

TechCast Article Series

USE OF BIOMETRICS

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Biometrics has long been touted as a powerful tool for solving identification and authentication issues for immigration and customs, physical security, and computer security. It involves measuring one or more unique physiological human characteristics -- the shape of a body, fingerprints, structure of the face, DNA, hand/palm geometry, iris patterns, and even odor/scent. Behavioral traits can also be used -- typing rhythm, gait, and voice. These technologies have enormous promise because they can never be forgotten, lost or copied, unlike the current methods of cards and passwords.

The potential for biometrics is ever increasing post 9/11. In addition to growing needs for fast, accurate and dependable security, biometric technologies have recently begun to enter into public consciousness due to high profile applications in entertainment media and day-to-day activities. TechCast forecasts biometrics are expected to enter the mainstream in 2015.ⁱ As with any new technology, there are barriers to overcome. This study was conducted to identify the conditions that affect the use of biometrics.

RESEARCH METHOD

In-person interviews were conducted to provide a detailed and comprehensive analysis and to explore personal opinions. Forty individuals of varying educational backgrounds and ages were questioned on issues concerning the use of biometric technology, acceptance of the various methods, favorable places of use, roles of the different stakeholders, general advantages and disadvantages, and the acceptance of a national ID. Composition of the sample is shown below.

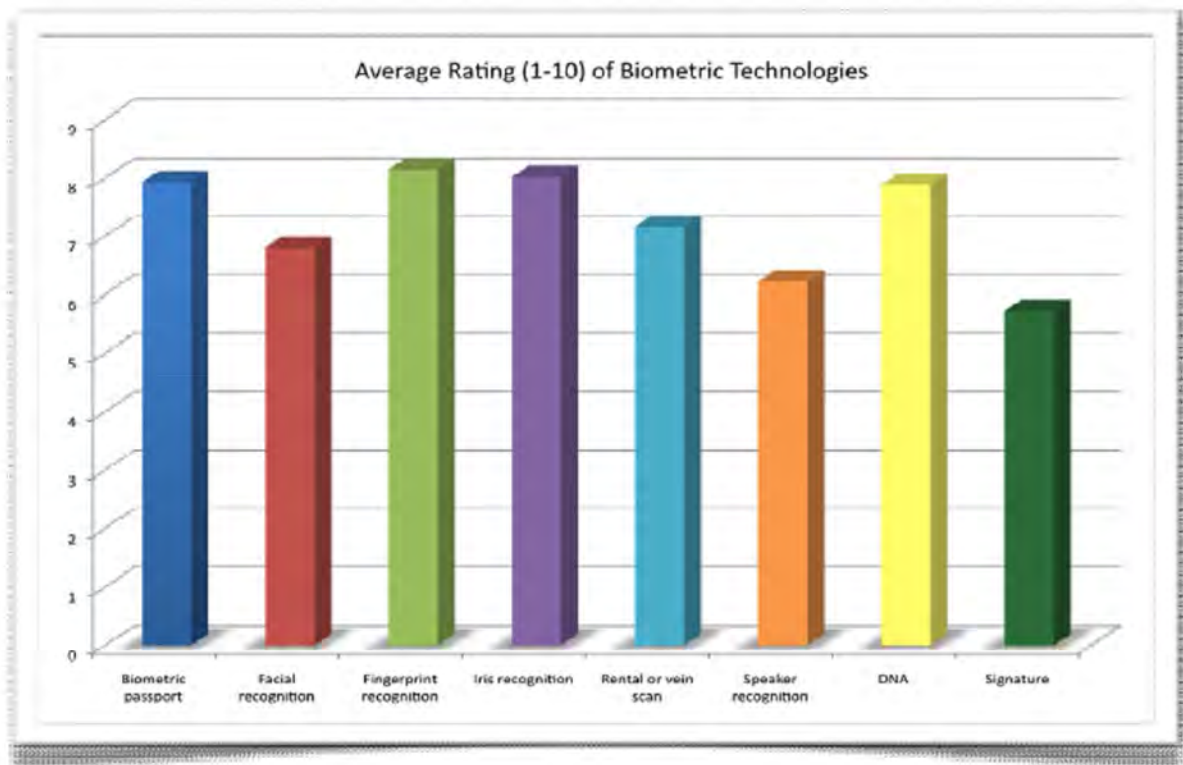
RESULTS

Here are the most salient responses:

