

Recent Opinion Surveys on Public Perceptions of Biometrics

Public opinion surveys conducted over the past five years—most recently CTA’s study ***Biometric Technologies: Understanding Consumer Sentiments***—continue to illustrate the public’s growing acceptance of the use of biometrics as an added security step.

CTA STUDY

- **Title:** *Biometric Technologies: Understanding Consumer Sentiments*
- **Link:**
 - http://www.cta.tech/CorporateSite/media/Government-Media/Biometrics_Research_key-findings_3-22.pdf
 - <http://www.businesswire.com/news/home/20160330006149/en/Biometric-Technology-Enjoys-Strong-Support-Consumers-CTA>
- **Date:** March 2016
- **Key Findings:**
 - Less than half of U.S. adults have adopted or used some type of biometric technology. However, awareness of biometrics is higher, especially among older age groups.
 - Digital fingerprinting (29%) and voice recognition (13%) are the most widely adopted/used biometric technologies—likely from smartphones incorporating these features.
 - A large percentage of U.S adults are comfortable with biometric technologies being used at places perceived as highly secure (airports) or in need of greater protection (schools and high crime areas).
 - U.S. adults view entities that currently handle (sensitive) personal information securely such as health care organizations and banks more favorably with managing biometric information.
 - More than half (63%) of U.S. adults are open to the use of biometric technologies for altruistic purposes such as medical research (58%) or in assistive devices for individuals with disabilities (67%).
 - Industry needs to do more to educate consumers on the benefits of biometrics and its uses. One third of consumers are neutral on using these technologies due lack of understanding about the user experience, data security and overall value proposition to them.
 - A quarter of U.S. adults (28%) are less than comfortable, and about one half of U.S. adults (42%) have neutral sentiments with biometric technologies used for commercial purposes such as videogame content or product/service customization.
 - Previous experience with biometric technologies correlates with comfort and acceptance in different scenarios.

PEW STUDY

- **Title:** *Privacy and Information Sharing*
- **Link:**
 - <http://www.pewinternet.org/2016/01/14/scenario-workplace-security-and-tracking/>
 - <http://www.planetbiometrics.com/article-details/i/4014/>
- **Date:** January 2016
- **Key Findings:**
 - The report found that over half (54%) of respondents thought that the use of facial recognition cameras is acceptable in the workplace to catch thieves of employees' personal belongings.
 - By a two-to-one margin (54% to 24%) a majority of Americans would find the installation of surveillance cameras and corresponding retention of data to be acceptable, while one-fifth (21%) of adults say their consideration of this tradeoff would depend on the circumstances.
 - There are no statistically significant differences in people's answers to this question by different demographic groups: Men and women, young and old, and relatively well off and relatively poor are all equally likely to say this scenario is acceptable.
 - When asked to elaborate on their answers in an open-ended follow-up question, a number of those who felt the tradeoff was acceptable argued that companies have the right to install the cameras on property they own and to make it more secure for workers.

EXPERIAN STUDY

- **Title:** *UK Now Ready for Biometric Banking*
- **Link:** <https://www.experianplc.com/media/news/2016/uk-now-ready-for-biometric-banking/>
- **Date:** January 2016
- **Key Findings:**
 - Most adults in the UK are now willing to embrace biometric identity for online banking. When it comes to managing accounts online, three in five people (61%) believe biometric identification is either just as secure, or more secure, than the current system of passwords.
 - UK adults are far more comfortable using biometric technology to access their online banking than their social media accounts – twice as much, 64% compared 32%.
 - Fingerprint scanning is the biometric identification most UK adults are comfortable with, and two-fifths (40%) state they would be happy using fingerprint scanning to access online accounts.
 - 19% of respondents were comfortable with having their retinas scanned, 9% would be comfortable with camera facial recognition used as a form of identification, and 5% would be comfortable using voice recognition to unlock their online accounts.
 - Ian Cunningham (Experian): "Recent innovations have really brought biometrics into everyday life and now the majority of UK adults are willing to accept it as a form of ID verification for accounts. Fear of falling victim to ID theft and perceptions about security has driven this acceptance to some degree."

