



Case Studies

Voice Biometrics in Customer Care

November 2016





KEVIN SPACEY HAS AN uncanny talent for celebrity impersonation. And now he's playing the oft-mimicked not-a-crook in *Zivis & More*, in theaters April 23. But though Spacey's dead president and Katharine Hepburn impressions sound pitch-perfect to us, we are mere humans, with fallible ears. We wanted to know if Spacey's vocal copies sounded good to a machine. So we asked Nuance, a company that provides biometric customer authentication for banks, insurance firms, and the like, to run some clips through FreeSpeech, its program for verifying "voiceprints." It turns out that Spacey's impressions are better than most, but none can fool a robot. Why? About half the characteristics that FreeSpeech tests are based on physical attributes, like vocal cord length, mouth shape, and nasal passage size. In a sense, the software knows that Spacey can't move his lips exactly like Christopher Walken. But behavioral factors — qualities like accents, pronunciation, and rapidity of speech? Those can be imitated. So do your Jack Nicholson at the drive-thru for laughs — but don't bet on hacking into his bank account. We simplified Nuance's robot-friendly quantitative rating system to show you how Spacey stacks up against other imitators. —ANDREW ROSENBLUM

RATING
● Uncanny ● Fair ● Poor

Imitator	Rating	Imitator	Rating
Christopher Walken	Uncanny	Kevin Spacey	Uncanny
Wifny Carson	Uncanny	Bradley Cooper	Uncanny
Al Pedro	Uncanny	Kevin Spacey	Uncanny
Richard Nixon	Uncanny	Dave Carvey	Uncanny
Katharine Hepburn	Uncanny	Kevin Spacey	Uncanny
		BB Hader	Uncanny
		Kevin Spacey	Uncanny
		Frank Langella	Uncanny
		Cate Blanchett	Uncanny
		Kevin Spacey	Uncanny

HSBC offers voice and fingerprint ID system to customers

19 February 2016 | Business



HSBC is launching voice recognition and touch security services in the UK in a big leap towards the introduction of biometric banking.

The bank says its phone and mobile banking customers will no longer have to remember a password or memorable places and dates to access accounts. Barclays has already introduced voice recognition software, but it is only available to certain clients.

RBS and NatWest have offered finger print technology for the last year. The move comes weeks ahead of the launch of Atom Bank, which will allow its customers to log on via a face recognition system. HSBC says its service will be offered to up to 15 million banking customers.

First Direct's customers will be offered the voice and fingerprint recognition system over the next few weeks, followed by HSBC's in the summer. Francesca McDonagh, HSBC UK's head of retail banking and wealth management, described the change as "the largest planned rollout of voice biometric security technology in the UK".

She said: "The launch of voice and touch ID makes it even quicker and easier for customers to access their bank account, using the most secure form of password technology - the body."

Touch ID is available on all Apple mobile devices for both HSBC and First Direct. Customers must download the mobile banking app and follow the instructions to link their fingerprint to it.

The future

Biometric Banking Security Hits High Street

Technology which recognises impossible to mimic biological characteristics could signal an end to forgetting your password or PIN.



The technology is already available for users of Apple's iPhone.

Twitter Facebook Google+ Email

Touch ID and voice recognition technology similar to that used on iPhones is to be introduced for bank customers.

The biometric banking system will allow First Direct customers to access their accounts using their voice and fingerprints.

Customers who opt in will have to enrol their "voice print" and will no longer need to remember or retype their current telephone security password letters or PIN.

A similar voice-activated payment system was launched last year on the ING Netherlands mobile banking app, offering an alternative to entering a pin or password.

Users say a short phrase, and the app will match up the sound recording to a file stored on the phone.



sky **BIOMETRIC BANKING**
 HSBC

Voice checked
 against pronunciation,
 speech and pitch

Voice Biometrics Adoption Landscape

117M+

Voiceprints in use
by our customers

3B+

Verifications worldwide



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RBC
Royal Bank

- **96% enrollment rate**
- 48% of all calls authenticated by voice biometrics within 3 months
- 42 seconds in AHT savings
- Authentication performed on 3 seconds of net-audio
- 8.8 / 10 customer sat rating

RBC voice biometrics technology rolls out

1st Canadian company to implement technology to identify client's 'voiceprint'

The Canadian Press | Posted: Oct 05, 2015 10:57 AM ET | Last Updated: Oct 05, 2015 11:01 AM ET



RBC says it is the first Canadian company to implement technology that can create and identify a client's 'voiceprint,' which consists of more than 100 different characteristics such as the client's pitch and accent, in the course of a regular conversation. (Mark Blinch/Reuters)

Increased Agent Satisfaction



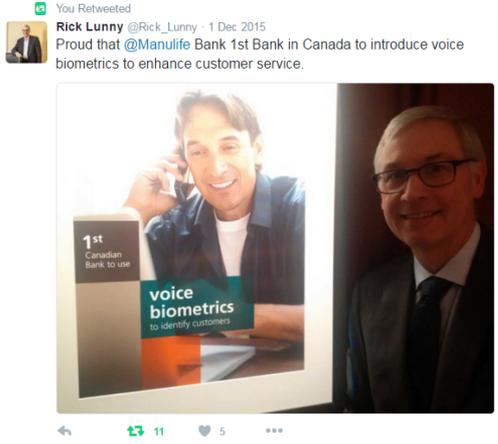
94% Agents reported Voice Biometrics makes it easier to deliver quality service

60% Agents reported job satisfaction has improved since deploying voice biometrics

