



Speak and ye shall find

Christopher Alkan finds that voice assistants are set to become more widely used in financial services, starting with basic transactions and then maybe even offering advice

The automated voice systems used by banks have long been the bane of customers. Frequently unable to understand simple instructions, these digital assistants could trigger ill-tempered demands to talk to a human. This gradually changed as technology improved. Now many experts believe we can expect the broader use of voice technologies in financial services. Voice-enabled artificial intelligence (AI) systems will make more payments, collect information and, potentially, even dispense financial advice.

But how far can voice technologies replace costly humans in financial services?

“This has come a long way,” says Gary Williams, UK Sales Director for Spitch, a Swiss-based provider of conversational AI technology. “Natural language processing along with other technologies now allow digital assistants to identify, understand and serve clients very effectively.”

“ Technology providers will need to address privacy and security concerns associated with voice assistants ”

Williams says they can recognise a variety of accents, learn the full vocabulary of marketing terms specific to each company and tailor a response based on a customer’s previous answer. In short, AI systems can increasingly hold a real conversation.

The same technological advances have helped voice search engines, such as Amazon’s Alexa and Apple’s Siri, win consumer acceptance of interacting with a smartphone or speaker. These systems have helped make voice searches both functional and fun.

“Aside from the initial curiosity these systems provoke, it is nice to control your home from your couch without using remote controls, or [to change settings in] your car without having to focus on your touch screen,” says Andreas Braun, Director of Artificial Intelligence and Data Science at PwC in Luxembourg. “In addition, voice doesn’t compete with traditional interfaces and has been an especially big boon for marginalised groups, including seniors who have limited mobility or blind people.”

Public acceptance of voice technology has been fostered, according to Williams, by the skilful incorporation of humour. “Alexa and Siri can engage in amusing – and occasionally crude – exchanges, which are especially fun for children and make it more likely to be accepted as time goes on,” he says. For example, if a user makes a marriage proposal to Alexa – and many people do – it might say: “[We’re at pretty different places in our lives. Literally. I mean, you’re on Earth. And I’m in the cloud.](#)”

[A report by Microsoft](#) found that 72% of 5,000 US consumers surveyed had already used voice search or a digital assistant, such as Siri, Alexa, Google Assistant or Microsoft’s Cortana. AI systems are ‘trained’ as they go along, so the more data they are exposed to, the better they become at particular tasks. That is likely to give big tech an advantage as their digital assistants attract the most users.

But how far can such systems, along with technology sold to firms, expand into the financial services sector? A recent survey from AnswerLab, a US research firm, found that fewer than 30% of respondents would consider using their smart speaker voice search to apply for a credit card and fewer than 40% would check their credit score with it or take financial advice via a digital assistant. Meanwhile, the Microsoft report found that only 10% of users were accessing credit card or bank information via their smart speaker, the least popular use of the service.

Why the tentative approach to something that is easier than using a screen interface? Privacy and security concerns appear to be one reason. Voice synthesis can now produce excellent ‘deep fakes’ of a specific voice – as the use of [a mock-up of US celebrity chef Anthony Bourdain’s voice in a recent documentary](#) showed – so consumers may have reason to worry. Technology providers have been seeking to address such concerns but the systems are not foolproof.

“Google has made good strides in identifying users based on their voice imprint, but that [imprint] could be faked,” says Antti Niku, a consultant at consulting firm Accenture. “Voice assistants in-built with apps [such as banking] should have better security and fewer privacy risks.”

Despite that, the use of voice systems for basic transactions is already gaining appeal, particularly among the younger generation, who have grown up online and feel more comfortable managing security risks. Payments app VibePay,

whose main client base is 17 to 24-years-old, recently became the first European firm to offer voice-activated payments. Its customers can now instruct Siri to send cash to a contact.

“This generation is digital and social first, more open with their finances, and willing to share banking details with trusted firms,” says Luke Massie, the company’s chief executive. “So far, most voice transactions from our customers are to friends or family. It is going to be interesting to see if they also feel comfortable paying strangers this way.”

While VibePay’s transactions are processed through Apple’s Siri, the data from transactions is not shared with Apple. “Only the interface is from Apple and the payment is happening outside Apple’s ecosystem,” says Massie. He adds that around 8% of VibePay’s customer base tried the new service within a month of launch and saw it as a useful tool, when asked for feedback.