MITEK STUDY

- **Title:** *Digital Banking Report*
- **Link:**
 - <https://www.miteksystems.com/resources/digital-banking-report-digital-account-opening-august-2015>
 - <http://www.americanbanker.com/news/bank-technology/banks-embrace-biometrics-but-will-customers-1078867-1.html>
- **Date:** August 2015
- **Key Findings:**
 - Digital vendor Mitek surveyed millennials on their digital banking habits and desires last year: "The survey of 1,000 millennials found that in identifying themselves via mobile devices, 61% prefer fingerprints. Additionally, almost a third said they'd accept facial recognition."
 - "People, and millennials in particular, are tired of passwords and PINS and desirous of high-level security. When it comes to things like taking a selfie to authenticate yourself, and incorporating optics in other ways, millennials expect that. They are demanding it."

GARTNER STUDY

- **Title:** *Hype Cycle for Digital Banking Transformation, 2015*
- **Link:**
 - <https://www.gartner.com/doc/3100233/hype-cycle-digital-banking-transformation>
 - <http://www.americanbanker.com/news/bank-technology/banks-embrace-biometrics-but-will-customers-1078867-1.html>
- **Date:** July 2015
- **Key Findings:**
 - Alistair Newton (Gartner): "We did a massive survey last year, talking to consumers about digital banking, and many were not even aware their bank offered [Apple's] Touch ID. There were also many consumers who were happy to do the extra step and type in a username and password because it felt more secure to them. So even with the base stuff, like Touch ID, it's certainly gaining momentum but still has a long way to go."
 - "Voice authentication will grow more rapidly, because it has distinct benefits. But with a facial-scanning ATM, for example, is that really easier than just putting a card in there? To change customer behavior and habits in financial services, the new solution has to be so much better or easier than the existing services."

GIGYA STUDY

- **Title:** *2015 State of Consumer Privacy & Personalization:*
- **Link:**
 - <http://www.biometricupdate.com/201507/report-shows-growing-public-acceptance-of-biometric-authentication>
 - <http://www.gigya.com/resource/whitepaper/the-2015-state-of-consumer-privacy-personalization/>
- **Date:** July 2015
- **Key Findings:**

- Adoption of next-generation authentication methods is growing steadily, with 59% of US consumers stating that they are willing to register or log in to a website or mobile application with an existing identity from a payment provider such as PayPal or Amazon.
- 41% of US consumers have a high level of comfort logging in to a site or mobile app using a thumbprint biometric or face/eye biometric scan.
- More than 90% of US and UK consumers are at least somewhat concerned about data privacy and how companies are using customer data.
- The annual report is based on a survey of 2,000 US and 2,000 UK adults, ages 18 and older, which analyzes consumer attitudes around data privacy, the prevalence of social login, and the importance of personalized marketing.

