to the identification problems. These technologies are spreading fast in the whole information and communication technology field and pervading into many aspects of using computers and similar devices. Just like any other technology, biometric identification cannot develop without a sufficient regulative environment. This chapter provides an overview of the challenges and approaches, in addition to introducing biometric technologies. Finland has had connection with biometric identification and this chapter covers some aspects of the same.

INTRODUCTION

Biometrical identification technologies are spreading fast in the whole information and communication technology field. They are pervading into many aspects of using computers and similar devices. Devices, applications, databases as well as communication channels can be opened and guided by biometrical traits. Biometrical data can be used to identify persons in big masses. Applications in health care and medical field can richly benefit from biometrical data, if not biometrical data is critical for their functioning.

Major biometrical identification technologies are based on the verification or physical characteristics of the person to be identified, typically face (face geometry), hand (finger or hand geometry scan) or eye (iris or retinal scan), or on the behavior of the object to be identified (typically dynamic signature verification, other methods too existing). Identification of the person's deoxyribonucleic acid, more usually just called DNA can be seen as the "ultimate" biometrical identification technology, but the issues surrounding the application of DNA are out of the scope of this chapter.

Collection of biometrical data is often based on the free will of the person to be identified, but some biometrical traits allow for involuntarily identification, such as face identification and recognition. Some technologies can be applied so that the object does not even know about the identification, whereas some technologies, such as iris scanning, can be quite pervasive and inconvenient.

The big data masses collected by these technologies form a main risk for data security and personal privacy, but a real risk is also that bad application and management of the biometrical technologies will lead to low productivity, applicability and social acceptance of many information technology applications. Which kind of biometrical identification becomes the main technology can also be an unmanaged process based on contingencies, whereas rational factors such as cost, productivity, user acceptance and easiness of use in all value chain components should be the basis for technology selection.

The authors of the chapter have been engaged in preparation of some background studies for legislation on biometrical identification with the Finnish Ministry of transport and communications, so the chapter is based on action research perspective and method. The purpose of this chapter to introduce the reader to the regulative challenges of introducing biometrical technology. Technologies as such might still be also immature, but a still bigger challenge is often found in the social acceptance of the technology. Good regulation governance can alleviate problems in the way towards user and wider society acceptance of biometrics. The chapter is targeted at any developer or user of biometric identification, but especially it should of use for regulators active in the biometric area.

BIOMETRICAL IDENTIFICATION

The need to identify persons accurately has been a cornerstone for the world for centuries. Every human being, person, can be seen as a bunch of rights and liabilities. The person can use his/her rights and carry his/her liabilities as a private person, or on behalf of some third party, for example organization, through some kind of authorizing relationship from that third party. Rights are used and liabilities carried out in different transactions. Without identification, we cannot recognize the parties of different transactions and bind individuals to rights and liabilities. The transactions, rights and liabilities become useless, and the society can no longer work.

Modern virtual way or transacting through computer and telecommunication networks has made the challenge of identification more acute than ever.

Biometrical identification that has actually been the cornerstone of identification ever (people

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