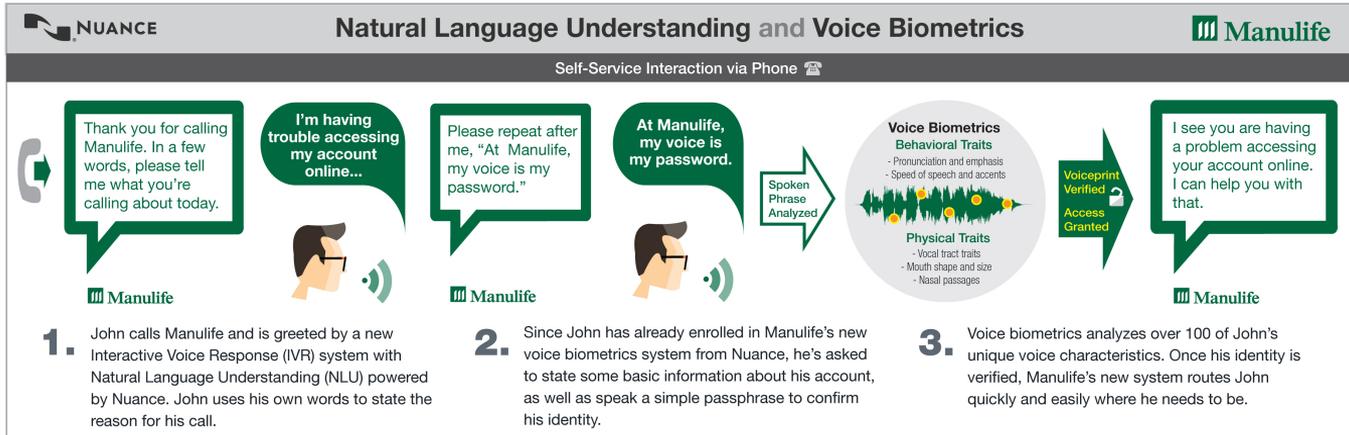


6%

reduction in agents absenteeism + increase in retention rate



32% increase in containment rate



Voice Biometrics Financial Impact Assessment – North American FI

Key Financial Metrics	
5 Year Net Benefit	\$107,686,258
5 Year Net Present Value (NPV) @ a Hurdle Rate of 10%	\$82,809,347
5 Year Return on Investment	3060%
Payback in Months	8
Increased Agent FTE Capacity	229.2

Benefits	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Increased IVR containment through increased authentication in the IVR	\$8,872,393	\$18,632,685	\$21,472,854	\$22,856,411	\$23,762,381	\$95,596,724
Reduced AHT through reduced agent handled verifications	\$621,015	\$1,304,177	\$1,502,972	\$1,599,813	\$1,663,225	\$6,691,203
Increased revenue via more productive agent handle time	\$0	\$0	\$0	\$0	\$0	\$0
Increased customer satisfaction: reduced customer churn	\$355,249	\$746,050	\$859,770	\$915,167	\$951,442	\$3,827,677
Increased agent satisfaction: reduced agent attrition	\$59,948	\$125,896	\$145,086	\$154,434	\$160,556	\$645,921
Cost avoidance related to fraudulent activity	\$412,444	\$866,164	\$998,193	\$1,062,509	\$1,104,624	\$4,443,934
Total annual benefits	\$10,321,049	\$21,674,972	\$24,978,875	\$26,588,334	\$27,642,228	\$111,205,458

Three VB Enrollment Examples

97%

Relative
enrollment rate
with proper
launch plan

67%

Relative
enrollment rate
without launch
plan

2%

Relative
enrollment rate
with complex
enrollment
process



Concepción Ramírez Reyes

**WATCH THIS HACKER
BREAK INTO
MY CELL PHONE ACCOUNT
IN 2 MINUTES**



Sentenced to 2 $\frac{1}{2}$ years

Name: Lee Chisholm

Age: 44

Chisholm repeatedly made call pretending to be the customer gathering personal information to allow him to take control of accounts. He then used the cards to make a variety of purchases which he would sell on. He specialised in garden furniture, Christmas hampers and hairdressing products.

Using voice biometrics, we managed to track his exploits preventing £370,000 of financial loss



Sentenced to 7 years

Name: Maxwell Parsons

Age: 49

Defrauded the banking industry of £2.5m
Parsons devised computer software to reverse bank transactions enabling him to spend money repeatedly from a number of Banks. At the peak of their activities, police said the gang had "laundered" up to £50,000 a day.



Australian Government
Australian Taxation Office



ato.gov.au
@ato_gov_au



Follow

Join 1.5 million Australians now using their voice to confirm their identity with us! Info @ ato.gov.au/app



RETWEETS
9

LIKES
5



1:04 AM - 15 Jan 2016



Nuance Voice Biometrics,
replacing PINs, passwords, and
security questions.

Delivering improved CX

Customer	Reported Result
Tatra Bank 	51% increase in NPS
iiNET 	8 point increase in NPS
T-Mobile 	20% increase in Customer Sat. Score
Eastern Bank 	90% of customers prefer VB 85% of customer think it is more secure
Barclays Wealth 	93% of customers rate authentication 9 or 10 out of 10
Royal Bank of Canada 	8.8 / 10 customer sat



Our interactions with technology and organizations will become **seamlessly personalized**.

Explicit identification and verification will disappear.

It will feel like the devices, applications and organizations we interact with know who we are, **like a friend** does when they hear our voice or see our face.

Our identities will be known and validated passively through **biometrics, device identifiers** and **contextual factors**.