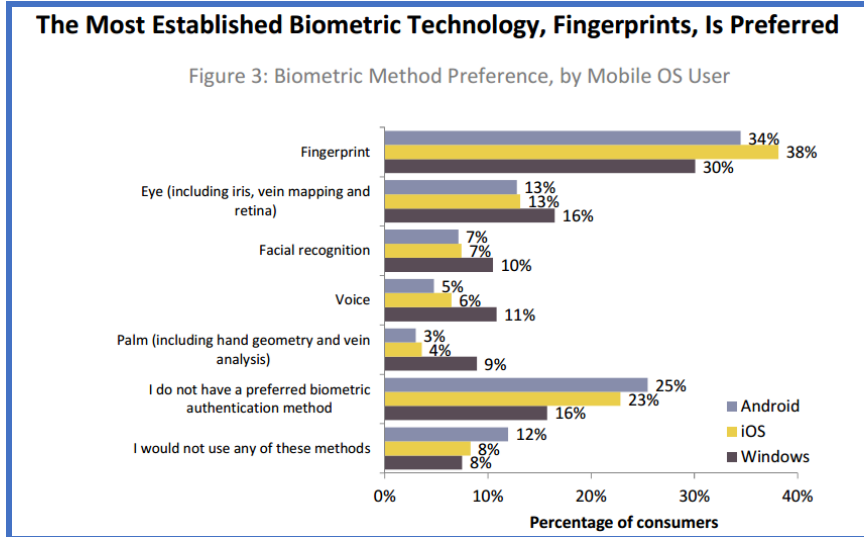
UK HOUSE OF COMMONS REPORT

- **Title:** *Current and future uses of biometric data and technologies*
- **Link:** <http://www.publications.parliament.uk/pa/cm201415/cmselect/cmsctech/734/734.pdf>
- **Date:** March 2015
- **Key Findings:**
 - Many government and industry experts are under the impression that public attitudes towards biometric systems are largely negative. For example, Northrop Grumman noted how the biometric industry had “been plagued with programs that [had] proven the technology” but were discontinued “due to public outcries against misuse of its biometric images.”
 - One academic expert stated that public anxiety centered on at least three areas: first, “strong cultural associations” of biometrics with “state control and surveillance”; second, fears about losing control over personal data, with data subsequently being “lost or abused” and third, concerns about whether personal data was acquired and stored securely.
 - Alastair MacGregor, Biometrics Commissioner, indicated that, in his view, “more people” were “concerned about Government use” of biometrics than they were about commercial uses.
 - To establish and maintain public confidence in biometric systems, a number of witnesses stated that their development, operation and management should be transparent and proportionate.

JAVELIN STUDY

- **Title:** *Smartphones, Tablets, and Fraud: When Apathy Meets Security*
- **Link:** http://media.scmagazine.com/documents/95/javelin_study_23679.pdf
- **Date:** November 2014
- **Key Findings:**
 - Mobile users prefer fingerprint authentication, which bodes well for Apple and Samsung. Fingerprint scanning is preferred by Android, iOS, and Windows mobile users among the prevailing biometric modalities. Recent moves by Apple and Samsung to expand fingerprint-based authentication is likely to be well-received and will subsequently bolster the preference for this modality.
 - Despite the benefits that can be achieved when delivering biometric solutions through mobile devices, consumers do not value each modality equally. Indicative of their long

history and the level of trust bred by familiarity, Android, iOS, and Windows mobile users most prefer fingerprint scanning (34%, 38%, and 30%, respectively).