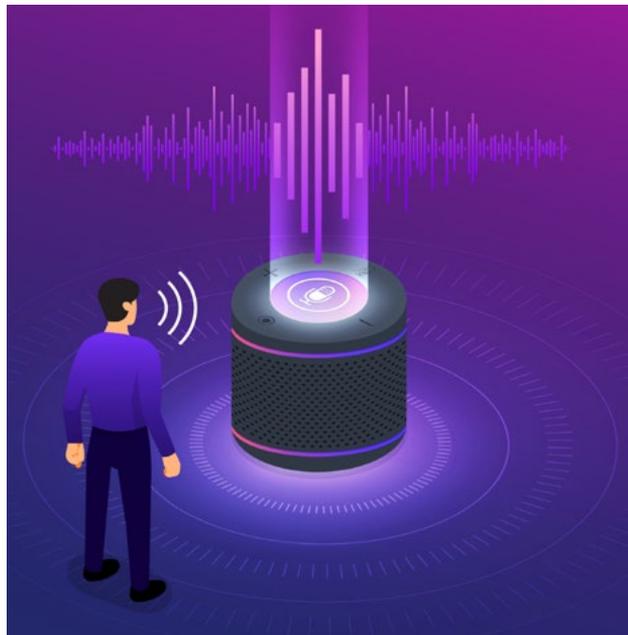
“ *It is important for firms to customise the system to recognise words with a special relevance*

Who controls the data?

As VibePay’s work with Siri shows, a central dilemma for financial services firms is whether to use the products offered by the technology giants, and how far to source from independent voice technology specialists. Voice technology has become an increasing priority for the tech giants. For example, in April 2021, Microsoft acquired Nuance, a speech-to-text specialist, for \$19.7bn. It joins an existing stable of speech recognition and chatbot products and a major cloud business.

When financial services firms use the cloud infrastructure of providers such as Amazon Web Services or Microsoft Azure, they no longer have to support physically separate data centres. They make their data logically separate on the cloud, using encryption and virtualisation in ways that – to date – have proved at least as secure as on-premise servers. But people become anxious about sensitive information and can be keen to keep it locked in their own physically controlled systems. That can hamper the uptake of new cloud-based services such as voice.

There is also the issue of customisation. “Financial firms using the voice automation systems of the major tech firms need a good in-house team to really make it fly – linking it to customer data and integrating to back-end services,” says Williams. “It is also important to customise the system to



recognise words with a special relevance – whether technical terms in finance or marketing language specific to your company.”

It is also unclear how far the tech giants may eventually seek to encroach on the banking sector. Search engines make their money from advertising. On a screen, a series of results is shown alongside explicit ads. That is not possible with voice and the first result is likely to be the answer taken. This can go further. “There is the question of who owns the client relationship and controls the value chain,” says Niku. “Voice assistants can favour own-services, such as Alexa favouring Amazon eCommerce.”

At present, what voice search can do is not particularly nuanced. But in May 2021, Google announced the release of its Multitask Unified Model, or Mum, search facility, which it says can “learn from and transfer knowledge across the 75-plus languages it’s trained on”. Currently, the modes it searches in are text and images, but audio and voice are planned. That will give Google tremendous power to break down information silos. The example it gives is that, one day, users might be able to show the engine a picture of their hiking boots and ask: “Can I use these to hike Mt Fuji?” and a voice will give a considered answer. That would give that voice interface great influence and marketing power.

Few people expect tech giants to take the step of becoming regulated financial services providers. Google, for example, had been working with Citi on launching a current account called Plex but recently announced that the project had been shelved. A report in Engadget, a technology blog, quoted



Google as saying: “[We’re] updating our approach to focus primarily on delivering digital enablement for banks and other financial services providers rather than us serving as the provider of these services.”

But Google is not the only big tech company that could work with a regulated firm that provides, say, banking as a service to the tech-brand front end. Apple Pay shows what can be done. The potential for such competition could make some financial firms wary of too close an engagement with big tech.

But the essential question here may be: how far can voice applications be used in providing financial services? Making the leap to having AI systems providing financial and investment advice won’t be easy, says Catherine Jansson-Boyd, an associate professor in consumer psychology at Anglia Ruskin University. “For such high-trust functions, financial firms will need to work hard on getting the right voice for their customer base.”

The danger is in having something that is too robotic. “They will need a voice, style and pace that clients can really trust,” says Jansson-Boyd. The big tech firms are conscious of this. For example, [Google Assistant is reported to have a full back story](#) to make ‘her’ sound more human.

And the voice assistant should be able to respond much as a human would. Braun says there are voice biometrics that are already taking steps towards detecting emotion and stress in voice recordings. These have been tested in suicide hotlines around the world to try to help assess the urgency of a call.

Meanwhile, conversational AI is already up to the task of simulating a basic investment conversation, says Williams. “The technology can ask questions about a person’s financial situation, remember the responses and tailor subsequent answers,” he says. “This AI might not yet make a sale, but it can have a conversation and provide a wealth of material for later use by a human sales agent. It could also potentially be used even in outbound campaigns – dialling individuals who expressed an interest.”

So far, however, financial services firms still view such wealth management functions as premium services best handled by skilled human agents and salespeople. Voice systems and the analytical systems behind them are currently a back-up, used in monitoring the performance of agents in client conversations.

“Companies waste a lot of money training sales staff who are already on top of their game, so AI systems can help streamline and target this,” Williams says. “And financial firms are most attracted to reducing the burden of basic retail calls and transactions.”

But it is at least conceivable that at some point in the future a robot could call to discuss your asset allocation strategy, or give you some financial advice following your engagement. After all, Alexa already knew that you wanted to pop the question... ■

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