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Biometrics – enabling the modern customer-centric bank

Banks and FinTech suppliers are increasingly deploying biometric systems across a wide range of channels; both traditional and digital. Biometric technology is proving the only reliable method to identify, authenticate and secure bank customers in all channels. This white paper from research and consulting company Goode Intelligence (GI) explores what is driving banks to adopt biometrics, drawing on recent published research on biometrics for banking.

BIOMETRICS – ENABLING THE MODERN CUSTOMER-CENTRIC BANK

In the three years since Goode Intelligence first published this report investigating the adoption and market for biometrics in banking, there have been significant changes to the environment.

The delivery of banking services is being transformed by a series of digital mega-events that include the *Open Banking* revolution where banks are being forced, either by regulation such as the EU's PSD2 or by pressures from FinTech providers, to open up their digital infrastructure to third parties using APIs.

Tied to open banking is the need for seamless methods for banks to engage with their customers and to prove who they are – *identity*; that they have a convenient method to gain access to their authorised banking services – *authenticate*; to enable them to access banking services *any time, any place, anywhere* (the Martini principle) and to ensure that fraud levels are kept at acceptable levels – *fraud management*.

Identity verification, authentication and fraud management are the three interconnected areas that biometrics is really establishing itself as an important tool for banks and FinTech suppliers to deploy.



"KYC and authentication are still the pain points for customers to get digital financial services."

Cheng Li, CTO at Ant Financial speaking at Money2020 Asia

MAJOR TRENDS FOR BANKING BIOMETRICS

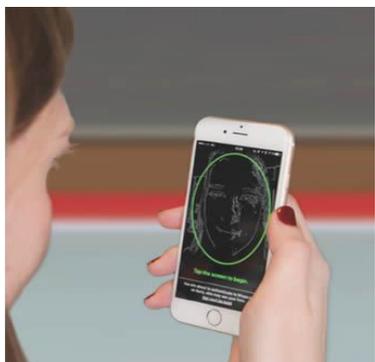
The major trends that Goode Intelligence is seeing for banking biometrics include:

- Rise of mobile & multi-modal mobile-based biometric authentication
 - The arrival of biometric bank cards
 - Biometric adoption in all bank channels supported by open banking APIs and IoT devices that support voice and face biometrics
 - Beginning of the deployment of single biometric platform to support multiple bank channels and identity, authentication and fraud management functions
 - The growth of biometric identity verification (proofing) harnessing mobile face biometrics
 - Tighter integration with fraud detection, fraud management and risk-based authentication solutions including adoption of behavioral biometrics / analytics
 - Different speeds of adoption and regional differences;
 - Mobile will drive the market in the EU, North America and China
 - Where a region has a mature National ID (NID) system that supports biometrics for identification we shall see use of these systems by banks wanting to leverage this infrastructure – biometrics as a service operated jointly by the private sector and the state
- Industry regulation will start to specifically reference biometrics as part of its guidance on two and multifactor authentication (EU PSD2, USA FFIEC guidelines and Bank of China and Korea legislation)
 - The growth of face biometrics as a biometric technology that is versatile and can support identity verification and authentication
 - Leveraging the power of machine learning (ML) and Artificial Intelligence (AI) technology to improve biometric performance and spoof / liveness detection
 - Biometric cards seen as a bridge to mobile banking services in developed world scenarios and linked to National ID (NID) schemes where supported – cards are still a vital part of a bank's delivery mechanism
 - Cash is still king in many regions and the ATM is the main delivery mechanism. The adoption of biometrics for ATM access will increase in regions where it has already been deployed (Japan, Eastern Europe and South America) and start being deployed in other regions where the PIN is still the predominant authentication mechanism. This includes leveraging the biometric capability of a smartphone to provide out-of-band biometric authentication (OOBBA) when accessing ATMs

BIOMETRIC IDENTITY & DOCUMENT VERIFICATION

Biometrics is increasingly being used to aid online identity verification especially to facilitate digital on-boarding for new bank account opening. In accordance with AML and KYC regulation, a bank needs to verify the identity of people wanting to open up a new account or banking service. Traditionally, you needed to physically present trusted identity documentation such as a passport, driver's licence or national identity documents, alongside proof of address – usually in the shape of a utility bill. For banks wanting to streamline this process and move the identity verification online (digitally), the AML and KYC regulations proved problematic.

To enable digital customer on-boarding and to comply with AML and KYC regulations, banks are turning to a combination of electronic document and identity verification (eIDV) and biometric identification.