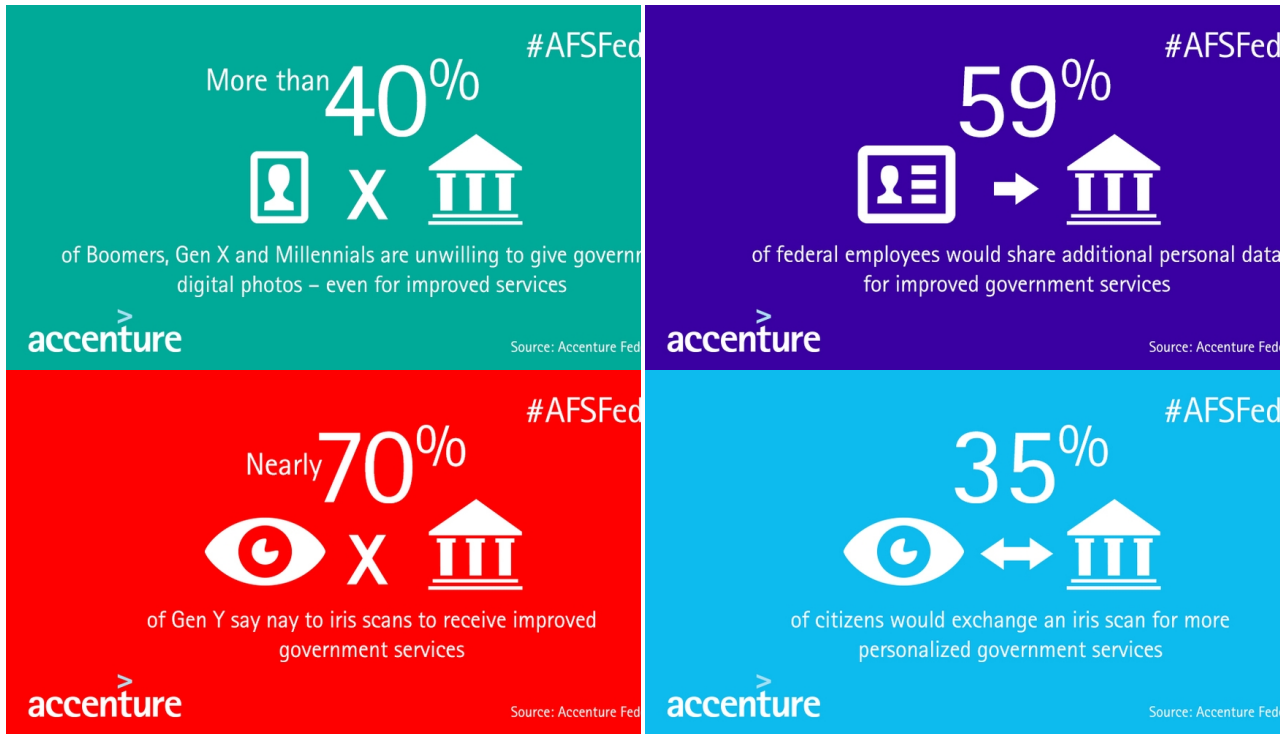
INTELLIGENCE ENVIRONMENTS STUDY

- **Title:** *8 in 10 Brits would ditch passwords for biometric security*
- **Link:** <http://www.intelligentenvironments.com/info-centre/press-releases/8-in-10-brits-would-ditch-passwords-for-biometric-security>
- **Date:** July 2014
- **Key Findings:**
 - Eight in ten (79%) UK consumers are ready to ditch their passwords in favor of biometric security measures like fingerprint scanners.
 - 53% of UK banking customers want their banks to integrate fingerprint scanners into their digital banking services.
 - The least popular method was found to be voice recognition, popular with just over a quarter (27%) of customers, in spite of Barclays recent announcement it will be introducing the technology into its telephone banking service.

ACCENTURE STUDIES

- **Title:** *Accenture Research Shows Citizen Support for Biometrics to Facilitate Travel and Secure Borders*
- **Link:**
 - <https://newsroom.accenture.com/news/accenture-research-shows-citizen-support-for-use-of-biometrics-to-facilitate-travel-and-secure-borders.htm>
 - <http://www.govtech.com/public-safety/Are-We-Truly-Ready-for-Government-to-Use-Biometric-Identifiers.html>
- **Date:** June 2014
- **Key Findings:**
 - The majority of citizens surveyed by Accenture in six countries (89%) say they are willing to share their biometric details when traveling across international borders.
 - However, most (69%) of the 3,000 survey respondents say they have not shared any biometric information to date.