Favorability to Various Biometric Technologies

77% of respondents said biometric technologies are a useful tool for the authentication of identity. 16% liked its scalability, accuracy, security of biometric owners, and ethics. Only 7% were opposed to using biometrics. The technology that respondents most widely accepted was fingerprint recognition (rated 8.15/10), followed by iris recognition (7.9/10). Signature recognition received the lowest acceptance rate (5.72/10)

When asked to rate the places it should be used, respondents favored using biometrics for office building security, travel, air transportation screening, medical procedures, banking and other financial transactions, and government functions. However, many did not feel that the technologies would be useful in an educational setting.



Role of Various Stakeholders

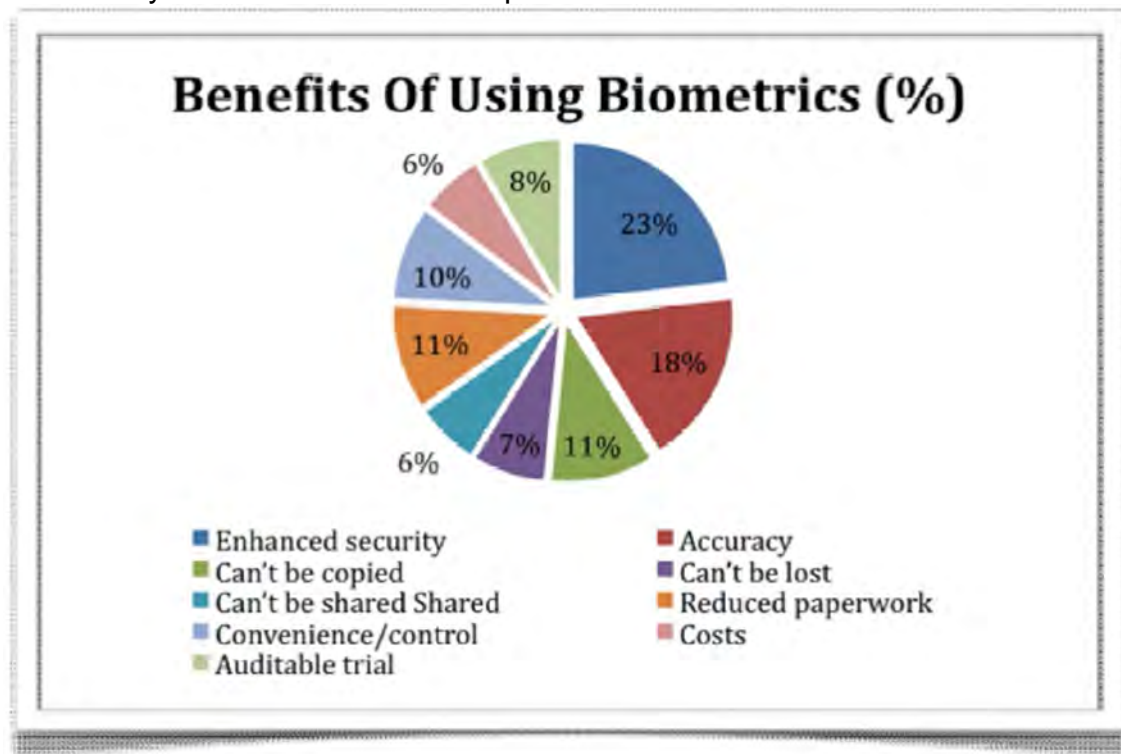
A majority feel that the government plays the largest role in the use of biometric technologies because it bears the main responsibility to ensure the security and privacy of citizens. Many believed government should create standards for the use of biometrics, but few thought that it should support research and development with funding.