Source: iProov

The growth of face biometrics as a biometric technology that is versatile and can support identity verification and authentication

CONTINUOUS CUSTOMER AUTHENTICATION

Biometric technology is fast becoming the glue that binds this technology together; passively verifying a person's voice while they talk to their smart speaker and allowing them to pull up their latest account balance with a voice command, then actively requesting a face or palmprint when the bank's risk engine decides that a money transfer request is outside the normal risk appetite – for example, that ride-share through the streets of central London is a riskier transaction than the one initiated at home.

This linking of fraud management, adaptive authentication and a choice of passive and active biometric tools will be crucial for banks seeking to engage with their customers and stay in the game.

BIOMETRICS SUPPORTING EMERGING BANK CHANNELS

The availability of secure banking APIs is allowing third parties to integrate banking services into their devices and services allowing bank customers to better manage their day-to-day finances.

Goode Intelligence predicts that with the rise of smart home voice-controlled devices, Amazon Echo, Google Home and Apple Homepod, this will lead to an explosion of conversational commerce banking applications that will use voice biometrics to identify bank customers.



Source: Capital One

The emergence of new channels is being driven by the Internet of Things (IoT) and we are only at the beginning of a movement that allows bank customers to access banking services from a wide range of intelligent connected devices that include the smart home, smart car and smart city.

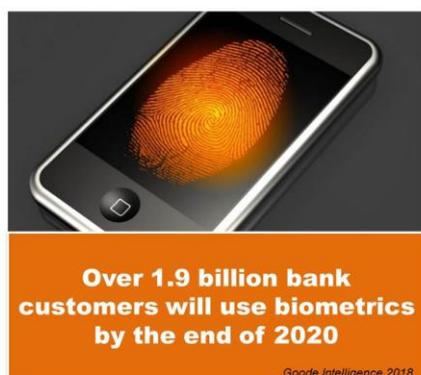
SUMMARY

Biometrics for banking is increasingly a vital part of a bank's toolkit in the never-ending task of reducing financial fraud and ensuring that their customers can conveniently prove their identity when accessing bank services across a complex mixture of physical and digital channels – smarter identity verification and authentication for the customer-first bank.

As a result of the availability of biometric technology, banks are rushing to support biometrics in a variety of applications. As a result, Goode Intelligence forecasts that by 2020 biometrics will be in use by 1.9 billion bank customers around the world.

BIOMETRICS FOR BANKING; MARKET & TECHNOLOGY ANALYSIS, ADOPTION STRATEGIES AND FORECASTS 2018-2023

[Biometrics for Banking; Market & Technology Analysis, Adoption Strategies & Forecasts 2018-2023 \(second edition\)](#) is a 253 page analyst report that provides detailed analysis of the adoption of biometrics for banking.



This comprehensive report includes a review of current global adoption, market analysis including key drivers and barriers for adoption, interviews with leading stakeholders, technology analysis with review of key biometric technologies and profiles of companies supplying biometric systems to banks plus forecasts (regional and global) for users and revenue within the six-year period 2018 to 2023.

The report investigates the global adoption of biometrics by banks across traditional and emerging bank channels including *Bank Branch, Electronic Banking (web-based), Telephone Banking, Mobile and Wearable Banking, IoT Banking and ATMs*.

The report identifies that by the end of 2020, some 1.9 billion bank customers will be using biometrics to:

- withdraw cash from ATMs
- prove their identity when contacting their bank via telephone (both actively and passively)
- prove identity for digital onboarding using their face
- access digital bank services through an increasing number of connected IoT devices including smart home devices and via connected car and smart city services
- authenticate into a mobile bank app using their biometric, either using an embedded sensor or through an app or SDK, and use a combination of biometric modalities (face and voice for instance) to initiate money transfers when accessing web-based eBanking services.

This comprehensive report includes a review of current global adoption, market analysis including key drivers and barriers for adoption, interviews with leading stakeholders, technology analysis with review of key biometric technologies and profiles of companies supplying biometric systems to banks plus forecasts (regional and global) for users and revenue within the six-year period 2018 to 2023.

ABOUT GOODE INTELLIGENCE

Since being founded by Alan Goode in 2007, Goode Intelligence has built up a strong reputation for providing quality research and consultancy services in cybersecurity including:

- Biometrics
- Mobile Security
- Banking Security
- Authentication and Identity
- Internet of Things Security

For more information on this or any other research please visit www.goodeintelligence.com.

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