- When asked about the specific benefits of sharing biometrics more than half (62%) of those surveyed are willing to share biometric information to make their country's borders more secure, speed up customs and border control processing (58 percent) and make travel more convenient (56%).
- The survey also found nearly three-fourths (71%) of citizens support the use of biometrics to verify the identities of all persons crossing borders (citizens and visitors) and a similar number (73%) believe that using biometrics to verify the identity of everyone crossing the border would make countries more secure.
- Mark Crego (Accenture): "It seems there's been a huge change in public opinion and that people are much more willing to use biometrics as they have in the past, particularly if ... they can feel more secure, they can see a national security increase, where they see benefits to themselves and where it doesn't take any more time to get through the borders."
- In February 2016 Accenture Federal Services released some data that touched on biometrics. The report found that:
 - A majority of people would be willing to share personal information, like cell phone numbers or fingerprints, for quicker, more personalized uses of government services, such as tax returns, passports or programs like Medicare.
 - Of the 509 Washington, D.C., Virginia, and Maryland residents surveyed, 67 percent said they would give up their cell phone numbers for improved services.
 - **61 percent** were willing to give their fingerprints for convenience, while **56 percent** would give up their digital photograph.
 - Only **35 percent** would give their iris scan, while **42 percent** would allow a voice-print to be taken for voice recognition.
 - With biometrics, Baby Boomers were more likely to accept the use of voice recognition or iris scans than millennial and Gen X respondents.
- There does not appear to be a formal report document that was released. However, there were a number of articles that discussed the findings:
 - *FedScoop* article: <http://fedscoop.com/people-would-share-personal-info-for-better-government-services-survey-says>
 - *Nextgov* article: <http://www.nextgov.com/emerging-tech/2016/02/more-third-citizens-would-undergo-iris-scans-better-government-services/125674/>
 - *Planet Biometrics* provides the data graphics released by Accenture summarizing the survey here: <http://www.planetbiometrics.com/article-details/i/4109/desc/study-explores-biometric-data-as-currency-for-govt-services/>



- From 2012 to 2013, Accenture released three white papers on biometrics.
 - *Biometrics and Privacy: A Positive Match* (2012): https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_9/Accenture-Biometrics-Privacy-Positive-Match.pdf
 - *Beating the Biometric Fraudsters* (2012): https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_9/Accenture-Beating-the-Biometrics-Fraudsters.pdf
 - *The Future of Identity in Banking* (2013): https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_9/Accenture-Future-Identity-Banking.pdf
 - “In a 2011 Twitter survey by Nuance Communications, 77 percent of participants said they would be comfortable using voice biometrics if it meant tighter security.”
 - “Another poll by Unisys indicated a 72 percent acceptance rate for banking biometrics amongst customers; the findings showed that they trust fingerprint biometrics over photo identification, PINs, or handwritten signatures to verify their identities when using credit cards, or requesting personal information.”

PONEMON STUDY

- **Title:** *Moving Beyond Passwords: Consumer Attitudes on Online Authentication*
- **Link:** http://www.ponemon.org/local/upload/file/NokNokWP_FINAL_3.pdf
- **Date:** April 2013
- **Key Findings:**

- Banking institutions are considered the best for online validation and strong authentication and identity verification. Consumers in all countries believe banks would be the best to issue and manage a multi-purpose identity credential.
- There is no clear consensus on what devices would be preferred to manage their multipurpose identity credential. However, in the US more consumers would prefer their mobile devices for identification purposes. In the UK, it is RFID chips. German consumers seem to favor biometrics.
- The majority of respondents believe it is acceptable for a trusted organization such as their bank, credit card companies, health care provider, telecom, email provider or governmental organization to use biometrics such as voice or fingerprints to verify their identity.

Additional Material

ACLU

The ACLU maintains a biometrics page on its website but does not list any reports. It does list blog posts on biometric topics, with only four listed over the past two years, the most recent two from February 2015. The 2014 blog post was a response to IBIA:

- *License Plate Scanners Also Taking Photos of Drivers and Passengers* (February 2015)
 - <https://www.aclu.org/blog/free-future/license-plate-scanners-also-taking-photos-drivers-and-passengers>
- *Police Officer Discretion in the Use of Body Worn Cameras* (February 2015)
 - <https://www.aclu.org/blog/free-future/police-officer-discretion-use-body-worn-cameras>
- *On the Creation of Giant Voiceprint Databases* (October 2014)
 - <https://www.aclu.org/blog/creation-giant-voiceprint-databases>
- *Biometrics Industry: Anonymity is Forfeit* (June 2014)
 - <https://www.aclu.org/blog/biometrics-industry-anonymity-forfeit>