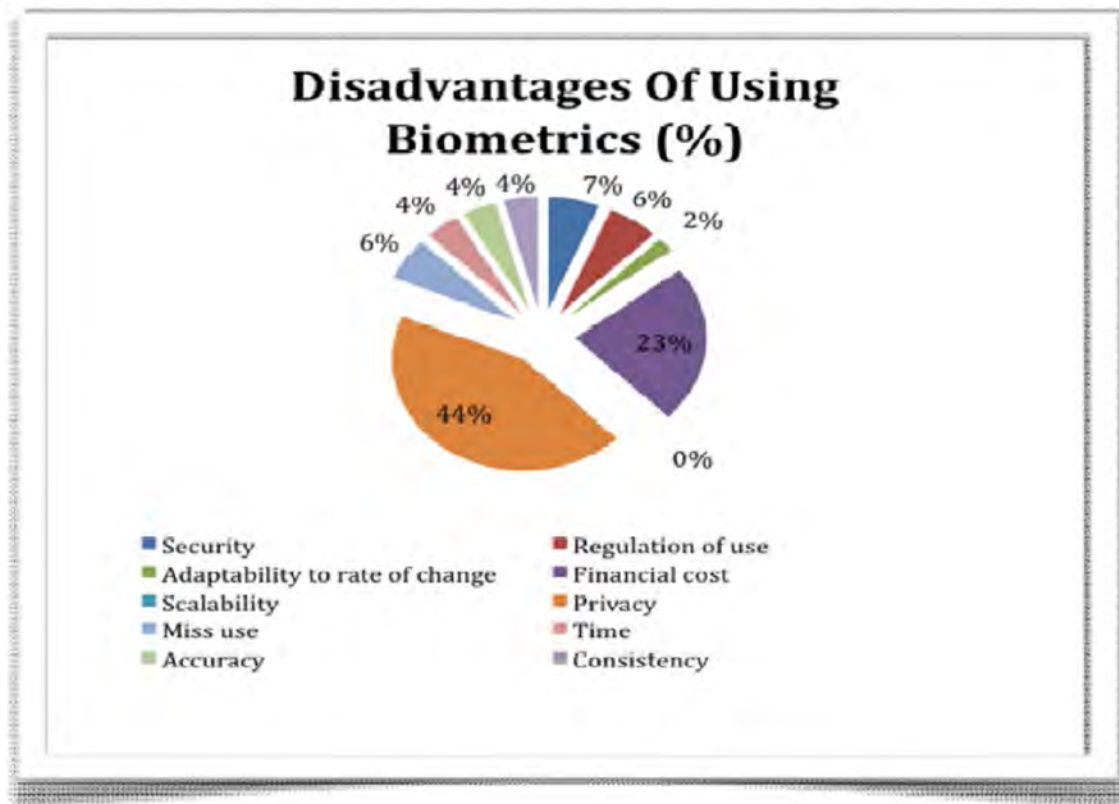
The responses for the role of businesses also stressed security as number one in importance. Other major responsibilities of businesses include use to protect against fraud, support other stakeholders, improve the efficiency of the technologies, screening, and high volume implementation.

The major role for users noted by respondents is to be law-abiding watchdogs and protectors of personal biometric information. Other responsibilities were to decide and be skeptical of which technologies are used, demand minimal use of the technology, and get proper training.

Advantages and Disadvantages of Biometric Technologies

Enhanced security was thought to be the greatest benefit of biometric technologies, followed by accuracy. Other benefits were its unique feature of not being shared/copied/lost, it reduces paperwork, and it is convenient. On the other hand, the greatest disadvantage was possible invasions of privacy, followed by the financial costs to implement.





National Biometric ID

A National Biometric ID has already been used in other countries, like the U K, but it is not likely to be implemented in the US. A few reasons for this slow dissemination were revealed in respondent's concerns regarding cost, risks of information misuse, privacy of personal data, and security.

CONCLUSION

There are always concerns about adapting to new technologies. This study shows that some people are reluctant to accept biometrics because it profoundly affects personal privacy and safety, even though they are well aware of its benefits. Furthermore, since biometrics involves personal characteristics, many are concerned that privacy should be protected, and that both government and business must maintain the public's trust.

The future of biometrics looks increasingly bright with the demand for security rising daily. As noted by TechCast, biometrics is growing exponentially at a rate of 35% annually.¹ Educational institutions, private companies and

governments all have important roles in improving the technology and promoting its use through better education, knowledge dissemination, increased usability, standards, and proven reliability.

References

ⁱ According to www.techcast.org, biometrics is expected to enter the mainstream (at a 30% adoption level) in 2015 with a \$380 billion U.S. market size, a \$1368 billion world market, predicted at a 73% expert confidence level.