# Biometrics: The Social Impact

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## 1 Introduction

The social acceptance of every technology involves giving up certain privileges that society has until that point, taken for granted. Biometric authentication mechanisms exist today in the form of anti-theft fingerprint recognition devices for securing cars, facial scans for securing bank transactions and more popularly the Visitor and Immigration Status Indicator Technology (VISIT) in use by the USA at all their airports. The acceptance of biometrics by main-stream society involves giving up rights pertaining to an individual's biological data. Biometrics has already found its place in society as a means of providing security. The implications of this technology on society are tremendous. The creation of more divisions in society is a potential by-product of this technology and privacy of biometric data is an issue that requires consideration.

## 2 Analysis

A unique study aimed at analysing the process of enrolment and verification of biometric data, and social perceptions and reactions to the same, was carried out by Atos Origin in 2005 on behalf of the UK Passport Service. Although the overall reaction to the procedure was positive, the following groups faced difficulties.

- People with physical or learning disabilities
- The elderly
- People of certain races and religious beliefs
- The homeless

Wickens (2006) points out that although governments the world over are using identity theft and terrorism as arguments in favour of biometrics, the percentage of society that is at risk from these factors is negligible as compared to the percentage that would be branded by their inability or difficulty in enrolling biometric data.

van der Ploeg (2003) believes that if biometrics is to be a solution to the privacy concerns of society, it needs to be implemented as a means for authentication, rather than identification. Along with decisions relating to the mass enrolment of biometric data, the passing of legal, procedural and technological policies by governments is inevitable. With many countries having delicate political balances, a government guarantee on the privacy of sensitive data is not reassuring. Although van der Ploeg (2003) identifies cryptography as one method for dealing with privacy of biometric data, a major part would be played by future governments' perceptions of what a threat is.

Biometric authentication and identification techniques assume that data can be collected and verified in an efficient and accurate manner. The technology of today does not live up to these assumptions. Wickens (2006) points out, that environmental factors mean that the analysis of no two biometric samples will ever produce a perfect match, although evolving technology will presumably solve these problems that exist today.

## 3 The Future

Today, terrorism forms a serious risk to governments the world over. Biometrics can play a tremendous part in securing the safety of individuals and countries as a whole. Before it can become the privacy and security enhancing tool that it promises, society needs to be made aware of the potential effects of the misuse of biometric data and the social implications of the widespread use of biometrics rather than the technology itself. The future holds the integration of biometrics and cryptographic techniques that can potentially control every transaction that requires authentication and identification. In addition, appropriate measures that go beyond government policies need to be taken to ensure the privacy of biometric data, the misuse of which could have dire repercussions.

## 4 References

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