PRIVACY INTERNATIONAL

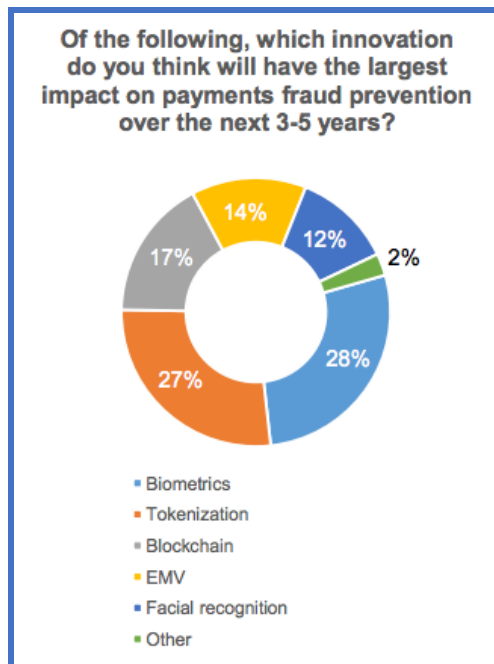
- The organization Privacy International published a report on biometrics—***Biometrics: Friend or foe of privacy?***—that was published within the past year. It summarizes some positive impacts biometric technology has had on the developing world: <https://www.privacyinternational.org/node/48>
- “Scores of developing countries across Africa, Asia and Latin America have been rushing to adopt biometric technology for a range of purposes: from conducting population registration in countries where birth registration has not previously been systematic, to conducting elections, or as a means of facilitating access and delivery of certain services such as food, health care and other basic social needs.”
- It then goes on to identify five areas of biometric technology that could be problematic: 1) Fraud and Misuse, 2) Misidentification and Inaccuracies, 3) Exclusionary, 4) Biometrics as a tool for surveillance, 5) Retention of data.

ELECTRONIC FRONTIER FOUNDATION

- The Electronic Frontier Foundation (EFF) and MuckRock, an organization that assists the public in filing FOIA requests, in August 2015 announced a joint project to map how the police use biometric technology.
- They do not appear to have published any findings from this project yet, however a report might be forthcoming.
- <https://www.eff.org/deeplinks/2015/08/help-us-map-police-use-mobile-biometric-technology>
- <https://www.eff.org/sls/>

CAPITAL ONE SURVEY

- An October 2015 survey of participants at the Money20/20 conference in Las Vegas by Capital One found that a plurality (28%) thought biometric technology was the innovation that would have the largest impact on payments fraud in the next 3-5 years.
- <http://www.coindesk.com/capital-one-blockchain-impact-financial-services/>



JAVELIN STUDY

- A January 2015 report reiterates Javelin's finding that mobile users prefer fingerprint biometrics.
- <http://www.sciencedirect.com/science/article/pii/S0969476515700044>

OVUM SURVEY

- According to a December 2015 release from London-based Ovum of bank officials, 34% cite biometric technology as a priority for the coming year as well as a focus on using additional information such as location data during transactions.
- http://www.ovum.com/press_releases/banks-to-boost-spending-on-payment-technologies-in-2016/

GOVTECH ARTICLE

- A June 2014 article in *GovTech* argues that wearable health sensors may signify the start of a new era in biometrics.
- Developments are in motion to systematically integrate wearable biometrics into health care, and Chainey Brown, a spokesperson for Fitbit, said that the company is eagerly engaged in expansion efforts and product development.
- <http://www.govtech.com/health/Rise-in-Wearable-Health-Sensors-Start-of-New-Era-in-Biometrics.html>

MASTERCARD PILOT

- In February 2016 MasterCard announced a new pilot that allows customers to verifying themselves using selfies.
- <http://newsroom.mastercard.com/videos/replacing-passwords-with-selfies/>

HSBC APP

- In February 2016 HSBC announced that it was rolling out voice and touch ID security solutions for bank customers.
- <http://www.businesswire.com/news/home/20160219005825/en/HSBC-Launches-Biometric-Banking>